Draft
Environmental Impact Report

SCH# 2021060079

Volume 1

Chapters 1 through 11

ROSAMOND SOUTH SOLAR PROJECT

by Golden Fields Solar IV, LLC *(PP19151)*

Specific Plan Amendment No. 40, Map No. 231
Specific Plan Amendment No. 33, Map No. 232
Zone Change Case No. 157, Map No. 231
Zone Change Case No. 43, Map No. 232
Zone Change Case No. 18, Map No. 233
Conditional Use Permit No. 20, Map No. 231
Conditional Use Permit No. 40, Map No. 232
Conditional Use Permit No. 46, Map No. 232
Conditional Use Permit No. 44, Map No. 232
Conditional Use Permit No. 16, Map No. 233
Specific Plan Amendment No. 31, Map No. 32 (circulation)
Nonsummary Vacations Map No. 231
Nonsummary Vacations Map No. 232

Kern County
Planning and Natural Resources Department
Bakersfield, California

July 2022

Lorelei H. Oviatt, AICP, Director
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PLANNING AND NATURAL RESOURCES DEPARTMENT

Planning
Community Development
Administrative Operations

DATE: July 13, 2022

TO: See Attached Mailing List

FROM: Kern County Planning and Natural Resources Department
Attn: Terrance Smalls
2700 "M" Street, Suite 100
Bakersfield, CA 93301
(661)862-8607; SmallsT@kerncounty.com

SUBJECT: DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE ROSAMOND SOUTH SOLAR PROJECT BY GOLDEN FIELDS SOLAR IV, LLC (PP19151)

Dear Interested Party:

The Kern County Planning and Natural Resources Department as Lead Agency has prepared a Draft Environmental Impact Report (DEIR) to allow for the construction and operation of photovoltaic solar facilities and associated infrastructure necessary to generate up to a combined 165 megawatt-alternating current (MW-AC) of renewable energy, including up to 245 MW (or 980 megawatt hours (MWh)) of energy storage, on approximately 1,292 acres of privately-owned land. The project site consists of 4 sites (Sites 1 through 4) located on 64 parcels. The project would be supported by a 230-kilovolt (kV) gen-tie overhead and/or underground electrical transmission line(s) originating from one or more on-site substations and terminating at either the Teddy Substation or the Southern California Edison's Whirlwind Substation. The project's permanent facilities would include, but are not limited to, service roads, a power collection system, inverter stations, transformer systems, transmission lines, electrical switchyards, project substations, energy (battery) storage system, and operations and maintenance facilities.

The proposed project site is located in the Mojave Desert within unincorporated Kern County, bounded by Rosamond Boulevard to the north, 90th Street West to the east, West Avenue A to the south and 170th Street West to the west. The proposed project site is in the vicinity of the unincorporated communities of Boron and Desert Lake and north of the of Edwards Air Force Base boundary. Access to the site would be from Rosamond Boulevard, Avenue A, Avenue D, Astoria Avenue, Gaskell Road, Holiday Avenue, Willow Avenue, Kingbird Avenue, 100th Street West, 140th Street West, 130th Street West and 170th Street West.

The site is located within Section 24 Township 9 North, Range 15 West and Sections 20, 21, 27, and 28, Township 9 North, Range 14 West, and Sections 30 and 31 Township 9 N Range 13W, San Bernardino Base and Meridian.

Implementation of the project as proposed includes the following requests:

a) Amendments to the Willow Springs Specific Plan as follows:

- Specific Plan Amendment No. 40, Map No. 231 from map code designation 7.1/4.4 (Light Industrial, Comprehensive Planning Area) to 7.1 (Light Industrial) on approximately 247 acres and from map code designation 7.2/4.4 (Service Industrial, Comprehensive Planning Area) to 7.2 (Service Industrial) on approximately 118 acres

- Specific Plan Amendment No. 33, Map No. 232 from map code designation 5.3/4.4 (Residential Maximum 10 Units per Net Acre/Comprehensive Planning Area) to 5.3 (Residential, Maximum 10 Units per Net Acre) on approximately 80 acres and from map code designation 5.3/4.4/2.6 (Residential Maximum 10 Units per Net Acre/Comprehensive Planning Area/Erosion Hazard) to 5.3/2.6 (Residential Maximum 10 units per Net Acre/Erosion Hazard) on approximately 80 acres

b) Changes in zone classifications as follows:

- Zone Change Case No. 157, Map No. 231 – From E(2 ½) RS FPS to A FPS on approximately 440 acres
- Zone Change Case No. 43, Map No. 232 – From E(5) RS FPS to A FPS on approximately 330 acres and from existing zone district E(2 ½) RS FPS to A FPS on approximately 96 acres
- Zone Change Case No. 18, Map No. 233 – From E(2 ½) RS FPS to A FPS on approximately 71 acres

c) Conditional Use Permits to allow for the construction and operation of four (4) solar facilities with a total generating capacity of approximately 165 megawatts-alternating current (MW-AC) of renewable energy (broken down by site, below), including up to 245 megawatts (980 MWh) of energy storage (for all sites), and telecommunication tower within the A (Exclusive Agriculture) Zone Districts (in Zone Maps 231, 232, and 233) pursuant to Sections 19.12.030.G and 19.12.30.F of the Kern County Zoning Ordinance:

- CUP Area 1 (solar and energy storage)
  - Conditional Use Permit No. 16, Map No. 233 for 70.99 acres
- CUP Area 2 (solar and energy storage)
  - Conditional Use Permit No. 40, Map No. 232 for 240.58 acres
- CUP Area 3 (solar and energy storage)
  - Conditional Use Permit No. 46, Map No. 232 for 541.16 acres
- CUP Area 4 (solar and energy storage)
  - Conditional Use Permit No. 120, Map No. 231 for 439.26 acres
- Telecommunication Tower
  - Conditional Use Permit No. 44, Map No. 232

d) Specific Plan Amendment to the Circulation Element of the Willow Springs Specific Plan to remove future road reservations on the section and mid-section lines within the project boundaries:

- Specific Plan Amendment No. 31, Map No. 232

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

If we have not received a reply from you by **August 29, 2022, 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 smallst@kerncounty.com or (661) 862-8607.

Sincerely,

Terrance Smalls, Supervising Planner

Advanced Planning Division

Rosamond South Solar Project - EIR
(ZC #157; CUP #120, Map #231)
WO #PP19151
I:\Planning\WORKGRPS\WP\LABELS\eir-rosamond south solar.nop.docx.doc
Sc 05/26/21

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1715 Chester Avenue
Bakersfield, CA 93301

Bakersfield City Public Works Dept
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Delano, CA 93216

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Ridgecrest, CA 93555

City of Shafter
336 Pacific Avenue
Shafter, CA 93263

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

City of Tehachapi
Attn: John Schlosser
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City of Wasco
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Wasco, CA 93280

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Hanford, CA 93230

Los Angeles Co Reg Planning Dept
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Los Angeles, CA 90012

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

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

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

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

Ventura County RMA Planning Div
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Ventura, CA 93009-1740

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

China Lake Naval Weapons Center
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Mail Stop 4001
China Lake, CA 93555

Edwards AFB, Mission Sustainability Liaison
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195 East Popson Avenue
Edwards AFB, CA 93524

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

U.S. Dept of Agriculture/NRCS
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Bakersfield, CA 93309-0711

State Air Resources Board
Stationary Resource Division
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Fresno, CA 93778

Caltrans/Dist 9
Planning Department
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Bishop, CA 93514

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801 "K" Street, MS 24-01
Sacramento, CA 95814-3528

State Dept of Conservation
Geologic Energy Management Division
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Bakersfield, CA 93309

California Energy Commission
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California Fish & Wildlife
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California Highway Patrol
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Sacramento, CA 94298-0001

Public Utilities Comm Energy Div
505 Van Ness Avenue
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California Regional Water Quality
Control Board/Lahontan Region
15095 Amargosa Road - Bld 2, Suite 210
Victorville, CA 92392

State Dept of Water Resources
San Joaquin Dist.
3374 East Shields Avenue, Room A-7
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Kern County
Agriculture Department

Kern County Administrative Officer

Kern County Public Works Department/
Building & Development/Floodplain

Kern County Public Works Department/
Building & Development/Survey

Kern County
Env Health Services Department

Kern County Fire Dept
David Witt, Fire Chief

Kern County Fire Dept
Cary Wright, Fire Marshall

Kern County Library/Beale
Local History Room

Kern County Library/Beale
Andie Sullivan

Kern County Library
Wanda Kirk/Rosamond Branch
3611 Rosamond Boulevard
Rosamond, CA 93560

Kern County Parks & Recreation

Kern County Sheriff's Dept
Administration

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

Rosamond Municipal Advisory Council
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Mojave Town Council
Bill Deaver, President
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6500 West Avenue N
Palmdale, CA 93551

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East Kern Air Pollution
Control District

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Kern Audubon Society
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Bakersfield, CA 93306

Los Angeles Audubon
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Los Angeles, CA 90036-4929

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Southern California Edison

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Fort Irwin, CA 92310

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Tehachapi, CA 93561

Kelly Group
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Winters, CA 95694

Beyond Coal Campaign/Sierra Club
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Los Angeles, CA 90026

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

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

NOTICE OF AVAILABILITY FOR PUBLIC REVIEW AND HEARING ON THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE PROPOSED ROSAMOND SOUTH SOLAR 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: Rosamond South Solar Project by Golden Fields Solar IV, LLC (PP19151); SPA 40, Map #231; SPA 33, Map #232; ZCC 157, Map #231; ZCC 43, Map #232; ZCC 18, Map #233; CUP 120, Map #231; CUP 40, Map #232; CUP 46, Map #232; CUP 44, Map #232; CUP 16, Map #233; and SPA 31, Map #232 (SCH #2021060079)

PROJECT LOCATION: The proposed project site is located in the Mojave Desert within unincorporated Kern County, bounded by Rosamond Boulevard to the north, 90th Street West to the east, West Avenue A to the south and 170th Street West to the west. The proposed project site is in the vicinity of the unincorporated communities of Boron and Desert Lake and north of the of Edwards Air Force Base boundary. Access to the site would be from Rosamond Boulevard, Avenue A, Avenue D, Astoria Avenue, Gaskell Road, Holiday Avenue, Willow Avenue, Kingbird Avenue, 100th Street West, 140th Street West, 130th Street West and 170th Street West. The site is located within Section 24 Township 9 North, Range 15 West and Sections 20, 21, 27, and 28, Township 9 North, Range 14 West, and Sections 30 and 31 Township 9 N Range 13W, San Bernardino Base and Meridian.

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

PUBLIC HEARING AND COMMENT: Kern County is soliciting 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:	**October 13, 2022**
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 submitting written comments to the project planner identified below prior to the close of the public comment period on August 29, 2002, at 5:00 p.m.

Testimony at future public hearings may be limited to those issues raised during the public review period either orally or submitted in writing.

HOW TO COMMENT: You may provide testimony at the public hearing on the date and time specified above or provide written comments prior to the close of public comment period on August 29, 2022, at 5:00 p.m. to:

Kern County Planning and Natural Resources Department
ATTN: Terrance Smalls, Supervising Planner
2700 "M" Street, Suite 100, Bakersfield, CA 93301
Phone: (661) 862-8607
E-mail: smallst@kerncounty.com

PROJECT DESCRIPTION: The Rosamond South Solar Project, as proposed by Golden Fields Solar IV, LLC would develop a photovoltaic solar facility and associated infrastructure necessary to generate up to 165 megawatt-alternating current (MW-AC) of renewable energy, including up to 245 megawatts of energy storage(equivalent to 980 megawatt hours(MWh)), on approximately 1,292 acres of privately-owned land. The project site consists of 4 sites (Sites 1 through 4) located on 64 parcels. The project would be supported by a 230-kilovolt (kV) gen-tie overhead and/or underground electrical transmission line(s) originating from one or more on-site substations and terminating at either the Teddy Substation or the Southern California Edison's Whirlwind Substation. The project's permanent facilities would include, but are not limited to, service roads, a power collection system, inverter stations, transformer systems, transmission lines, electrical switchyards, project substations, energy (battery) storage system, and operations and maintenance facilities.

Implementation of the project as proposed includes the following requests:

a) Amendments to the Willow Springs Specific Plan as follows:

- Specific Plan Amendment No. 40, Map No. 231 from map code designation 7.1/4.4 (Light Industrial, Comprehensive Planning Area) to 7.1 (Light Industrial) on approximately 247 acres and from map code designation 7.2/4.4 (Service Industrial, Comprehensive Planning Area) to 7.2 (Service Industrial) on approximately 118 acres

- Specific Plan Amendment No. 33, Map No. 232 from map code designation 5.3/4.4 (Residential Maximum 10 Units per Net Acre/Comprehensive Planning Area) to 5.3 (Residential, Maximum 10 Units per Net Acre) on approximately 80 acres and from map code designation 5.3/4.4/2.6 (Residential Maximum 10 Units per Net Acre/Comprehensive Planning Area/Erosion Hazard) to 5.3/2.6 (Residential Maximum 10 units per Net Acre/Erosion Hazard) on approximately 80 acres

b) Changes in zone classifications as follows:

- Zone Change Case No. 157, Map No. 231 – From E(2 ½) RS FPS to A FPS on approximately 440 acres
- Zone Change Case No. 43, Map No. 232 – From E(5) RS FPS to A FPS on approximately 330 acres and from existing zone district E(2 ½) RS FPS to A FPS on approximately 96 acres
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c) Conditional Use Permits to allow for the construction and operation of four (4) solar facilities with a total generating capacity of approximately 165 megawatts-alternating current (MW-AC) of renewable energy (broken down by site, below), including up to 245 megawatts (980 MWh) of energy storage (for all sites),

and telecommunication tower within the A (Exclusive Agriculture) Zone Districts (in Zone Maps 231, 232, and 233) pursuant to Sections 19.12.030.G and 19.12.30.F of the Kern County Zoning Ordinance:

- CUP Area 1 (solar and energy storage)
  - Conditional Use Permit No. 16, Map No. 233 for 70.99 acres
- CUP Area 2 (solar and energy storage)
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- CUP Area 4 (solar and energy storage)
  - Conditional Use Permit No. 120, Map No. 231 for 439.26 acres
- Telecommunication Tower
  - Conditional Use Permit No. 44, Map No. 232

d) Specific Plan Amendment to the Circulation Element of the Willow Springs Specific Plan to remove future road reservations on the section and mid-section lines within the project boundaries:

- Specific Plan Amendment No. 31, Map No. 232

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

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

To be published once only on <u>next available date and as soon as possible</u>

<u>THE BAKERSFIELD CALIFORNIAN</u>
<u>MOJAVE DESERT NEWS</u>

TJS (07/13/22)

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

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Rosamond South Solar Project - EIR
(ZC #157; CUP #120, Map #231)
WO #PP19151
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Sc 05/26/21

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359 031 22 00 5 **DUP**
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359 324 06 00 4
BURNSIDE TRUST
1311 S TREMAINE AV
LOS ANGELES CA 90019-1725

359 032 37 00 6
ALLYN HENRY GREGORY III & COTT CYNTHIA
42130 22ND ST WEST
QUARTZ HILL CA 93536

374 321 09 00 3
ANDERSON MAXINE R REV TR
11414 SERRA RD SP 49
APPLE VALLEY CA 92308-7750

359 174 14 00 4
ANTELOPE VALLEY E KERN WTR AG
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359 401 18 00 1
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VALLEY VILLAGE CA 91607

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BALUYUT REVOCABLE LIVING TRUST
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374 400 01 00 5
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14420 CARLSBAD ST
SYLMAR CA 91342-5112

261 120 42 00 0
BERKOWITZ VERNON H & ANN G TR
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PACIFICA CA 94044-1531

374 311 01 00 6
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374 311 03 00 2
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DOWNEY CA 90240

359 175 06 00 8
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LANCASTER CA 93534

261 120 18 00 1
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374 460 20 00 8
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CAPUANO FAMILY TR
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374 304 06 00 9
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COLEMAN RANIESHA
14154 W ROSAMOND BL
ROSAMOND CA 93560-7195

359 100 03 00 3
COMMUNITY HOSP OF MONTEREY
PENINSULA
P O BOX HH
MONTEREY CA 93942

374 313 08 00 1
CORN C & FRANCES TR & TRS ET AL
6537 OLYMPIC PL
LOS ANGELES CA 90035-2526

359 401 20 00 6
COTTRELL WILLIAM F & BRENDA J
2257 W AVENUE N8
PALMDALE CA 93551-2372

261 120 01 00 1
CULLA VIRGINIA A
PO BOX 27295
LOS ANGELES CA 90027-0295

358 330 19 00 0
DAVIES DONALD G
10353 FLORALITA AV
SUNLAND CA 91040

358 330 13 00 2
CARAS CHRIS W & JOAN TRUST
1901 PASEO DEL MAR
PALOS VERDES ES CA 90274-2657

374 460 10 00 9
CASHBAUGH TRUST
1290 100TH ST WEST
ROSAMOND CA 93560

359 020 49 00 4
CHANG DANA TUNG
18010 SUMMER AV
ARTESIA CA 90701

359 100 20 00 2
CHAVEZ ZENAIDA DE JESUS
1415 CALLE LOZANO
CAMARILLO CA 93012-4104

261 120 39 00 2
COLLINS BARBARA ALICE
P O BOX 96
LINCOLN AR 72744

359 332 09 00 2
COOLEY FAMILY TRUST
790 JONIVE RD
SEBASTOPOL CA 95472-9298

374 312 03 00 9
COSTA LARRY L
P O BOX 3144
SEAL BEACH CA 90740

359 100 39 00 8
COYLE GEORGE D & BIRT JOHN W
81372 AVENIDA SOMBRA
INDIO CA 92203-7553

374 311 04 00 5
DAHMEN HANS & HANNELORE
LIVING TRUST
26501 AVENIDA VERONICA
MISSON VIEJO CA 92691

359 332 21 00 6 **DUP**
DAVIS JOHN K
ADDRESS UNKNOWN

261 120 10 00 7
CARDENAS ANA
PO BOX 56867
SHERMAN OAKS CA 91413-1867

374 460 08 00 4
CASTILLO PANFILO
1358 W 100TH ST
ROSAMOND CA 93560

374 460 09 00 7
CHAPPELL TEAM ADVANTAGE INC
332 GOLDEN SHORE DR
LAS VEGAS NV 89123

374 150 05 00 5
CHULALUXSIRIBOON BIRAYUDH &
SIRIWONG
4334 RIO HONDO AV
ROSEMEAD CA 91770

374 460 11 00 2
COLMENARES JUAN JR
1268 W 100TH ST
ROSAMOND CA 93560-7266

261 120 51 00 6
CORADO VICTORIA LETICIA V
7772 BIRCHLEAF AV
PICO RIVERA CA 90660

374 240 09 00 3
COSTELLO MARY C TRUST
8 AZULADO DR
RMV CA 92694-2435

359 100 31 00 4
CUETO DANILO C & DELMA D
14638 4TH AV
SEATTLE WA 98168

374 400 13 00 0
DAMON TRUST
10373 HAWTHORNE AV
HESPERIA CA 92345

261 120 56 00 1
DE GUZMAN MENANDRO G &
MARITES M
5604 TWILIGHT CHASE ST
LAS VEGAS NV 89130

261 120 52 00 9
DEL SOL PROPERTIES INC
12121 WILSHIRE BL STE 600
LOS ANGELES CA 90025

374 304 01 00 4
DILLOW GEORGE S JR
5815 ROBIN LN
TROY MO 63379-5013

359 100 21 00 5
DUGAN EUGENE ALLEN & PAULINE MARIE TR
1165 RHINE ST
SAN DIEGO CA 92154-3071

359 332 22 00 9
ELHATOUM MOHAMMED N
43714 E 16TH ST
LANCASTER CA 93535-4349

359 331 08 00 2
EMERY DURANT & LINDA
499 MINOA
PASADENA CA 91107

359 332 15 00 9
ENCARNACION VIRGINIA R
2621 DUHALLOW WY
S SAN FRANCISCO CA 94080

359 401 06 00 6
ENRIQUEZ VICTOR A
12715 BOBTAIL LN
ROSAMOND CA 93560-7059

374 400 22 00 6
EQUITY TR CO CUSTDN
PO BOX 56867
SHERMAN OAKS CA 91413

359 032 15 00 2
EQUITY TR CO CUSTDN FBO REITZELL JEANIE
PO BOX 187
PLEASANTON CA 94566

374 400 26 00 8
EQUITY TRUST CO FBO DIANE R NELSON ROTH IRA
PO BOX 56867
SHERMAN OAKS CA 91413-1867

359 403 06 00 0 **DUP**
EQUITY TRUST COMPANY
PO BOX 56867
SHERMAN OAKS CA 91413-6867

359 324 01 00 9 **DUP**
EQUITY TRUST COMPANY CUSTODIAN FBO
PO BOX 56867
SHERMAN OAKS CA 91413-1867

359 332 10 00 4
ESTRADA MICHAEL J & NANCY P
11762 AVENIDA DEL SOL
NORTHRIDGE CA 91326-1240

359 331 14 00 9
FALVO JAY
3755 SHADOW GROVE RD
PASADENA CA 91107-2238

374 321 08 00 0
FARNER BETTY L
245 CHAFFIN RD
ROSWELL GA 30075-2429

359 332 35 00 7
FELDER JENNIFER JO
5686 KNIGHT RD
BELLINGHAM WA 98226-7521

359 332 16 00 2
FLETCHER JOANNE
2550 CLARK ST
BAKER CITY OR 97814-2234

359 323 02 00 5
FRANG KE MEI
12882 GASKELL RD
ROSAMOND CA 93560

374 313 07 00 8
FRIESEN MARGARET A
1259 COLFAX CT
MOUNT PLEASANT SC 29466-7971

359 324 17 00 6
FRISCH JONATHAN M
PO BOX 50001
SAN DIEGO CA 92165-0001

374 301 08 00 4
FUJIMOTO FMLY TR
2439 W 229TH PL
TORRANCE CA 90501-5239

359 100 32 00 7
FULCHER KARI L
3701 CLAYSFORD CT
ARLINGTON TX 76015

261 120 63 00 1
FUNG CONNIE YUK YIN FAMILY TRUST
PO BOX 56867
SHERMAN OAKS CA 91413-1867

359 331 09 00 5
GARY BRUCE W
P O BOX 580
ROSAMOND CA 93560

374 311 08 00 7
GAUTHIER MICHAEL C FAM TR
1642 9TH ST
MANHATTAN BEACH CA 90266-6129

359 324 16 00 3
GENG XIUMEI
PO BOX 56867
SHERMAN OAKS CA 91413-1867

359 401 16 00 5
GILES THOMAS F
3765 S HIGHWAY 145
WAYNESBORO MS 39367

359 323 10 00 8
GLASBY FAMILY TR
15971 RANCH HOUSE RD
CHINO HILLS CA 91709-2375

374 302 04 00 9
GODDE GARY M TRUST
1793 BITTERBRUSH CT
GARDNERVILLE NV 89410-6655

359 332 13 00 3
GODDE JEFFREY & RUTH REV TR
13104 BUCKHORN AV
ROSAMOND CA 93560-7014

359 332 14 00 6 **DUP**
GODDE JEFFREY & RUTH REV TRUST
13104 BUCKHORN AV
ROSAMOND CA 93560-7014

374 450 02 00 3
GODDE MAX C
212 W SIERRA VIEW DR
JACKSON CA 95642-2232

359 332 36 00 0
GOLDEN FIELDS SOLAR III LLC
PO BOX 4900
SCOTTSDALE AZ 85261

359 332 12 00 0
GOLDEN FIELDS SOLAR IV
5780 FLEET ST STE 130
CARLSBAD CA 92008

359 331 06 00 6
GOLDEN FIELDS SOLAR IV L
100 CALIFORNIA ST STE 400
SAN FRANCISCO CA 94111-4509

359 331 23 00 5 **DUP**
GOLDEN FIELDS SOLAR IV L
100 CALIFORNIA AV STE 400
SAN FRANCISCO CA 94111-4509

261 120 05 00 3 **DUP**
GOLDEN FIELDS SOLAR IV LLC
100 CALIFORNIA ST # 400
SAN FRANCISCO CA 94111-4509

374 460 15 00 4
GOMEZ MARTIN GIL & ESTHER
1332 W 99TH ST
ROSAMOND CA 93560

359 332 02 00 1
GORBY FMLY TR
10566 GROVE OAK DR
SANTA ANA CA 92705-2588

374 312 05 00 5
H O E INVS INC
23905 CLINTON KEITH RD STE 114
WILDOMAR CA 92595-7899

358 040 04 00 2
HA NORTH ROSAMOND LLC
1906 TOWNE CENTRE BL STE 370
ANNAPOLIS MD 21401

359 020 07 00 2 **DUP**
HA ROSAMOND LLC
1906 TOWNE CENTRE BL U 370
ANNAPOLIS MD 21401-3685

359 323 13 00 7
HADDAD JOBE
41619 W 70TH ST
PALMDALE CA 93551

359 323 09 00 6
HALL DAVE N & LESLIE L TRUST
3690 CHERRYWOOD DR
REDDING CA 96002-4877

374 400 23 00 9
HALLIS SIDNEY N & FRANCIS G
1328 S CAMINO REAL
PALM SPRINGS CA 92264-8464

359 401 17 00 8
HAMMEL BECKY L
44248 W 10TH ST
LANCASTER CA 93534-4134

374 302 03 00 6
HANSON ETHEL M TR
4150 JEFFERSON ST
NAPA CA 94558

374 311 06 00 1
HERRON STEVEN R
1915 N MOUNTAIN VISTA LN
STAR ID 83669-5167

374 460 18 00 3
HOLLISTER JOHN R & COBB TERI L
1012 E AVENUE J # 127
LANCASTER CA 93535-3803

261 120 40 00 4
HOME EQUITY OPTIONS LLC
10401 VENICE BL # 283
LOS ANGELES CA 90034

374 301 02 00 6 **DUP**
HOME EQUITY OPTIONS LLC
10401 VENICE BL 283
LOS ANGELES CA 90034

374 311 10 00 2 **DUP**
HOME EQUITY OPTIONS LLC
10401 VENICE BL STE 283
LOS ANGELES CA 90034-6466

261 120 62 00 8
HUANG ALEXANDER ETHAN
PO BOX 56867
SHERMAN OAKS CA 91413-1867

374 301 05 00 5
HUBER STEVEN
1841 KNOLL DR
VENTURA CA 93003-7389

359 100 25 00 7
HUMANE SOCIETY OF U S
700 PROFESSIONAL DR
GAITHERSBURG MD 20879

374 312 02 00 6
HURST JAMES M & BONNIE J
2400 E RED CEDAR LN
BOISE ID 83716

374 460 26 00 6
HUSTON RYAN C
1401 W 99TH ST
ROSAMOND CA 93560

374 450 09 00 4
ILIC VICKY SLAVICA & DON SLAVICA
2010 W AVENUE K5
LANCASTER CA 93536-5236

359 401 08 00 2
IWASA YOSHIMI & LORETTA
1715 168TH ST. WEST
GARDENA CA 90247

374 302 05 00 2
JARVIS JENNIFER
313 E 14TH ST
EDMOND OK 73034-4719

359 323 47 00 6
JARVIS KATHERINE C
33902 DESERT RD
ACTON CA 93510-2819

359 401 11 01 9
JIBILIAN ALBERT
8117 W MANCHESTER AV
PLAYA DEL REY CA 90293

261 120 49 00 1
JONES NAN TR
3613 DESERT FOX DR
SPARKS NV 89436-8719

359 332 18 00 8
KAKUDA DOUGLAS & JEAN
P O BOX 173
WAIMEA HI 96796

359 324 19 00 2
KAM ANNETTE F
PO BOX 10808
OAKLAND CA 94610-0808

359 323 07 00 0
KAO SHEN YANG & ROSE DIEP REV TR
2616 GLADE DR
SANTA CLARA CA 95051-1149

374 020 41 00 1
KAONA RANOVAC TRUST
44816 RUTHRON ST
LANCASTER CA 93536-8413

358 330 11 00 6
KATHARY KYLE
14271 ROSAMOND BL
ROSAMOND CA 93560

359 100 23 00 1
KAY FAMILY TRUST
3859 VIA VERDE
THOUSAND OAKS CA 91360-6933

359 403 10 00 1
KEPKE WILLIAM F
1670 GREEN ASH RD
RENO NV 89511-2700

359 332 01 00 8
KIM KAZUMI TRUST
7534 WEST 88TH ST
LOS ANGELES CA 90045

359 323 14 00 0
KLECANSKY MILDRED FRANCES TR
14517 W HERITAGE DR
SUN CITY WEST AZ 85375-5969

374 312 04 00 2
KNAPP FMLY TR
4420 LONGWORTHE SQ
ALEXANDRIA VA 22309-1226

374 450 03 00 6
KOCHEL EMILY
50508 W 90TH ST
LANCASTER CA 93536-9405

374 450 04 00 9
KOEPSEL AUDRA L
9101 SPUR RANCH RD
ROSAMOND CA 93560-7017

359 323 01 00 2
KOIVISTO ROLAND B & GLADYCE E
4327 EDENBURY DR
SANTA MARIA CA 93455-3514

374 400 07 00 3
KUZNITSKY GERALD
3 HASTINGS ON OXFORD
ROLLING MEADOWS IL 60008-1914

374 321 03 00 5
LA VELLE JOHN D & DARLENE J
9 SOMBRERO BL APT 104
MARATHON FL 33050

374 313 05 00 2
LAMPL WILLIAM J & CLIFFORD KATHLEEN M TRUST
248 SYCAMORE AV
MILL VALLEY CA 94941-2848

359 332 04 00 7
LAND INVS NETWORK
3142 PACIFIC COAST HW STE 200
TORRANCE CA 90505-6750

359 324 05 00 1
LANE TR
340 OLD MILL RD # 15
SANTA BARBARA CA 93110

359 331 18 00 1
LEE FAMILY TR
317 ANDERSON RD
ALAMEDA CA 94502-7777

261 120 50 00 3
LEON GLORIA M
4710 TURF RD # 12
EL PASO TX 79938

359 332 07 00 6
LIAO JOANNA C
2518 S 3RD AV
ARCADIA CA 91006-5307

359 403 11 00 4
LIN PATRICIA GRACE
325 W 5TH ST
SAN DIMAS CA 91773-2013

359 175 05 00 5 **DUP**
LIU WILLIAM C
ADDRESS UNKNOWN

374 460 24 00 0
LORI AGUSTO & MICHELE LYNN
1461 W 99TH ST
ROSAMOND CA 93560-7090

374 311 02 00 9
LUCCI WILLIAM L JR
817-A EL REDONDO
REDONDO BEACH CA 90277

359 401 07 00 9
LUNOG DEBRA
12737 BOBTAIL LN
ROSAMOND CA 93560-7059

359 403 01 00 5
LY MINH T
PO BOX 56867
SHERMAN OAKS CA 91413-6867

374 304 05 00 6
MAGNUSON DENNIS L & SHARON A
22075 RICHFORD DR
EL TORO CA 92630-7302

374 460 23 00 7
MARTINEAU JEFFREY L
1460 100TH ST W
ROSAMOND CA 93560

261 120 38 00 9
MATYI DANIEL JOHN IRA
6012 CLIFTON AV
JACKSONVILLE FL 32211

359 401 11 02 8
MC CABE THOMAS JOHN
10815 OVERLAND AV
CULVER CITY CA 90230-5477

374 020 15 00 6
MEYER HANS PETER TRUST
3855 W 181ST ST
TORRANCE CA 90504-3813

374 460 21 00 1
MITRANY IRA
9709 BUCKHORN AV
ROSAMOND CA 93560

374 321 02 00 2
MOYER THOMAS C
226 DORADO ST
GEORGETOWN TX 78628-2022

374 321 01 00 9
NADWODNY LAWRENCE & MARY
2017 TRUST
6141 SAN RAFAEL DR
BUENA PARK CA 90620-2834

358 330 14 00 5
NG DICKSON
568 18TH AV
SAN FRANCISCO CA 94121

359 100 17 00 4
O LEARY DONNA M
7962 LA MIRADA CI
BUENA PARK CA 90620

359 401 19 00 4
MAHOOD NYLA A ET AL
12042 NE 51ST CI
OXFORD FL 34484-2401

374 313 01 00 0
MASNADA DANTE ANGELO FAMILY
TRUST
24672 BRIGHTON DR # A
VALENCIA CA 91355

374 313 02 00 3
MAXWELL DAVID K & SUSAN A
9611 S 25TH LN
PHOENIX AZ 85041-9527

359 323 45 00 0
MC GEHEE BETTY J TRUST
8731 CALVA ST
LEONA VALLEY CA 93551-7231

374 301 01 00 3
MICKELSON KEVIN A
5079 GREGG WY
AUBURN CA 95602-9697

359 332 19 00 1
MOHAMMED KHADER & SIDDIQUI
SAIKA S
4 CORBIN DR
EXTON PA 19341

374 450 07 00 8
MULLINS VERNON & DEANA
PO BOX 1896
ROSAMOND CA 93560-1896

374 150 02 00 6
NEAL ROBERT H & MARY R
1166 NE EAST LAKE GENEVA RD
ALEXANDRIA MN 56308

374 400 25 00 5
NISHIMURA ISAMU S & NAMIKO F
7142 LYRIC AV
LANCASTER CA 93536-7428

359 331 22 00 2
OMWANGHE AUSTIN & JUSTINA
PO BOX 2151
UPLAND CA 91785-2151

261 120 31 00 8
MARCHBANKS KATHERINE NATALIE
I R A
PO BOX 56867
SHERMAN OAKS CA 91413-1867

374 301 03 00 9
MATTISON L & J & BROWN DENNIS
22666 RAVEN WY
GRAND TERRACE CA 92324

374 020 16 00 9
MAYER JOSEPHINE
230 PARK AV FLR 21
NEW YORK NY 10169-2403

374 020 02 00 8
MEYER HANS PETER TRUST
14116 SE 44TH ST
BELLEVUE WA 98006-2334

374 301 04 00 2
MILES RICHARD & SUSAN
9967 OWL AV
ROSAMOND CA 93560-7859

374 311 07 00 4
MORRIS CECILIA MARTINEZ
REVOCABLE TRUST
3530 DAMIEN AV 242
LAVERNE CA 91750

374 460 16 00 7
MUNOZ RAQUEL
1849 E LINGARD ST
LANCASTER CA 93535

374 250 09 00 6
NEARY DIANE S TRUST
43 BUCHANAN AV
VENTURA CA 93003

359 403 03 00 1
NOTARMUZI CARON
PO BOX 56867
SHERMAN OAKS CA 91413-6867

359 331 20 00 6
OPULENT INV LLC II
3411 GLENMARK DR
HACIENDA HEIGHT CA 91745-6442

374 400 16 00 9
ORTEGA JOSE ANTONIO & PENA FRANCESCA
3820 SENECA AV
LOS ANGELES CA 90039

374 450 06 00 5
OSSIO RAFAEL & LAPA NIEVES
211 W 90TH ST
ROSAMOND CA 93560

359 402 13 00 3
PATEL GHANSHYAM D & JIGNASA G TRS
2112 N STOCKTON ST
STOCKTON CA 95204-6218

374 312 08 00 4
PAULING ADRIAN LEE
4821 NW ASHRAM LN
OLYMPIA WA 98502

359 402 19 00 1
PEDERSEN FAMILY TR
3640 CALLE ESTRADA
LANCASTER CA 93536-6618

359 403 04 00 4
PENA ELIZABETH
PO BOX 56867
SHERMAN OAKS CA 91413-6867

359 100 18 00 7
PENA HENRY A
P O BOX 687
LA MADERA NM 87539

359 401 04 00 0
PENDLEY DIANE J
12649 BOBTAIL LN
ROSAMOND CA 93560

359 100 26 00 0
PETERSON LIVING TRUST
1701 POSO FLAT RD
BAKERSFIELD CA 93308

261 120 44 00 6
PICCININI REV LIV TR
3149 LA MESA
SAN CARLOS CA 94070

261 120 55 00 8
PILIGIAN SHIRLEY I TRUST
6221 FAIRFAX WY
NORTH HIGHLANDS CA 95660

359 402 15 00 9
PINO LARRY P
5250 WEST AVENUE L-6
QUARTZ HILL CA 93534

374 311 05 00 8
PREGLER FAMILY TRUST
11809 SIERRA HW
SANTA CLARITA CA 91390-5015

374 180 03 00 8
QUAN ROBERT B
8745 MISSION DR
ROSEMEAD CA 91770-1139

374 250 06 00 7
RAMSAY SELWYN P
P O BOX 814
YORBA LINDA CA 92885

261 194 42 00 9
RE ASTORIA LANDCO LLC
3000 OAK RD STE 300
WALNUT CREEK CA 94597-7775

261 120 41 00 7
REDMAN INVESTMENT CO
12121 WILSHIRE BL STE 600
LOS ANGELES CA 90025

359 401 02 00 4
REEMTSMA PHILIP DAVID & EILEEN MARIE
1304 KAKNU WY
KENAI AK 99611

374 250 07 00 0
REID WILLIAM A
HC 68 BOX 315
CLAYTON ID 83227

261 120 57 00 4
REYNOLDS GEORGE E
45180 FERN AV APT B10
LANCASTER CA 93534

261 120 61 00 5
RICHARD MARIA G ROTH IRA
PO BOX 494
LARKSPUR CO 80118-0494

374 313 06 00 5
RISSE SAYOKO JEAN
1991 CABRILLO MESA CT
CAMARILLO CA 93010-9287

374 312 01 00 3
ROBINSON FAMILY TRUST
PO BOX 56867
SHERMAN OAKS CA 91413-1867

359 323 11 00 1
ROMANO FMLY TR
10445 WILSHIRE BL # 1401
LOS ANGELES CA 90024

374 400 35 00 4
RONQUILLO BARTOLOME L
3714 BRILLIANT PL
LOS ANGELES CA 90065-3514

359 020 05 00 6
ROSIE LAND HOLDINGS LLC
100 CALIFORNIA ST STE 400
SAN FRANCISCO CA 94111

359 100 14 00 5
ROULETTE JOHN A & MARY C TRUST
17442 MIRA LOMA CI
HUNTINGTN BCH CA 92647

374 304 02 00 7
RUNKLE DEWEY R TR
1344 EL MONTE DR
SIMI VALLEY CA 93065-4230

359 402 09 00 2
SABINO CESAR R IRA
12036 186TH ST
ARTESIA CA 90701-5778

374 400 05 00 7
SAIDI GHOLAM R & MEIMAN LAI
735 PLATEAU AV
MONTEREY PARK CA 91755

374 400 24 00 2
SALAZAR MOISES
1418 E 70TH ST
LOS ANGELES CA 90001

359 332 17 00 5
SALZ CHRISTINA KUUIPO
KUULEIKAHALEWEHIONALAN
85-755 KANAPAU PL
WAIANAE HI 96792

358 330 16 00 1
SANTANA JOSE ANTONIO
3210 INEZ ST
LOS ANGELES CA 90023-1633

359 100 34 00 3
SARAIYA JAYANT N & JAYASHREE J
FAMILY TRUST
2245 N GRANDVIEW RD
ORANGE CA 92867

359 323 03 00 8
SAUCY TR
3122 TERANIMAR DR
ANAHEIM CA 92804

374 150 06 00 8
SCHEFFING CHARLES REED ET AL
2001 GLADE RD
FARMINGTON NM 87401

374 312 07 00 1
SCHERMERHORN FAMILY TRUST
6740 NORTHRIM LN
COLORADO SPRING CO 80919-3401

359 403 02 00 8
SCHRADER GENE & NERISSA
FAMILY TRUST
5 TURTLE BAY DR
NEWPORT BEACH CA 92660

359 401 01 00 1
SCHRIEBER KRISTIAN KORY
PO BOX 56867
SHERMAN OAKS CA 91413-1867

359 100 22 00 8
SCHWARTZ FAMILY TR
4133 WEST WILSON SP 162
BANNING CA 92220-1315

374 460 19 00 6
SERMON SANJUANITA T & DAVID
1340 97TH STREET WEST
ROSAMOND CA 93560

359 403 13 00 0
SHIAO CHI LIN
3902 CAPRI AV
IRVINE CA 92606-1855

359 323 06 00 7
SLATES HERITAGE L P
523 W 6TH ST STE 502
LOS ANGELES CA 90014-1225

261 196 22 00 5
SOLAR STAR CALIFORNIA LLC
PO BOX 657 (DMR8)
DES MOINES IA 50306-0657

261 134 10 00 8
SOU CAL EDISON CO
14799 CHESTNUT ST
WESTMINSTER CA 92683-5240

261 350 12 00 0 **DUP**
SOU CAL EDISON CO
2244 WALNUT GROVE AV
ROSEMEAD CA 91770-3714

261 350 16 00 2
SOU CAL EDISON CO
2131 WALNUT GROVE AV
ROSEMEAD CA 91770-3769

261 350 33 00 1
SOUTHERN CALIF EDISON CO
2244 WALNUT GROVE AV
ROSEMEAD CA 91770-3714

359 402 11 00 7
SOUTHWEST CONSERVANCY III LLC
PO BOX 1413
BEND OR 97709-1413

374 321 10 00 5
SPEITEL WILLIAM A & PAMELA B
862 VICTORA AV
VENTURA CA 93003

359 100 33 00 0
STEPHENS JOHN & JARVIS
KATHERINE
33902 DESERT RD
ACTON CA 93510-2819

359 324 02 00 2
STONE DANIEL T
PO BOX 56867
SHERMAN OAKS CA 91413-1867

359 323 05 00 4
SU KUO CHANG
1410 CANDLEWOOD LN
HOFFMAN ESTATES IL 60169-2367

374 150 01 00 3
SUNDQUIST CATALINA LIVING
TRUST
81 PASEO DE TONER
BREA CA 92821-4962

374 150 04 00 2
SWENSON GARY S & JULIE A
300 S GLENWOOD AV
GLENDORA CA 91741-3543

374 150 03 00 9
TANEGA ARDON M & RUDY
2017 SPRUCE BROOK DR
HENDERSON NV 89014-1530

374 460 05 00 5
TAPIA CHARLES & CARMEN
REVOCABLE TRUST
8118 WEST AVENUE E
LANCASTER CA 93536

374 460 03 00 9
TAPIA FELIX A
6400 GOBI AV
ROSAMOND CA 93560

374 460 04 00 2
TAPIA PRIMO JR FAMILY TRUST
21722 GREENSLEEVES CT
SANTA CLARITA CA 91350-1770

359 100 29 00 9
TATE RICHARD WILLARD & JANICE
6538 CAMINO VENTUROSO
GOLETA CA 93117-1527

359 323 44 00 7
TAVELLA THOMAS R
5022 W AVENUE N 102150
PALMDALE CA 93551

359 402 08 00 9
TEG PROP INC
PO BOX 3366
GLENDALE CA 91221-0366

374 400 11 00 4
THOMAS JOHN W
920 TERI AV
TORRANCE CA 90503

374 290 01 00 4
TIVENS DONALD
21250 CALIFA ST STE 113
WOODLAND HILLS CA 91367-5025

374 301 06 00 8
TONG ABEL SOU-PING
32 SILVEROAK
IRVINE CA 92620-1296

359 323 08 00 3
TONG NHIEM & LY HUONG P
PO BOX 2411
LA HABRA CA 90632-2411

359 403 09 00 9
TOYOFUKU TOICHI & SACHIKO M
99210 HAILIMANU PL
AIEA HI 96701-2937

374 460 25 00 3
TRENOUTH FAMILY TRUST
8716 WEST AV D6
LANCASTER CA 93536

359 100 13 00 2
TREZZA FAMILY TRUST
16851 ALCROSS ST
COVINA CA 91722

359 403 08 00 6
TRIN MARVALLIE M
8801 GARFIELD ST
BETHESDA MD 20817-6707

359 402 10 00 4
TRUDREAM PROP L L C
6200 N ROCKSIDE WOODS BL STE 215
INDEPENDENCE OH 44131-2373

261 120 08 00 2
US SOLAR ASSETS LLC
135 MAIN ST FLR 6
SAN FRANCISCO CA 94105

374 450 05 00 2
VANNICE CORY
251 SPUR RANCH RD
ROSAMOND CA 93560-7247

359 403 05 00 7
VELASCO MARCUS C FERNANDEZ &
ALETH DE GUZMAN
PO BOX 56867
SHERMAN OAKS CA 91413-6867

374 020 47 00 9
VINAM WORLD INV & DEV
16631 MT ERIN CI
FOUNTAIN VALLEY CA 92708

374 301 07 00 1
VINCENT RICHARD M & ETHEL C
959 W ROSEWOOD CT
ONTARIO CA 91762

359 100 35 00 6
WALLER EMILY JANE LIVING TRUST
6308 NE COLLEEN AV
ALBUQUERQUE NM 87109

261 120 45 00 9
WEISSMAN RICHARD RECEIVER
12121 WILSHIRE BL STE 600
LOS ANGELES CA 90025

374 313 04 00 9
WHITE PAUL T & MARIE H
240 E HUNTER LN
CENTRAL UT 84722-3221

261 120 21 00 9
WILBURN KIMBERLY K
12309 SW 1ST ST
CORAL SPRINGS FL 33071-8056

374 302 06 00 5
WILEY DOROTHY E
147 PINEBROOK RD
COLCHESTER CT 06415-2412

374 311 09 00 0
WILEY R SCOTT
8262 NORTON AV APT 208
WEST HOLLYWOOD CA 90046-5951

374 450 13 00 5
WILLIAMS JEFFREY R & MC ARDLE
SEANEEN T
9241 WEST AVENUE A
ROSAMOND CA 93560-7083

261 260 23 00 6
WILLOW SPRINGS INVESTMENTS
701 N PARKCENTER DR
SANTA ANA CA 92705

359 031 06 00 9
WILLOW SPRINGS SOLAR 3 LLC
135 MAIN ST FLR 6
SAN FRANCISCO CA 94105-8113

359 401 14 00 9
WILSON PAUL L JR
14752 CRENSHAW BL U 259
GARDENA CA 90249-3694

359 100 36 00 9
WONG LIVING TR
705 IRVING ST
ALAMBRA CA 91801

374 180 01 00 2
WONG TSE CHING
1528 S CANFIELD AV
LOS ANGELES CA 90035-3218

359 332 03 00 4
YANG CHENGHUA
1855 SE TROSSACHS BL U 2505
SAMMAMISH WA 98075-5929

359 100 16 00 1
YANG YANYANG & ZHANG BO
PO BOX 56867
SHERMAN OAKS CA 91413

261 120 32 00 1
YEN JIN FU & LIEN PI HSIEN
PO BOX 56867
SHERMAN OAKS CA 91413-6867

374 460 17 00 0
YOST RAE DEAN
PO BOX 987
ROSAMOND CA 93560

374 450 10 00 6
YOUNG LAUREN A TRUST
PO BOX 10078
LANCASTER CA 93584-0078

374 460 27 00 9 **DUP**
YU JUAN G & GRACE C
ADDRESS UNKNOWN

359 332 05 00 0
ZANDERS NORMA L
5859 MUIR ST
SIMI VALLEY CA 93063-3676

374 250 08 00 3
ZEISMER REVOCABLE LIVING TRUST
15147 HALINOR ST
HESPERIA CA 92345

359 403 12 00 7
ZHANG XICHEN & WANG SHARON X
2317 GILLINGHAM CI
THOUSAND OAKS CA 91362-1608

261 120 54 00 5
ZIANI ANGELA TRUST
447 W AVENUE 44
LOS ANGELES CA 90065-3916

261 350 21 00 6
ABDELHAK MAHMOUD
P O BOX 12424
MARINA DEL REY CA 90295

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 # 2021060079

Project Title: Rosamond South Solar Project by Golden Fields Solar IV, LLC

Lead Agency: Kern County Planning and Natural Resources Department | Contact Person: Terrance Smalls

Mailing Address: 2700 "M" Street Suite 100 | Phone: (661) 862-8607

City: Bakersfield | Zip: 93301 | County: Kern

Project Location: County: Kern | City/Nearest Community: Rosamond

Cross Streets: Rosamond Blvd & 90th Street West | Zip Code: 93501

Lat. / Long.: 34° 50' 16.84" N, 118° 21' 31.39" W | Total Acres: 1,292

Assessor's Parcel No.: Multiple | Section: Multiple | Twp.: Multiple | Range: Multiple | Base: SBB&M

Within 2 Miles: State Hwy #: | Waterways: N/A

Airports: N/A | Railways: N/A | Schools: Tropico Middle School

Document Type:

CEQA: ☒ NOP ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec ☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ☐ Other

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other

Local Action Type:

☐ General Plan Update ☒ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☒ Rezone ☐ Prezone ☒ Use Permit ☐ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other

Development Type:

☐ Residential: Units Acres
☐ Office: Sq.ft. Acres Employees
☐ Commercial: Sq.ft. Acres Employees
☐ Industrial: Sq.ft. Acres Employees
☐ Educational
☐ Recreational
☐ Water Facilities: Type MGD
☐ Transportation: Type
☐ Mining: Mineral
☒ Power: Type Solar PV MW 165
☐ Waste Treatment: Type MGD
☐ Hazardous Waste: Type
☒ Other: Battery Energy Storage up to 245 MW (980 MWh)

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:

Undeveloped Land**.** *Zoning:* A (Exclusive Agriculture), E (Estate) *Kern County General Plan:* 5.6 (Residential Minimum 2.5 Gross Acres per Unit); 5.7(Residential Minimum 5 Gross Acres per Unit); 7.1 (Light Industrial); 7.2 (Service Industrial); 8.1 = Intensive Agriculture (Min. 20 Acre Parcel Size)

Project Description:

The Rosamond South Solar Project, as proposed by Golden Fields Solar IV, LLC would develop a photovoltaic solar facility and associated infrastructure necessary to generate up to 165 megawatt-alternating current (MW-AC) of renewable energy, including up to 245 megawatts (980 MWh) of energy storage, on approximately 1,292 acres of privately-owned land. The project site consists of 4 sites (Sites 1 through 4) located on 64 parcels. The project would be supported by a 230-kilovolt (kV) gen-tie overhead and/or underground electrical transmission line(s) originating from one or more on-site substations and terminating at either the Teddy Substation or the Southern California Edison's Whirlwind Substation. The project's permanent facilities would include, but are not limited to, service

roads, a power collection system, inverter stations, transformer systems, transmission lines, electrical switchyards, project substations, energy (battery) storage system, and operations and maintenance facilities.

Implementation of the project as proposed would require:
SPA 40, Map #231; SPA 33, Map #232; ZCC 157, Map #231; ZCC 43, Map #232; ZCC 18, Map #233; CUP 120, Map #231; CUP 40, Map #232; CUP 46, Map #232; CUP 44, Map #232; CUP 16, Map #233; SPA 31, Map #232, and Nonsummary Vacations in ZMs 231 and 232.

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		Office of Emergency Services
	Boating & Waterways, Department of		Office of Historic Preservation
S	California Highway Patrol		Office of Public School Construction
	CalFire	S	Parks & Recreation
S	Caltrans District # 6		Pesticide Regulation, Department of
S	Caltrans Division of Aeronautics	S	Public Utilities Commission
	Caltrans Planning (Headquarters)	S	Regional WQCB # Lahontan
	Central Valley Flood Protection Board		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	S	State Lands Commission
	Delta Protection Commission		SWRCB: Clean Water Grants
	Education, Department of		SWRCB: Water Quality
S	Energy Commission		SWRCB: Water Rights
S	Fish & Game Region # Fresno		Tahoe Regional Planning Agency
S	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 _____
S	Integrated Waste Management Board		Other _____
X	Native American Heritage Commission		

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

Starting Date July 13, 2022 Ending Date August 29, 2022

Lead Agency (Complete if applicable):

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

Signature of Lead Agency Representative: /s/ **Date:** 07/13/2022

Terrance Smalls, Supervising Planner

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

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Draft
Environmental Impact Report

SCH# 2021060079

Volume 1

Chapters 1 through 11

ROSAMOND SOUTH SOLAR PROJECT

by Golden Fields Solar IV, LLC *(PP19151)*

Specific Plan Amendment No. 40, Map No. 231
Specific Plan Amendment No. 33, Map No. 232
Zone Change Case No. 157, Map No. 231
Zone Change Case No. 43, Map No. 232
Zone Change Case No. 18, Map No. 233
Conditional Use Permit No. 20, Map No. 231
Conditional Use Permit No. 40, Map No. 232
Conditional Use Permit No. 46, Map No. 232
Conditional Use Permit No. 44, Map No. 232
Conditional Use Permit No. 16, Map No. 233
Specific Plan Amendment No. 31, Map No. 32 (circulation)
Nonsummary Vacations Map No. 231
Nonsummary Vacations Map No. 232

Kern County
Planning and Natural Resources Department
Bakersfield, California

Technical Assistance by:
Kimley-Horn

July 2022

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Appendices

Chapter 1
Executive Summary

1.1 Introduction

The Rosamond South Solar Project (project), proposed by Golden Fields Solar IV, LLC, a subsidiary of Clearway Energy Group, LLC (Clearway) (project proponents/operators), would develop and operate up to four photovoltaic (PV) solar facilities and associated infrastructure necessary to generate up to a total of approximately 165 megawatts (MW) of renewable electrical energy and up to 245 MW of energy storage using a battery energy storage system (BESS) on an approximately 1,292 acre site.

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

- CUP Area 1 (solar and energy storage)
  - Conditional Use Permit No. 16, Map No. 233 for 70.99 acres
- CUP Area 2 (solar and energy storage)
  - Conditional Use Permit No. 40, Map No. 232 for 240.58 acres
- CUP Area 3 (solar and energy storage)
  - Conditional Use Permit No. 46, Map No. 232 for 541.16 acres
- CUP Area 4 (solar and energy storage)
  - Conditional Use Permit No. 120, Map No. 231 for 439.26 acres
- Telecommunication Tower
  - Conditional Use Permit No. 44, Map No. 232
- Zone Change Case No. 157, Map No. 231 from the existing zone district E(2 ½) RS FPS to A FPS on approximately 440 acres
- Zone Change Case No. 43, Map No. 232 from the existing zone district E(5) RS FPS to A FPS on approximately 330 acres and from existing zone district E(2 ½) RS FPS to A FPS on approximately 96
- Zone Change Case No. 18, Map No. 233 from the existing zone district E (2 ½) RS FPS to A FPS on approximately 71 acres
- Specific Plan Amendment No. 40, Map No. 231 from map code designation 7.1/4.4 (Light Industrial, Comprehensive Planning Area) to 7.1 (Light Industrial) on approximately 247 acres and from map code designation 7.2/4.4 (Service Industrial, Comprehensive Planning Area) to 7.2 (Service Industrial) on approximately 118 acres.
- Specific Plan Amendment No. 33, Map No. 232 from map code designation 5.3/4.4 (Residential Maximum 10 Units per Net Acre/Comprehensive Planning Area) to 5.3 (Residential, Maximum 10 Units per Net Acre) on approximately 80 acres and from map code designation 5.3/4.4/2.6 (Residential Maximum 10 Units per Net Acre/Comprehensive Planning

Area/Erosion Hazard) to 5.3/2.6 (Residential Maximum 10 units per Net Acre/Erosion Hazard) on approximately 80 acres.

- Specific Plan Amendment No. 31, Map No. 232 Amendments to the Circulation Element of the Kern County General Plan to remove future road reservations on the section and mid-section lines within the project boundaries.
- The project proponent also requested vacations of public access easements within the CUP area boundaries.
  - A portion of Kingbird Avenue from Kildeer Ave to 90th Street W
  - A portion of 90th Street W from Kingbird Ave extending approximately 800 feet south
  - A portion of Holiday Avenue from 130th Street W to 140th Street W
  - A portion of Willow Avenue from 130th Street W to 140th Street W
  - A portion of 130th Street W from Holiday Ave to Willow Ave
  - A portion of 140th Street W from Holiday Ave to Willow Ave
  - A portion of Sue Ave from 132nd Street W to 130th Street W
  - A portion of 126th Street W from Buckhorn Ave to Gaskell Road
  - Public assess easement running north of Gaskell Road created by Parcel Map 214

Table 1-1, *Project Assessor Parcel Numbers (APNs) – Specific Plan Map Code Designations and Zone Districts*, identifies the Assessor Parcel Numbers (APN) for the project site.

Table 1-1: Project Assessor Parcel Numbers (APNs) – Specific Plan Map Code Designations and Zone Districts

CUP Area	APN	Willow Springs Specific Plan-Existing Map Code Designation(s)	Willow Springs Specific Plan-Proposed Map Code Designation(s)	Existing Zone District(s)	Proposed Zone Districts	Acres
1	261-120-05	5.6; 5.6/2.6	5.6; 5.6/2.6	E(2 ½) RS FPS	A FPS	20.63
	261-120-06	5.6; 5.6/2.6	5.6; 5.6/2.6	E(2 ½) RS FPS	A FPS	20.68
	261-120-07	5.6; 5.6/2.6	5.6; 5.6/2.6	E(2 ½) RS FPS	A FPS	20.08
	261-120-09	5.6	5.6	E(2 ½) RS FPS	A FPS	9.60
Area 1 total acres: 70.99						
2	359-020-49	5.3/4.4; 5.3/4.4/2.6	5.3; 5.3/2.6	A FPS	A FPS	160.71
	359-100-05	5.7	5.7	E (5) RS FPS	A FPS	79.87
Area 2 total acres: 240.58						
3	359-175-05	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	78.48
	359-331-06	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	5.02
	359-331-07	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	5.02

Table 1-1: Project Assessor Parcel Numbers (APNs) – Specific Plan Map Code Designations and Zone Districts

CUP Area	APN	Willow Springs Specific Plan-Existing Map Code Designation(s)	Willow Springs Specific Plan-Proposed Map Code Designation(s)	Existing Zone District(s)	Proposed Zone Districts	Acres
	359-331-12	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	5.02
	359-331-13	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	5.02
	359-331-15	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	5.02
	359-331-16	8.1/2.85; 8.1/2.6/2.85	8.1/2.85; 8.1/2.6/2.85	A FPS	A FPS	20.07
	359-331-18	8.1/2.85; 8.1/2.6/2.85	8.1/2.85; 8.1/2.6/2.85	A FPS	A FPS	20.07
	359-331-20	5.7/2.85	5.7/2.85	E(5) RS FPS	A FPS	20.08
	359-331-21	5.7/2.85	5.7/2.85	E(5) RS FPS	A FPS	20.08
	359-331-22	5.7/2.85	5.7/2.85	E(5) RS FPS	A FPS	20.08
	359-331-23	5.7/2.85	5.7/2.85	E(5) RS FPS	A FPS	20.09
	359-332-01	5.7/2.6/2.85	5.7/2.6/2.85	E(5) RS FPS	A FPS	10.00
	359-332-02	5.7/2.6/2.85	5.7/2.6/2.85	E(5) RS FPS	A FPS	10.00
	359-332-03	5.7/2.85; 5.7/2.6/2.85	5.7/2.85; 5.7/2.6/2.85	E(5) RS FPS	A FPS	10.00
	359-332-04	5.7/2.85; 5.7/2.6/2.85	5.7/2.85; 5.7/2.6/2.85	E(5) RS FPS	A FPS	10.00
	359-332-05	5.7/2.85; 5.7/2.6/2.85	5.7/2.85; 5.7/2.6/2.85	E(5) RS FPS	A FPS	10.00
	359-332-06	5.7/2.85; 5.7/2.6/2.85	5.7/2.85; 5.7/2.6/2.85	E(5) RS FPS	A FPS	20.00
	359-332-07	5.7/2.85; 5.7/2.6/2.85	5.7/2.85; 5.7/2.6/2.85	E(5) RS FPS	A FPS	40.00
	359-332-09	5.7/2.85	5.7/2.85	E(5) RS FPS	A FPS	40.00
	359-332-10	5.7/2.85	5.7/2.85	E(5) RS FPS	A FPS	20.00
	359-332-11	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	5.02
	359-332-12	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	5.02
	359-332-16	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	2.50
	359-332-24	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	19.24
	359-332-30	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	5.00
	359-332-31	5.7/2.85	5.7/2.85	E(5) RS FPS	A FPS	5.00
	359-332-35	5.7/2.85	5.7/2.85	E(5) RS FPS	A FPS	10.00
	359-401-02	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	5.00
	359-401-03	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	2.50

Table 1-1: Project Assessor Parcel Numbers (APNs) – Specific Plan Map Code Designations and Zone Districts

CUP Area	APN	Willow Springs Specific Plan-Existing Map Code Designation(s)	Willow Springs Specific Plan-Proposed Map Code Designation(s)	Existing Zone District(s)	Proposed Zone Districts	Acres
	359-401-05	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	2.50
	359-401-12	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	2.50
	359-401-15	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	2.50
	359-401-09	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	2.50
	359-401-16	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	5.01
	359-401-19	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	5.01
	359-401-20	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	4.24
	359-401-21	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	5.00
	359-401-22	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	5.00
	359-401-23	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	5.00
	359-402-11	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	10.0
	359-402-13	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	5.00
	359-402-14	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	5.00
	359-402-15	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	2.50
	359-402-16	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	2.50
	359-402-17	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	2.28
	359-402-18	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	2.28
	359-402-19	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	2.28
	359-402-20	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	2.28
	359-402-21	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	2.28
	359-402-22	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	2.28
	359-403-08	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	20.00
	359-403-09	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	20.00
Area 3 total acres: 541.16						
4	374-020-02	7.1/4.4; 7.2/4.4	7.1;7.2	E(2 ½) RS FPS	A FPS	165.00
	374-020-15	7.1/4.4	7.1	E(2 ½) RS FPS	A FPS	79.09
	374-020-16	7.2/4.4	7.2	E(2 ½) RS FPS	A FPS	79.09
	374-450-01	7.2/4.4	7.2	E(2 ½) RS FPS	A FPS	36.66
	374-460-12	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	75.00

Table 1-1: Project Assessor Parcel Numbers (APNs) – Specific Plan Map Code Designations and Zone Districts

CUP Area	APN	Willow Springs Specific Plan-Existing Map Code Designation(s)	Willow Springs Specific Plan-Proposed Map Code Designation(s)	Existing Zone District(s)	Proposed Zone Districts	Acres
Area 4 total acres: 439.26						
Proposed Solar Project Total Acreage 1291.99						

LEGEND

2.6= Erosion Hazard; 2.85 = Noise Management Area; 4.4 = Comprehensive Planning Area; 5.3 = Maximum 10 units/net acre; 5.6 = Minimum 2.5 gross acres/unit; 5.7 = Minimum 5 gross acres/unit; 6.2 = General Commercial; 7.1 = Light Industrial; 7.2 = Service Industrial; 8.1 = Intensive Agriculture

A = Exclusive Agriculture; E (2½) = Estate 2½ acres; E (5) = Estate 5 acres; FPS = Floodplain Secondary Combining; MH = Mobilehome Combining; RS = Residential Suburban Combining;

This Draft Environmental Impact Report (EIR) has been prepared by Kern County as the Lead Agency under CEQA. The Draft EIR provides information about the environmental setting and impacts of the project and alternatives. It informs the public about the project and its impacts and provides information to meet the needs of local, State, and federal permitting agencies that are required to consider the project. The EIR will be used by Kern County to determine whether to approve the requested CUP Area 1 (solar and energy storage under CUP No 16, Map No. 233 on 70.99 acres), CUP Area 2 (solar and energy storage under CUP No. 40, Map No. 232 on 240.58 acres), CUP Area 3 (solar and energy storage under CUP No. 46, Map No 232 on 541.16 acres), CUP Area 4 (solar and energy storage under CUP No. 120 Map No 231 on 439.26 acres), and a telecommunications tower under CUP No. 44 and Map 232.

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

1.2 Project Summary

The project would develop a solar PV generating facility. As shown in Chapter 3, *Project Description*, **Figure 3-1**, *Regional Vicinity Map*, and **Figure 3-2**, *Site Vicinity Map*, of this EIR, the project is located in the southeastern portion of Kern County, approximately 11 miles west of the unincorporated community of Rosamond. The project would generate a combined total of 165 (MW) of renewable electrical energy and up to 245 MW of energy storage using a battery energy storage system (BESS). In addition to the solar arrays, BESS, and transmission lines, the project also would construct permanent facilities that would include, but are not limited to, service roads, a power collection system, combiners, inverter stations, transformer systems, overhead and buried conductors, generation tie (gen-tie) lines, electrical switchyards, substations, telecommunications tower, security fencing, and operations and maintenance facilities. See **Figure 3-9a**, *Project 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. Army Corps of Engineers Jurisdictional Determination Section 404 Permit, if required

State

- California Public Utilities Commission
- California Department of Fish and Wildlife (CDFW)
  - Section 1600 et seq. (Lake and Streambed Alteration Agreement), if required
  - Section 2081 Permit (Incidental Take Permit), if required
- Lahontan Regional Water Quality Control Board (RWQCB)
  - Waste Discharge Requirements, if required
  - Regional Water Quality Certification CWA Section 401 Permit (if 404 Permit is required)
  - National Pollution Discharge Elimination System (NPDES) Construction General Permit if impacts to federal jurisdictional waters will occur
- California Department of Transportation (Caltrans)
  - Right-of-Way Encroachment Permit, if required
  - Oversized Loads Permit, if required

Local

Kern County Board of Supervisors

- Consideration and Certification of Final EIR.
- Adoption of 15091 Findings of Fact and 15093 Findings and Statement of Overriding Considerations.
- Approval of proposed Mitigation Monitoring and Reporting Program.
- Approval for proposed changes to Land Use Map Codes of the Willow Springs Specific Plan.
- Approval for proposed changes in zone classification.
- Approval for proposed conditional use permits.
- Approval for proposed circulation amendments to the Willow Springs Specific Plan
- Approval for proposed non-summary public access easement vacations.
- Approval of Franchise Agreement(s).

Kern County Public Works

- Approval of Kern County Grading Permits
- Approval of Kern County Building Permits
- Approval of Kern County Encroachment Permits

Kern County Fire Department

- Fire Safety Plan

Eastern Kern Air Pollution Control District (EKAPCD)

- Fugitive Dust Control Plan
- Authority to Construct Permit
- Authority to Operate Permit
- Any other permits as required

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

1.3 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.

1.4 Purpose and Use of the EIR

An EIR is a public informational document used in the planning and decision-making process. This project-level EIR will analyze the environmental impacts of the 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*.

1.5 Project Overview

Regional Setting

The project site is located in southeastern Kern County and is approximately 11 miles west of the unincorporated community of Rosamond (see **Figure 3-1**, *Regional Location Map*). The proposed project is in the eastern high desert region of unincorporated Kern County. The project is in the western extent of the Mojave Desert near approximately 7.5 miles southwest of Mojave, California, within the western Antelope Valley and approximately 50 miles southeast of the city of Bakersfield. All project CUP sites areas are located within Section 24 Township 9 North, Range 15 West and Sections 20, 21, 27, and 28, Township 9 North, Range 14 West, and Sections 30 and 31 Township 9 N Range 13W, San Bernardino Base and Meridian. **Figure 3-2-** *Site Vicinity*, shows the project in context of the region. Additionally, the project is within the Willow Springs Specific Plan.

Surrounding Land Uses and Project Site Conditions

Land uses in the region include a mix of undeveloped land, agriculture, residential, recreational and public facilities, and renewable energy projects (solar and wind). The project site is comprised of a total of 64 individual properties/parcels.

The proposed project is in the Mojave Basin and Range ecoregion. CUP Areas 1, 2, and part of 3 are located within the Fairmont Butte USGS Quadrangle; the balance of CUP area 3 and CUP area 4 are located within the Little Butte USGS Quadrangle (USGS 2018a; USGS 2018b). Development in the area surrounding the project sites includes rural residences, agriculture, as well as renewable energy (solar and wind) facilities.

As discussed above, the area within the project site and surrounding vicinity is composed of a mix of undeveloped land, agricultural land, rural residential development, as well as existing solar and wind electrical generation facilities and transmission infrastructure. Desert vegetation and agricultural fields dominate the project area and the region. The most prevalent habitat type on the project site is Annual Grassland, which covers approximately two thirds of the project footprint and Desert Scrub that covers most of the remaining habitat type within the project site. This vegetative community typically occurs on well-drained soils in alluvial fans, bajadas, and upland

slopes. Growth occurs during spring (or rarely in summer or fall) if rainfall is sufficient. This is one of the most widely distributed desert plant communities in the Mojave Desert, occurring from the desert floor up to approximately 3,500 feet in elevation and extending into northwestern Arizona and southern Utah to the east. Scattered, widely spaced Joshua trees occur throughout portions of the creosote bush scrub communities present within the project site; however, they do not occur at a density high enough to consider them a distinct woodland community.

The foothills of the Tehachapi Range occur approximately 14 miles north of the proposed project, and the Central Transverse Range occurs approximately 12 miles west and southwest of the project site. The proposed project and surrounding land are in a relatively flat-lying plain and exhibit little topographic variation. **Table 1-2**, *Project Site and Surrounding Land Uses*, presents the existing land uses, designations, and zoning classification for the project site and surrounding area.

Table 1-2: Project Sites and Surrounding Land Uses

	Existing Land Use	Existing Map Code Designation	Existing Zoning Classification
CUP Area 1	**Undeveloped**	**5.6, 5.6/2.6,**	**E(2½) RS FPS**
North	Undeveloped	5.6	E(2½) RS FPS
South	Undeveloped, Substation, Solar array.	8.1/2.85	A FPS
East	Undeveloped, Single family residences	5.6/2.6	E(2½) RS FPS
West	Undeveloped, Substation	5.6	E (2½) RS FPS
CUP Area 2	**Single family residence, Out buildings, Undeveloped**	**5.3/4.4, 5.3/4.4/2.6, and 5.7**	**A FPS, E (5) RS FPS,**
North	Undeveloped, Single family residences	5.3, 5.3/4.4	A FPS, E (5)
South	Undeveloped, Solar array, CUP Area 3	5.3/4.4/2.85	A FPS, RS FPS
East	Undeveloped, single family residences, Solar array	5.3/4.4, 5.6, 5.7	A FPS
West	Undeveloped	8.1/2.6, 8.1/4.4	A FPS, E(5) RS FPS,
CUP Area 3	**Undeveloped**	**5.6/2.85, 5.7/2.85, 5.7/2.6/2.85, 8.1/2.85, 8.1/2.6/2.85**	**E (2 ½) Rs FPS, E (5) RS FPS, A FPS**
North	Undeveloped, CUP Area 2, Solar array	5.3/4.4/2.85, 6.2	E (2 ½) RS MH FPS, E(5), RS FPS
South	Undeveloped, Single family residences, Solar array	6.2, 8.1, 8.1/2.6	A FPS, E(5) RS FPS
East	Undeveloped, Mortuary and cemetery, Single family residence	5.6/2.85	E (2 ½) RS MH FPS,
West	Undeveloped, Solar array	8.1/2.6/2.85	A FPS

Table 1-2: Project Sites and Surrounding Land Uses

	Existing Land Use	Existing Map Code Designation	Existing Zoning Classification
CUP Area 4	**Outbuildings, Undeveloped**	**7.2/4.4, 7.1/4.4, 5.6/2.85**	**E (2 ½) RS FPS**
North	Undeveloped, Single family residences,	7.2/4.4	E (2 ½) RS FPS
South	Undeveloped, Single family residences	7.2/4.4	E (2 ½) RS FPS
East	Undeveloped, Single family residences	7.2/4.4	A FPS
West	Undeveloped, Single family residences	7.2/4.4	A FPS, E (2 ½) RS FPS

LEGEND

2.6= Erosion Hazard
2.85 = Noise Management Area
4.4 = Comprehensive Planning Area
5.3 = Maximum 10 units/net acre
5.6 = Minimum 2.5 gross acres/unit
5.7 = Minimum 5 gross acres/unit
6.2 = General Commercial
7.2 = Service Industrial
8.1 = Intensive Agriculture

A = Exclusive Agriculture
E (2½) = Estate 2½ acres
E (5) = Estate 5 acres
FPS = Floodplain Secondary Combining
MH = Mobilehome Combining
RS = Residential Suburban Combining

SOURCE: Kern County, 2020

Project Objectives

The proposed project would provide Kern County, as well as the State of California, with a renewable energy source that would assist the State of California in complying with the Renewables Portfolio Standard (RPS) under Senate Bill 350 (2015). SB 350 requires that 50 percent of all electricity sold in the State to be generated from renewable energy sources by the year 2030. As further required by the State *CEQA Guidelines*, the specific objectives of the project are provided below:

- Assist the State of California in achieving or exceeding its Renewable Portfolio Standard (RPS), Senate Bill 350, Senate Bill 100, and the California Global Warming Solutions Act (Assembly Bill 32) and greenhouse gas emissions reduction objectives by developing and constructing new California RPS-qualified, solar power generation facilities producing approximately 165 MW.
- Develop a commercially viable solar power generation and battery storage facility that would support the economy by investing in the local community, creating local construction jobs, and increase tax and fee revenue to the County.
- Assist California in reducing its greenhouse gas (GHG) emissions as required by the California Global Warming Solutions Act.

- Provide a new source of energy storage that assists the state in achieving or exceeding its energy storage mandate (Assembly Bill 2514).
- Produce and transmit electricity at a competitive cost.
- Assist the County in achieving the goal in the Energy Element of its General Plan to develop large-scale solar energy development as a major energy source in the County.

Project Characteristics

The proposed project includes the construction and operation of four solar facilities with a total generating capacity of approximately 165 MW of renewable energy, including up to 245 MW of energy storage (for all sites), and one CUP for a communication tower, within the A (Exclusive Agriculture) zone district (in Zone Maps 231, 232, and 233). Pursuant to Section 19.12.030.G of the Kern County Zoning Ordinance approval of the following would be required for the proposed project as follows:

- CUP Area 1 (solar and energy storage)
  - Conditional Use Permit No. 16, Map No. 233 for 70.99 acres
- CUP Area 2 (solar and energy storage)
  - Conditional Use Permit No. 40, Map No. 232 for 240.58 acres
- CUP Area 3 (solar and energy storage)
  - Conditional Use Permit No. 46, Map No. 232 for 541.16 acres
- CUP Area 4 (solar and energy storage)
  - Conditional Use Permit No. 120, Map No. 231 for 439.26 acres
- Telecommunication Tower
  - Conditional Use Permit No. 44, Map No. 232
- Zone Change Case No. 157, Map No. 231 from the existing zone district E (2 ½) RS FPS to A FPS on approximately 440 acres
- Zone Change Case No. 43, Map No. 232 from the existing zone district E (5) RS FPS to A FPS on approximately 330 acres and from existing zone district E (2 ½) RS FPS to A FPS on approximately 96
- Zone Change Case No. 18, Map No. 233 from the existing zone district E (2 ½) RS FPS to A FPS on approximately 71 acres
- Specific Plan Amendment No. 40, Map No. 231 from map code designation 7.1/4.4 (Light Industrial, Comprehensive Planning Area) to 7.1 (Light Industrial) on approximately 247 acres and from map code designation 7.2/4.4 (Service Industrial, Comprehensive Planning Area) to 7.2 (Service Industrial) on approximately 118 acres.
- Specific Plan Amendment No. 33, Map No. 232 from map code designation 5.3/4.4 (Residential Maximum 10 Units per Net Acre/Comprehensive Planning Area) to 5.3 (Residential, Maximum 10 Units per Net Acre) on approximately 80 acres and from map code designation 5.3/4.4/2.6 (Residential Maximum 10 Units per Net Acre/Comprehensive Planning Area/Erosion Hazard) to 5.3/2.6 (Residential Maximum 10 units per Net Acre/Erosion Hazard) on approximately 80 acres.

- Specific Plan Amendment No. 31, Map No. 232 Amendments to the Circulation Element of the Kern County General Plan to remove future road reservations on the section and mid- section lines within the project boundaries.
- Nonsummary vacations of portions of public access easements located within Sections 27 & 28, T9N, R14W, SBB&M in Zone Map No. 232.
- Nonsummary vacations of portions of public access easements located within Section 31, T9N, R13W, SBB&M in Zone Map No. 231

The project sites and transmission lines are depicted on Figure 3-9a, Project Site Plan Overview, Figure 3-9b, CUP Area 1 Site Plan, Figure 3-9c, CUP Area 2 Site Plan, Figure 3-9d, CUP Area 3 Site Plan, Figure 3-9e, CUP Area 4 Site Plan. Power generated from each CUP area would be conducted from each site using the existing and/or proposed transmission to substations. These facilities are summarized below.

The combined project facilities would include the following components:

- Installation of a total of approximately 165 MW of solar PV modules, mounted either on fixed-tilt systems, horizontal tracker systems, or a combination thereof. The mounting system for the modules would be supported by in ground steel posts;
- Lead acid-based and/or lithium-ion batteries for emergency backup required by applicable County or local codes for emergency onsite backup power during project operations for stowing the trackers, or to maintain critical electronic equipment that is used for operation of the plant;
- Underground and above ground electrical collections systems, both on-site and off-site;
- Inverters and medium voltage transformers;
- Installation of equipment within the Whirlwind and Teddy substations;
- On-site access roads;
- Perimeter security fencing;
- Concrete pads for the switchyard, inverters, transformers, and O&M buildings as well as foundational supports for panel installation Meteorological data collection systems;
- Operations and Maintenance (O&M) Building(s);
- Battery Energy Storage System component;
- On-site telecommunications facilities to facilitate collection and transmission of meteorological data and data regarding performance of the solar arrays;
- Stormwater retention basin.

Solar Arrays

The proposed project would utilize either monofacial or bifacial PV solar panels on mounting frameworks to convert sunlight directly into electricity; the final number would be based upon the specific panel model selected for the project. Individual panels would be installed on either fixed-tilt or single axis horizontal tracker mount systems. If the panels are configured for fixed-tilt, the panels would be oriented toward the south. If the completed assembly of PV modules is mounted on a single axis horizontal tracker framework structure it would track the sun from east to west

throughout the day. The foundations for the mounting structures can extend up to 10 feet below ground, depending on the structure, soil conditions, and wind loads, and may be encased in concrete or utilize small concrete footings. A solar tracking mechanism is used to maximize the solar energy conversion efficiency by keeping the modules perpendicular to the sun's energy rays throughout the day. If used, single-axis trackers would increase the efficiency of energy production from the arrays relative to a fixed tilt system. The exact tracker manufacturer and model would be determined in the final design. All trackers are intended to function identically in terms of following the motion of the sun.

Maximum panel height is anticipated to be up to 14 feet high, depending on the mounting system selected and on County building codes, however it could be lower depending on the angle of the sun and post height as determined during final engineering design. Module layout and spacing is optimized to balance energy production versus peak capacity and would depend on the sun angles and shading caused by objects surrounding the project. The spacing between the rows of trackers is dependent on site-specific features and also would be identified in the final design. The final configuration would allow for sufficient clearance for maintenance vehicles and panel access.

The solar array fields would be arranged in groups called "blocks" with inverter power conversion stations (PCS) that houses the inverter and the generation step-up voltage transformer, generally located centrally within the blocks. Blocks would produce direct electrical current (DC), which is converted to alternating electrical current (AC) at the PCS. A light-colored ground cover or palliative may be used to increase electricity production. Final solar panel layout and spacing would be optimized for project area characteristics and the desired energy production profile.

Electrical Collector System and Inverters

Photovoltaic energy is delivered via cable to each PCS, generally located near the center of each block. PCS are typically comprised of one or more inverter modules with a rated power of up to 5 MW each, a unit transformer, and voltage switch gear. The unit transformer and voltage switch gear are housed in steel enclosures, while the inverter module(s) are housed in cabinets. Depending on the vendor selected, the PCS may lie within an enclosed or canopied metal structure, typically on a skid or concrete mounted pad.

Each facility will have a collection system connecting PV modules to the substation which includes a combination of underground, aboveground cable trays and overhead (poles or H-Frame structures) DC and AC electrical and communication cables. DC electrical collection lines would connect the PV modules to the inverter. Inverters will convert the DC power into low voltage AC power within the power conversion station (PCS) unit. Transformers within the PCS unit will then increase the AC power from low voltage to medium voltage (MV). MV AC electrical lines will connect onsite generation step-up transformers to the offsite generation step-up transformer(s) in the substations which will be utilized in conjunction with the proposed project. PV combining switchgear (PVCS), Sectionalizing Cabinets (SC) or other electrical combiner boxes may be installed to combine electrical lines on the collection system. The overhead collection system may contain single or multiple three phase electrical circuits and communication lines on the same structures. Overhead collection systems typically consist of wood or steel poles on monopoles or H-Frame structures. The collection system structures are proposed to have a maximum height of 75 feet, but may vary based on voltage, minimum height to avoid shading over modules, ground

elevation, crossing of existing or proposed facilities, National Electric Safety code and right-of-way requirements.

Energy Storage System

As proposed, the proposed project includes a BESS that could be centrally located, or it would have one BESS located at each CUP area. The BESS would encompass a maximum of approximately 20 total acres and 245 MW (if centrally located) within a single CUP Area, or within approximate five-acre areas if located in the individual CUP Areas. The location of the BESS would be determined at the time of final design and would be entirely within the proposed project footprint and areas of disturbance discussed in this document. **Figure 3-9a**, **Figure 3-9b**, **Figure 3-9c, Figure 3-9d,** and **Figure 3-9e** show the potential locations of the BESS and a detailed view of the other proposed improvements for the four solar facility sites, generation areas, other storage sites building, and transmission lines.

The approximately 245 MW BESS would consist of a series of batteries housed within the inverter pads or in separate storage containers either built on site or in prefabricated metal containers. Any structures or containers used to house the BESS, would be installed/constructed on the project site(s) and would have appropriate fire suppression systems built to applicable state and local code requirements. The final design would include appropriate containment features (secondary containment) to prevent the escape of liquids or spills from the BESS site.

If the BESS is centrally located, it would be contained within an outdoor-rated steel enclosure. If distributed throughout the solar array, the BESS would be contained within metal housings at each of the equipment pads and electrically connected to the inverters. The containers would be set on a concrete or steel pile foundation and would be approximately 8 feet wide by 10 feet long by 10 feet high. The proposed BESS would be designed, constructed, operated, and maintained in accordance with applicable industry best practices and regulatory requirements, including compliance with the latest National Fire Protection Association (NFPA) fire safety codes and fire rating in conformance with Kern county standards.

The BESS would use one of several commercially available lithium ion (Li-ion) technologies, though alternatives may be considered (such as flow batteries). Due to the rapidly changing technology in the battery industry, it may be more efficient, environmentally conscious, and economical, to use a then-current technology.

In general, a Li-ion battery is a rechargeable type of battery consisting of three major functional components: a positive electrode made from metal oxide, a negative electrode made from carbon, and an electrolyte made from lithium salt. Lithium ions move from negative to positive electrodes during discharging and in the opposite direction when charging. There are five major Li-ion battery sub chemistries that are commercially available, including: lithium nickel cobalt aluminum, lithium nickel manganese cobalt, lithium manganese oxide, lithium titanate oxide, and lithium-iron phosphate. Selection of the Li-ion sub-chemistry for the project would take into consideration various technical factors, including safety, life span, energy performance, and cost.

As planned, the BESS would consist of self-contained battery storage modules placed in racks, switchboards, inverters, transformers, controls, and integrated heating, ventilation, and air conditioning (HVAC) units, all enclosed in one or more buildings or in prefabricated metal containers. If the BESSs use prefabricated metal containers, each container would use a 40-foot-

long by 8-foot-wide battery container. Potential hazards associated with BESS include increased potential for electrical shock and chemical release associated with the batteries used. The BESS would have a fire rating in conformance with County standards and specialized fire suppression systems would be installed. Also, implementation of established construction controls and safety procedures would reduce the risk of hazardous materials spills and releases.

The proposed battery energy storage system would be designed, constructed, operated and maintained in accordance with applicable industry best practices and regulatory requirements, including fire safety standards.

Substation(s)

Up to four substations across and within the proposed CUP Areas could be constructed to support the 165MW project. The substations (which would contain high-voltage equipment) would be unenclosed, occupy an area of approximately 250 feet by 250 feet each, and be protected with security fences. The electrical equipment inside the substation fence would have a maximum height of approximately 100 feet. A one-story, rectangular control building, housing the communication and supervisory control and data acquisition (SCADA) equipment, would also be located in the substation footprint. For substations located in CUP Areas 2, 3, and 4, an underground or overhead gen-tie line would be constructed to connect each solar area to the existing central Teddy substation discussed below. For the substation located in CUP Area 1, a dedicated overhead gen-tie line connecting the project substation to the SCE Whirlwind substation, discussed below, would be constructed. The final location(s) of the substations within the CUP Areas would be determined before issuance of building permits.

Electricity produced in CUP Areas, 2, 3, and 4 would be collected and routed to the existing Teddy Substation, where it would be stepped up in voltage and transmitted to the SCE Whirlwind substation via an existing 230 kV transmission line or it would be collected and routed directly to the SCE Whirlwind substation via a new 230 kV transmission line. Electricity produced in CUP Area 1 will connect to the Whirlwind substation via either an existing or proposed 230 kV transmission line.

Generation-Tie Line and Interconnection to the Statewide Grid

From the proposed project's substation(s), power could be transmitted to the existing privately-owned Teddy substation and/or the SCE Whirlwind Substation via up to 230 kV overhead and/or underground line(s); as shown on the site plans above. The plans show the possible gen-tie line alignments, as depicted in **Figure 3-10,** *Gen-tie Routes*. If aboveground, the overhead lines would be mounted on either tubular steel monopoles or lattice structures up to 140 feet in height. Alternatively, the proposed project could transmit its power to the Teddy or SCE Whirlwind Substation via an existing 230-kV line as a result of a shared facilities agreement the project proponent is exploring. A franchise and/or encroachment agreement with Kern County along affected County roadways may ultimately be required for portions of the transmission line.

The project applicant/contractors will work with SCE and/or owner(s) of the substation to install improvements and new interconnection-related components such as additional control equipment at the Substations. As proposed, the aforementioned components and other needed infrastructure would occur within area proposed for disturbance as part of the project or in areas previously disturbed and occupied by existing electrical facilities. Approval of the improvements would fall

under the discretionary permitting jurisdiction of the California Public Utilities Commission (CPUC). Because CEQA requires analysis of the environmental impacts of the full project, the proposed project and project description include the two Interconnection Facilities related to the proposed project for this purpose and are thus considered in this scope of this document and project.

On-Site Communications Towers

The proposed project includes on-site telecommunications facilities to facilitate collection and transmission of meteorological data and data regarding performance of the solar arrays. Telecommunications equipment, such as microwave tower up to 200 feet tall or underground fiber optic system for essential communication, and voice and data communications relay will be required, in addition to a supervisory control and data acquisition (SCADA) system, and auxiliary power, would be installed throughout the project at each inverter equipment pad, substation, and security system. A digital radio system may also be used. Fire protection would also be included per applicable requirements.

On-Site Meteorological Stations and Meteorological Towers

The project would include an on-site solar meteorological station located near the O&M building and others distributed across the areas. A meteorological station is a device that collects data related to weather and the environment using many different sensors. The station would consist of solar energy (irradiance) meters, as well as an air temperature sensor and wind anemometer. Wind anemometer towers may be located within the array at strategic locations or near the fence line. The wind anemometer would have an estimated height of approximately 30 feet, the maximum proposed equipment height. The meteorological tower would be a free-standing tower which carriers the measuring instruments. The preliminary locations for the meteorological towers are shown on the site plan figures, above.

Site Access and Internal Circulation

The proposed project would have private driveway access off of County roads, private perimeter access roads, and interior access to facilitate construction and operational activities such as maintenance. Perimeter access roads and interior access ways would be composed of native compacted earth and would be up to 20 feet in width. All driveway approaches to/from the public right of way would be constructed in accordance with Kern County Development Standards. The solar facility will be accessed using existing roadways including Rosamond Boulevard, Avenue A, Avenue D, Astoria Avenue, Gaskell Road, Holiday Avenue, Willow Avenue, Kingbird Avenue, 100th Street West, 130th St West, 140th Street West and 170th Street West.

Site Security

Chain link fencing with three-strand barbed wire strung one foot from the top of the fence would be installed along the perimeter of the project site. Access gates would be installed at each project site entry point and may be motorized. Additional security may be provided through remote controlled cameras. For each of the sites, interior roadway alignments would be finalized once placement of the solar panels is determined and would be influenced by topographical, biological, or cultural resource determinations, or other site conditions. Where on-site access roads may cross streambed areas under the jurisdiction of the California Department of Fish and Wildlife, crossings would be designed to minimize or avoid any impacts to such jurisdictional resources and in

compliance with California Fish and Game Code requirements, including authorization through a Streambed Alteration Agreement as appropriate.

Manual, timed, and/or motion sensor lights would be installed at equipment pads for maintenance and security purposes. Nighttime lighting would provide O&M personnel with illumination for both normal and emergency operating conditions. The minimum illumination needed to ensure worker safety and security on-site would be provided. All nighttime lighting installed would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties as required by Kern County Ordinance (Chapter 19.81) - Outdoor Lighting-Dark Skies requirements.

1.6 Environmental Impacts

CEQA Guidelines Section 15128 requires that an EIR contain a statement briefly indicating the reasons why any new and possibly significant effects of a project were determined not to be significant and were, therefore, not discussed in detail in the EIR. The County has engaged the public to participate in the scoping of the environmental document. The contents of this EIR were established based on 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.

- Mineral
- Population and Housing
- Recreation

Impacts of the Project

Sections 4.1 through 4.17 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 1-4**, *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
- Noise
- Public Services
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfires

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
Aesthetics (Project)	MM 4.1-1 through 4.1-7
Agriculture and Forestry Resources (Project and Cumulative)	MM 4.11-1
Air Quality (Project and Cumulative)	MM 4.3-1 through MM 4.3-4
Biological Resources (Project)	MM 4.4-1 through MM 4.4-14
Cultural Resources (Project and Cumulative)	MM 4.5-1 through MM 4.5-5
Energy (Project and Cumulative)	MM 4.3-1
Geology and Soils (Project and Cumulative)	MM 4.7-1 through MM 4.7-3 and MM 4.10-1 and MM 4.10-2
Greenhouse Gas Emissions (Project and Cumulative)	No mitigation required
Hazards and Hazardous Materials (Project and Cumulative)	MM 4.9-1 through MM 4.9-2, MM 4.13-1, and MM 4.16-1
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
Noise (Project and Cumulative)	MM 4.12-1 through MM 4.12-3
Public Services (Project and Cumulative)	MM 4.13-1 through MM 4.13-5

Table 1-3: Summary of Project Impacts That Are Less than Significant or Less than Significant with Mitigation

Impact	Mitigation Measures
Aesthetics (Project)	MM 4.1-1 through 4.1-7
Transportation and Traffic (Project and Cumulative)	MM 4.14-1
Tribal Cultural Resources (Project and Cumulative)	MM 4.5-1 through MM 4.5-5
Utilities and Service Systems (Project and Cumulative)	MM 4.10-1 and MM 4.16-1
Wildfire (Project)	MM 4.10-1 and MM 4.13-1

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 Solar Facility*, presents those impacts at the project level and cumulatively. Sections 4.1, 4.4, and 4.17 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 Solar Facility*, 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 Solar Facility

Resources	Project Impacts	Cumulative Impacts	Mitigation Measures
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. Mitigation Measures MM 4.1-1 through MM 4.1-4 would be incorporated to reduce visual impacts associated with the proposed project. 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**.	The project would result in significant and unavoidable impacts related to visual character despite implementation of mitigation. While other projects in the region would also be required to implement various mitigation measures to reduce impacts, the conversion of thousands of acres in a presently rural desert area to solar energy production uses cannot be mitigated to a degree that impacts are no longer significant. 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**.	MM 4.1-1 through MM 4.1-7
Air Quality	Even with the implementation of Mitigation Measures MM 4.3-1 through MM 4.3-5, the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM2.5 along with indirect linkages of criteria pollutants and COVID-19 on vulnerable populations could result **in significant and unavoidable** project-level impacts	Cumulative impacts would be **significant and unavoidable** for NOx and PM10 emissions assuming on a worst-case basis that the construction schedules for all cumulative projects would overlap with each other and with the proposed project. The uncertainty of the project's regional and localized health impacts on vulnerable populations associated with criteria air pollutants, such as PM2.5, along with indirect linkages of criteria pollutants and COVID-19 could result in **significant and unavoidable** cumulative level impacts. Even with the implementation of Mitigation Measures MM 4.3-1 through MM 4.3-5, the project would be cumulatively **significant and unavoidable** for Air Quality in the above lists impact areas.	MM 4.3-1 through MM 4.3-5

Table 1-4: Summary of Significant and Unavoidable Project-Level and Cumulative Impacts of the Solar Facility

Resources	Project Impacts	Cumulative Impacts	Mitigation Measures
Biological Resources	There would be no significant and unavoidable project impacts.	As development increases within Kern County, impacts to biological resources within the region are increasing on a cumulative level. When considered with the number of present and reasonably foreseeable future development projects in the Antelope Valley, the project would result cumulative loss of habitat for transient special-status species. Even with the implementation of Mitigation Measures to reduce impacts to habitat the proposed project, when combined with other related development projects proposed throughout the County, cumulative impacts would be considered **significant and unavoidable.**	Mitigation Measures MM 4.1-1 through MM 4.1-14
Wildfire	There would be no significant and unavoidable project impacts.	Given the location of the project is in an area subject to high wind speeds and in a rural area with limited infrastructure, the project would have cumulatively **significant and unavoidable** wildfire impacts related to: the exposure of project occupants to pollutant concentrations from a wildfire; the installation or maintenance of associated infrastructure; and the exposure of people or structure to significant risks as a result of runoff, post-fire slope instability, or drainage changes, even after implementation of mitigation measures.	Mitigation Measures MM 4.10-1 and MM 4.13-1

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. During project operation, the proposed project would require up to 2 full-time equivalent (FTE) personnel (one FTE position is equivalent to 40 personnel hours per week) to perform maintenance duties. It is anticipated that

the construction workforce would commute to the site each day from local communities, and the majority would likely come from the existing labor pool as construction workers travel from site to site as needed. Construction staff not drawn from the local labor pool would stay in any of the local hotels in 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 and Willow Springs 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.

1.7 Alternatives to the Project

CEQA Guidelines Section 15126.6 states that an EIR must address "a range of reasonable alternatives to the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives." Based on the significant environmental impacts of the 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), 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 development of solar site. Similar 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 (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 connection to the high-voltage transmission system. Compared with traditional energy sources, the environmental effects of wind power are relatively minor. However, wind farms would not decrease short-term construction-related air emissions. Wind turbines would also have the potential to affect avian species in the local area. In addition, in order for wind turbines to produce an equivalent 165 MW of power that the project would produce, the alternative would require more space than what the project site current accommodates. Consequently, the project site would need to be expanded.

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 while minimizing environmental impacts and using proven and established PV technology that is efficient, requires low maintenance and is recyclable. Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce significant environmental effects. Therefore, this alternative was eliminated from further consideration because:

- It would substantially increase the significant aesthetic impacts associated with the project because wind turbines would be much taller than solar panels and are more visible from many viewpoints.
- 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 may result in increased land use and planning impacts associated with the project due to the need for an increased project site.

Industrial Power Plant Alternative

This alternative would involve the development of a natural gas-fired power plant or plants (equivalent to 165 MW) in Kern County. Fossil fuel-powered plants are designed on a large scale for continuous operation. However, byproducts of industrial power plant operation need to be considered in both design and operation. When waste heat that results from the finite efficiency of the power cycle is not recovered and used as steam or hot water, it must be released to the atmosphere, and often uses a cooling tower as a cooling medium (especially for condensing steam). The flue gas from combustion of the fossil fuels is discharged to the air and contains carbon dioxide and water vapor as well as other substances, such as nitrogen, nitrogen oxides, and sulfur oxides. Furthermore, unlike the proposed project, fossil fuel-powered plants are major emitters of GHGs. In addition, industrial power plants generally involve the construction of large structures, such as cooling towers and gas stacks, as well as a large number of employees to operate the facility on a 24/7 basis 365 days a year. Accordingly, the development of an industrial power plant would typically result in greater adverse impacts related to: (1) 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 objectives for the proposed project are to develop a solar project that would help meet the increasing demand for clean, renewable electrical power as well as help California meet its statutory and regulatory goals of generating more renewable power with minimum potential for environmental effects. Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce significant environmental effects. Therefore, this alternative was eliminated from further consideration because:

- It would result in additional/greater impacts than the proposed project 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 would not contribute to the statewide renewable energy and GHG reduction objectives as this alternative would use non-renewable energy to produce electricity.

Alternative Site

This alternative would involve the development of the proposed project on another site located within Kern County, other than constructing rooftop distributed generation systems. Although undetermined at this time, the alternative project site would likely be located in the Antelope Valley desert region of the County. This alternative is assumed to involve construction of a 165 MW PV solar facility and 245 MWh BESS on a site totaling 1,292 acres. CEQA Guidelines Section 15126.6(f)(2(a) states that the key and initial step in considering an alternative site is whether "any of the significant effects of the project would be avoided or substantially lessened" in relocating the project, while remaining consistent with the same basic objectives of the proposed project.

The 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 with similar size, configuration, and use history may exist in the 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, wildfire, and biological resources. This is based on the known general conditions in the area and the magnitude of the proposed project.

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

- Alternative 1: No Project Alternative
- Alternative 2: 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 side-by-side comparison of the potential impacts of the alternatives and the project. A complete discussion of each alternative is provided below.

Table 1-5: Summary of Development Alternatives

Alternative	Description	Basis for Selection and Summary of Analysis
Project	Construction and operation of a solar facility on approximately 1,292 acres would generate up to 165 MW of electricity with the capacity to store up to 245 MWh of energy. Approval of five Conditional Use Permits (CUPs) (four for construction and operation of commercial solar electrical generating facilities, one for communications towers), Amendments to the Willow Springs Specific Plan (SPAs) land use map and circulation element, Zone Changes (ZCCs), and non-summary vacation of public access easements would be required.	N/A
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, SPAs, ZCCs, and requests to vacate public access easements • Avoids all significant and unavoidable impacts • Greater impacts to greenhouse gas (GHG) emissions • Less impact in all remaining environmental issue areas • Does not meet any of the project objectives
Alternative 2: Specific Plan and Zoning Build-Out Alternative	This alternative assumes the project site would be developed to the maximum intensity allowed under the Kern County General Plan land use designations and zoning classifications and other existing applicable restrictions. The portions of the project site zoned as A would be developed with agricultural uses (approximately 160.71 acres), and the portions of the project site zoned as E (estate), would be developed with single-family residential units (approximately 1,095.78 acres).	• Avoids need for CUPs and SPAs, ZCCs, and requests to vacate public access easements • Similar impacts to biological resources, hazards and hazardous materials • Less impact to aesthetics, agricultural and forestry resources, and land use and planning • Greater overall impacts in all remaining environmental issue areas • Does not meet any of the project objectives

Table 1-5: Summary of Development Alternatives

Alternative	Description	Basis for Selection and Summary of Analysis
Alternative 3: Reduced Acreage Alternative	Construction and operation of one solar facility on approximately 70.99 acres in CUP Area 1 and 541.16 acres in CUP Area 3, for a total of 679.85 acres. This alternative would construct a solar array field capable of generating approximately 81 MW of electricity and storing 100 MWh of electricity, thereby reducing the project's renewable energy output by approximately 52 percent. The project site would require approval of two CUPs, two SPAs, two ZCCs and one request to vacate public access easements.	• Reduced impacts to greenhouse gas emissions, hazards and hazardous materials, land use and planning, noise, public services, transportation and traffic, and utilities and service systems • Decreased GHG offset benefits to meet project objectives • Less impact 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 165 MW of PV solar distributed on rooftops throughout the Antelope Valley. Electricity generated would be for onsite use only.	• Avoids need for solar facility CUPs, telecommunication tower CUPs, SPAs, ZCCs and requests to vacate public access easements at the project site but may require other entitlements (such as a CUP or variance) on other sites • Avoid significant and unavoidable impacts associated with aesthetics, air quality, and biological resources • Greater impacts to GHG emissions land use and planning, and noise • Similar impacts energy • Less impact in all remaining issue areas • Does not meet all the project objectives areas nor does this alternative account for energy storage system (ESS) component of the project

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Table 1-6: Comparison of Alternatives

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: 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)
Agricultural and Forestry Resources	Less than Significant	Less (NI)	Less (NI)	Less (LTS)	Less (NI)
Air Quality	Significant and Unavoidable (project and cumulative)	Less (NI)	Greater (SU)	Less (SU)	Less (LTS)
Biological Resources	Less than Significant with Mitigation (project); Significant and Unavoidable (cumulative)	Less (NI)	Less (SU)	Less (SU)	Less (LTS)
Cultural Resources	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Energy	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Geology and Soils	Less than Significant with Mitigation	Less (NI)	Greater (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)	Less (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)	Less (LTS)	Less (LTS)	Similar (LTS)
Noise	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Similar (LTS)
Public Services	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Transportation and Traffic	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)

Table 1-6: Comparison of Alternatives

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: 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	Less (NI)	Similar (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)	Less (LTS)	Greater (SU)	Less (SU)	Less (SU)
Meet Project Objectives?	All	None	None	Partially	Partially
Reduce Significant and Unavoidable Impacts?	N/A	All	Some	None	All

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 proposed project versus a No Project Alternative. Accordingly, Alternative 1, the No Project Alternative, assumes that the development of the 165 MW PV solar facility and associated facilities on the 1,292-acre site would not occur. No collection lines would be constructed. The No Project Alternative would not require a Conditional Use Permit (CUP) for construction and operation of a 165 MW solar project and associated facilities. Amendments to the Willow Springs Specific Plan land use map and circulation element along with public easement 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 Specific Plan and Zoning Build-Out Alternative, assumes the project site would be developed to the maximum intensity allowed under the existing Willow Springs Specific Plan land use and zoning classifications. Under this alternative the proposed project would not be permitted or constructed. This alternative assumed development under the Map Codes as shown in the Willow Springs Specific-Plan The Map Codes and defined uses for each CUP Area are listed below:

CUP Area 1:
5.6 - (Minimum 2.5 gross acres/unit), and
5.6/2.6 (Minimum 2.5 gross acres/unit/Erosion Hazard Overlay;

CUP Area 2:
5.3/4.4 – (Maximum 10 Units per net acre/Comprehensive Planning Area)
5.3/4.4/2.6 - (Maximum 10 under per net acre / Comprehensive Planning Area/ Erosion Hazard Overlay)
5.7 - Residential Minimum 5 Gross Acres per Unit

CUP Area 3:
5.6/2.85 (Minimum 2.5 gross acres/unit / Noise Management Area)
5.7/2.6/2.85 (Minimum 5 gross acres/unit / Erosion Hazard Overlay / Noise Management Area)
5.7/2.85 (Minimum 5 gross acres/unit / Noise Management Area)
8.1/2.85; [Intensive Agriculture (Minimum 20-acre parcel size) / Noise Management Area]
8.1/2.6/2.85 [Intensive Agriculture (Minimum 20-acre parcel size) / Erosion Hazard Overlay / Noise Management Area]

CUP Area 4:
7.1/4.4; (Light Industrial / Comprehensive Planning Area)
7.2/4.4 (Service Industrial / Comprehensive Planning Area)

Given that the zoning classifications for the project site consist of E (2 ½) RS FPS (Estate 2½ Acres - Floodplain Secondary Combining), A (Exclusive Agriculture), E (5) (Estate 5 Acres), A FPS (Exclusive Agriculture), E(5) RS FPS (Estate 5 Acres - Residential Suburban Combining - Floodplain Secondary Combining) the project site would be assumed to be developed in-

accordance with the listed designations and acres per zone, which is shown in additional detail below. ***Table 1-1*** *– Project Assessor Parcel Numbers (APNS) – Specific Plan Map Code Designations and Zone Districts Rosamond South Solar Project,* provides detail on a parcel by parcel basis. No solar facilities would be developed under this alternative.

CUP Area 1:
E (2 ½) RS FPS - Estate 2½ Acres - Floodplain Secondary Combining (70.99 acres) (28 units)

CUP Area 2:
A - Exclusive Agriculture – (160.71 acres)
E (5) - Estate 5 Acres – (79.87 acres) (16 units)

CUP Area 3:
E (2 ½) RS FPS - Estate 2½ Acres - (230.02 acres) (92 units)
A FPS - Exclusive Agriculture – (40.5 acres)
E (5) RS FPS (Estate 5 Acres - Residential Suburban Combining - Floodplain Secondary Combining (275.64 acres) (55 units)

CUP Area 4:
E (2 ½) RS FPS - Estate 2½ Acres - (439.26 acres) (175 units)

Alternative 3: Reduced Acreage Alternative

Under Alternative 3, the Reduced Acreage Alternative, the project site would be reduced to include the CUP Area 1 (70.99 acres) to enable the close tie into the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and the easternmost CUP Area 4 (439.26). Overall, this alternative would reduce the project's footprint from 1,292 acres to 679.85 acres. Solar panels and associated infrastructure would be located in the reduced project site. The reduced project acreage under this alternative is expected to contain enough land to construct a solar array field and related infrastructure capable of generating approximately 81 MW of renewable energy and storing 100 MWh of energy based on a proportional reduction in project size. This would result in the corresponding reduction in renewable energy output and storage capacity from the project by approximately 52 percent. Similar to the proposed project, this alternative would still require the approval of two CUP applications (to allow for the construction and operation of 81 MW photovoltaic electrical generating facility (Section 19.12.030.G) with associated facilities (substation, O&M facility) in in the CUP Areas and to allow a communication tower (Section 19.12.030.F), two Specific Plan Amendment applications (to allow changes to land use classification and to eliminate future road reservations), one Zone Change application, and one Non-summary Vacation application (vacation of public access easements).

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

Alternative 4, the No Ground-Mounted Utility-Solar Development Alternative, would involve the development of a number of geographically distributed small to medium solar PV systems (100 kWh to 1 MW) within existing developed areas, typically on the rooftops of commercial and

industrial facilities situated throughout the 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 1,292 acres of total rooftop area) may be required to attain project's capacity of 165 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 250 MW of electricity, but it would be for onsite use only. This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater availability of large, relatively flat roof areas necessary for efficient solar installations. Similar to the 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 on site by the commercial or industrial facility without requiring the construction of new electrical substation or transmission facilities.

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. This alternative would avoid significant and unavoidable impacts to aesthetics, air quality, biological resources, and wildfire. Impacts related to GHG emissions would be greater under this alternative due to the assumed lower efficiency of the distributed systems, which would not include solar tracking technology and it would not include BESS. This alternative, however, could potentially result in greater impacts to land use and fire risks because it would be located within existing developed areas and could result in conflicts with surrounding uses and due to the numerous power lines that would be required to harness the distributed solar panel energy could exacerbate fire risk. Although 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, an incremental increase in impacts in these regards would occur

However, the No Ground-Mounted Utility-Solar Development Alternative would result in less impact to aesthetics, agricultural and forestry resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, public services, transportation and traffic, and utilities and service systems. Thus, for most environmental issue areas, this alternative would result in fewer environmental impacts, both short-term and long-term, when compared to the proposed project.

It is important to note that it is considered to be impracticable and infeasible to construct the No Ground-Mounted Utility-Solar Development Alternative within the same timeframe and/or with the same efficiency as the proposed project because the project proponent lacks control and access to the sites required to develop 165 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 Specific Plan and Zoning Build-Out Alternative and Reduced Acreage Alternative, the No Ground-Mounted Utility-Solar Development Alternative is considered the Environmentally Superior Alternative.

1.8 Areas of Controversy

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

- Impacts related to air quality
- Impacts to cultural resources
- Impacts related to biological resources

1.9 Issues to Be Resolved

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

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

1.10 Summary of Environmental Impacts and Mitigation Measures

Table 1-7, *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 4.17 of this EIR. Refer to the appropriate EIR section for additional information.

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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 would be required.	Less than significant
Impact 4.1-2: 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 four times per year; this can be done in conjunction with regular panel washing and site maintenance activities. b. The project proponent/operator shall erect signs with contact information for the project proponent/operator's maintenance staff at regular intervals along the site boundary, as required by the Kern County Planning and Natural Resources Department. Maintenance staff shall respond within two weeks to resident requests for additional cleanup of debris. Correspondence with such requests and responses shall be submitted to the Kern County Planning and Natural Resources Department. c. The project proponent/operator shall implement a regular trash removal and recycling program on an ongoing basis during construction and operation of the project. Barriers to prevent pest/rodent access to food waste receptacles shall be implemented. Locations of all trash receptacles during operation of the project shall be shown on final plans. d. Trash and food items shall be contained in closed secured containers at the end of the day and removed at least once per week to reduce the attractiveness to opportunistic	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
		predators such as common ravens, coyotes, and feral dogs. **MM 4.1-2**: The project proponent shall install metal fence slats or similar view-screening materials, as approved by the Kern County Planning and Natural Resources Department, in all on-site perimeter fencing for any portion of the solar site that is adjacent to parcels zoned for residential use, including E (Estate Residential), RS (Residential Suburban Combining), PD (Precise Development Combining), or MH (Mobile Home Combining) 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 4.1-3**: 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, collection line poles, array facilities, etc. blend in with the colors found in the natural landscape. All color treatments shall result in matte or nonglossy finishes. **MM 4.1-4**: Wherever possible, within the proposed project boundary the natural vegetation shall remain undisturbed **unless** mowing is necessary for placement of the project components. All natural vegetation adjacent to the proposed project boundary shall remain in place. 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.	

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. 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, and (4) 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 the three-year periods, an annual evaluation report shall be submitted to the Kern County Planning and Natural Resources Department for each of the three years. Should efforts to revegetate with the existing native seed bank in the top soil	

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
		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.	
Impact 4.1-3: 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	**MM 4.1-5:** Prior to commencement of project operations of the solar facility, the project proponent shall demonstrate to Kern County Planning and Natural Resources Staff that the project site complies with the applicable provisions of the Dark Skies Ordinance (Chapter 19.81 of the Kern County Zoning Ordinance), and shall be designed to provide the minimum illumination needed to achieve safety and security objectives. All lighting shall be directed downward and shielded to focus illumination on the desired areas only and avoid light trespass into adjacent areas. Lenses and bulbs shall not be exposed or extend below the shields. **MM 4.1-6:** Prior to the issuance of building permits, the project proponent shall demonstrate the solar panels and hardware are designed to minimize glare and spectral highlighting. Emerging technologies shall be used, such as diffusion coatings and nanotechnological innovations, to effectively reduce the refractive index of the solar cells and protective glass. These technological advancements are intended to make the solar panels more efficient with respect to converting incident sunlight into electrical power while also reducing the amount of glare generated by the panels. Specifications of such designs shall be submitted to the Kern County Planning and Natural Resources Department. **MM 4.1-7:** Prior to commencement of project operations of the solar facility, the project operator shall demonstrate that all onsite	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
		buildings utilized non-reflective materials, as approved by the Kern County Planning and Natural Resources Department.	
Cumulative Impacts	Potentially Significant	Implement Mitigation Measures **MM 4.1-1** through **MM 4.1-7**.	Significant and unavoidable.
4.2 Agriculture and Forestry Resources			
Impact 4.2-1: The project would conflict with existing zoning for agricultural use or Williamson Act Contract.	Less than significant	No mitigation would be required.	Less than significant.
Impact 4.2-2: 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.	Potentially significant	Implement Mitigation Measure **MM 4.11-1**.	Less than significant.
Cumulative Impact	Potentially significant	Implement Mitigation Measure **MM 4.11-1**.	Less than significant.
4.3 Air Quality			
Impact 4.3-1: The project would conflict with or obstruct implementation of the applicable air quality plan.	Potentially significant	**MM 4.3-1:** Implement Diesel Emission Reduction Measures during Construction, Operation and Decommissioning. To control NOX and PM emissions during construction, the project proponent/operator and/or its contractor(s) shall implement the following measures during construction of the project, subject to verification by the County: a. Off-road equipment engines over 25 horsepower shall be equipped with EPA Tier 3 or higher engines unless Tier 3 construction equipment is not locally available. b. All equipment shall be maintained in accordance with the manufacturer's specifications.	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
		c. Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 5 minutes. d. Notification shall be provided to trucks and vehicles in loading or unloading queues that their engines shall be turned off when not in use for more than 5 minutes. e. Electric equipment shall be used to the extent feasible in lieu of diesel or gasoline-powered equipment. f. All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NOX emissions. g. On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines. h. Existing electric power sources shall be used to the extent feasible. This measure would minimize the use of higher polluting gas or diesel generators. i. The hours of operation of heavy-duty equipment and/or the quantity of equipment in use shall be limited to the extent feasible. **MM 4.3-2:** Implement Fugitive Dust Control Plan during Construction, Operations and Decommissioning. To control fugitive PM emissions during construction, prior to the issuance of grading or building permits and any earthwork activities, the project proponent shall prepare a comprehensive Fugitive Dust Control Plan for review by the Kern County Planning and Natural Resources Department. The plan shall include all EKAPCD-recommended measures, including but not limited to, the following: a. All soil being actively excavated or graded shall be sufficiently watered to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soils areas. Watering shall take place a minimum of three times	

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
		daily where soil is being actively disturbed, unless dust is otherwise controlled by rainfall or use of a dust suppressant. b. All clearing, grading, earth moving, and excavation activities should cease during the following: 1. Periods of winds greater than 20 miles per hour (averaged over one hour), if disturbed materials is easily windblown, 2. When dust plumes of 20% or greater opacity impact, or 3. During periods of high winds (i.e., greater than 30 mph) c. Vehicle speed for all on site (i.e., within the project boundary) construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. Signs identifying construction vehicle speed limits shall be posted along onsite roadways, at the site entrance/exit, and along unpaved site access roads. d. Vehicle speeds on all offsite unpaved project-site access roads (i.e., outside the project boundary) construction vehicles shall not exceed 25 mph. Signs identifying vehicle speed limits shall be posted along unpaved site access roads and at the site entrance/exit. e. All onsite unpaved roads and offsite unpaved public project-site access road(s) shall be effectively stabilized of dust emissions using water or EKAPCD-approved dust suppressants/palliatives during construction, sufficient to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. If water is used, watering shall occur a minimum of three times daily, sufficient to keep soil moist along actively used roadways. During the dry season, unpaved road surfaces and vehicle parking/staging areas shall be watered immediately prior to periods of high use (e.g., worker commute periods, truck convoys).	

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
		Reclaimed (non-potable) water shall be used to the extent available and feasible. f. The amount of the disturbed area (e.g., grading, excavation) shall be reduced and/or phased where possible. g. All disturbed areas shall be sufficiently watered or stabilized by EKAPCD-approved methods to prevent excessive dust. On dry days, watering shall occur a minimum of three times daily on actively disturbed areas. Watering frequency shall be increased whenever wind speeds exceed 15 mph or, as necessary, to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. Reclaimed (non-potable) water shall be used to the extent available and feasible. h. All clearing, grading, earth moving, and excavation activities shall cease during periods when dust plumes of 20 percent or greater opacity affect public roads or nearby occupied structures. i. All disturbed areas anticipated to be inactive for periods of 30 days or more shall be treated to minimize wind-blown dust emissions. Treatment may include, but is not limited to, the application of an EKAPCD-approved chemical dust suppressant, gravel, hydro-mulch, revegetation/seeding, or wood chips. j. All active and inactive disturbed surface areas shall be stabilized, where feasible. k. Equipment and vehicle access to disturbed areas shall be limited to only those vehicles necessary to complete the construction activities. l. Where feasible, permanent dust control measures shall be implemented as soon as possible following completion of any soil-disturbing activities. m. Stockpiles of dirt or other fine loose material shall be stabilized by watering or other appropriate methods sufficient	

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 reduce visible dust emissions to a limit of 20 percent opacity. If necessary and where feasible, three-sided barriers shall be constructed around storage piles and/or piles shall be covered by use of tarps, hydro-mulch, woodchips, or other materials sufficient to minimize wind-blown dust. n. Water shall be applied prior to and during the demolition of onsite structures sufficient to minimize wind-blown dust. o. Where acceptable to the fire department and feasible, weed control shall be accomplished by mowing instead of disking, thereby leaving the ground undisturbed and with a mulch covering. p. All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least six inches of freeboard (minimum vertical distance between top of the load and top of the trailer) in accordance with California Vehicle Code Section 23114. q. Gravel pads, grizzly strips, or other material track-out control methods approved for use by EKAPCD shall be installed where vehicles enter or exit unpaved roads onto paved roadways. r. Haul trucks and off-road equipment leaving the site shall be washed with water or high-pressure air, or rocks/grates at the project entry points shall be used, when necessary, to remove soil deposits and minimize the track-out/deposition of soil onto nearby paved roadways. s. During construction paved road surfaces adjacent to the site access road(s), including adjoining paved aprons, shall be cleaned, as necessary, to remove visible accumulations of track-out material. If dry sweepers are used, the area shall be sprayed with water prior to sweeping to minimize the entrainment of dust. Reclaimed water shall be used to the extent available.	

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
		t. Portable equipment, 50 horsepower or greater, used during construction activities (e.g., portable generators) shall require California statewide portable equipment registration (issued by CARB) or an EKAPCD permit. u. The Fugitive Dust Control Plan shall identify a designated person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures, as necessary, to minimize the transport of dust off site and to ensure compliance with identified fugitive dust control measures. Contact information for a hotline shall be posted on site should any complaints or concerns be received during working hours and holidays and weekend periods when work may not be in progress. The names and telephone numbers of such persons shall be provided to the EKAPCD Compliance Division prior to the start of any grading or earthwork. v. Signs shall be posted at the project site entrance and written notifications shall be provided a minimum of 30 days prior to initiation of project construction to residential land uses located within 1,000 feet of the project site. The signs and written notifications shall include the following information: (a) Project Name; (b) Anticipated Construction Schedule(s); and (c) Telephone Number(s) for designated construction activity monitor(s) or, if established, a complaint hotline. w. The designated construction monitor shall document and immediately notify EKAPCD of any air quality complaints received. If necessary, the project operator and/or contractor will coordinate with EKAPCD to identify any additional feasible measures and/or strategies to be implemented to address public complaints.	
Impact 4.3-2: Construction and operation of the project would expose sensitive receptors to substantial pollutant concentrations.	Potentially significant	Implement Mitigation Measures **MM 4.3-1**, **MM 4.3-2**, and: **MM 4.3-3:** At the time of project implementation, a COVID-19 Health and Safety Plan should be prepared in accordance with the Kern County Public Health Services Department and Kern County	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
		Health Officer mandates. A copy of the COVID-19 Health and Safety Plan shall be submitted to the Kern County Planning and Natural Resources Department for review and approval. **MM 4.3-4**: Minimize Exposure to Potential Airborne Valley Fever–Containing Dust. 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 within 5 days of the training session.	

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. 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 NIOSH-approved respiratory protection to affected workers. If respiratory protection is deemed necessary, employers must develop and implement a respiratory protection program in accordance with Cal/OSHA's Respiratory Protection standard (8 CCR 5144). **MM 4.3-5:** 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.	
Impact 4.3-3: Construction and Operation of the project would Result in Other Emissions (such as those leading to odors) Adversely Affecting a Substantial Number of People.	Less than significant	No mitigation would be 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
Cumulative Impact 4.3-4: Construction and operation of the project would result in a cumulatively considerable net increase of any criteria pollutant for which the projects' region is nonattainment under applicable federal or State ambient air quality standards.	Significant and Unavoidable	Implement Mitigation Measures **MM 4.3-1** through **MM 4.3-5**.	Significant and Unavoidable
Cumulative Impact	Significant and Unavoidable	Implement Mitigation Measures **MM 4.3-1** through **MM 4.3-5**	Significant and Unavoidable
4.4 Biological Resources			
Impact 4.4-1: The project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	Potentially significant	Implement Mitigation Measures **MM 4.1-6** and **MM 4.1-7** from Section 4.1 Aesthetics, and: **MM 4.4-1**: Prior to the issuance of grading or building permits, the project proponent/operator shall conduct preconstruction surveys to map the location and quantify the number of plants on the project site protected by the CNDPPA and proposed for removal. The project proponent/operate shall pay the required fee to remove these plants in accordance with the California Desert Native Plants Act prior to construction activities. Prior to any ground disturbance a qualified biologist shall conduct pedestrian survey of project areas and a 100-foot buffer to determine if alkali mariposa lily, lemmon's jewelflower, or recurved larkspur are present. All surveys shall be conducted during the blooming periods for the species and in accordance with United States Fish and Wildlife (USFWS) and California Department of Fish and Wildlife (CDFW) protocols. Surveys for alkali mariposa lily shall occur between April and June; surveys for Lemmon's jewelflower shall occur between February to May; surveys for Clokey's cryptantha shall occur in April; and surveys for recurved larkspur shall occur between March and May. Locations of special	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
		status plants shall be mapped and included to a Biological Site Review Report (BSRR), if no special-status plants are identified during the survey(s) no further actions would be required. If special status plants are located the following shall occur: If special-status plants are located, Ecologically Sensitive Area (ESA) fencing will be established at a 50-foot radius around the plant populations. If special-status plants cannot be avoided, the CDFW will be provided the opportunity to salvage and relocate the plants. The CDFW will be notified within 10 days prior to salvage of any Alkali mariposa lily, Lemmon's jewelflower, or recurved larkspur that would be disturbed or lost due to project activities. If CDFW declines to salvage and relocate special-status plants that cannot be avoided, a qualified biologist shall conduct salvage and relocation. Salvage activities shall include the relocation of the topsoil and seedbanks within a 50-foot radius of any individuals that cannot be avoided. Plants will be relocated to an undisturbed area with the project site. All mitigation efforts under this measure shall be coordinated with the Kern County Planning and Natural Resources Department prior to implementation of the plan. Verification of implementation of this measure shall be submitted to Kern County Planning and Natural Resources Department. **MM 4.4-2**: Prior to initial ground disturbance, the applicant shall develop a plan to minimize the spread of invasive species and reduce dust that could spread invasive species. The plan shall be approved by the Kern County Planning and Natural Resources Department. The plan shall include methods and a plan to minimize introduction and spread of invasive and non-native plant species. The spread of invasive species and their seeds shall be avoided and controlled, through the use of watering or soil stabilizer(s) during construction. Watering and soil stabilizer(s) shall be used in areas under construction (i.e. active grading, trenching, etc.) or unpaved or non-gravel roadways (dirt) being used to transport or move materials and machinery within the project site. In addition,	

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
		construction entrances and exits shall be stabilized (using rip-rap and/or metal grates) to minimize off-site transport of materials that may contain invasive species or seeds. If invasive species are located during construction, they shall be removed from the project site during construction. All plants shall be removed from the site and disposed of in a manner that prohibits their spread on-and off-site. Areas where invasive plants are removed and cleared during construction will not be used for project activities or needed for access (i.e., roadways); and will be 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. Prior to removal and destruction of invasive plants or reseeding temporary ground disturbance areas, the qualified biologist will review the removal and destruction plan and 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 4.4-3**: Prior to any ground disturbance, a qualified biologist shall prepare a Joshua Tree Preservation Plan (JTPP). The JTPP shall be developed in coordination with the California Department of Fish and Wildlife (CDFW) and shall apply to Joshua trees within the project footprint that cannot be avoided. As part of the JTPP, all trees shall be individually identified, evaluated, to determine if preservation or transplantation is appropriate. The JTPP shall show which Joshua trees shall be avoided and protected, and those Joshua trees shall be protected from construction activities by fencing, flagging, or stakes establishing a buffer to protect the dripline plus no less than 5 feet from the dripline. Project proponent/operator shall maintain and/or replace those temporary protection measures as needed during construction. After construction is complete, Project proponent/operator may	

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
		remove those temporary protective materials after consulting and receiving written approval from a qualified biologist The project proponent/operator shall obtain a CDFW 2081 Incidental Take Permit (ITP) if required for those Joshua tree that cannot be avoided or preserved on the project site, and shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth in any incidental take permit issued for the Project. To the extent feasible, the development along the gen-tie routes shall be spaced to avoid Joshua Trees. In instances they could not be avoided, the requirements of CDFW 2081 ITP shall be applied. All trees removed may be salvaged to the extent feasible and as allowed by issued permits. **MM 4.4-4:** Within 14 days of the start of project activities, a pre-activity survey should be conducted by a qualified biologist. If needed, the timing of the pre-activity surveys will be phased to ensure appropriate evaluation before initiation of ground disturbance. If greater than 14 days elapse between the survey and the start of activities, an additional survey will be required. The pre-activity survey shall include walking transects to identify presence of burrowing owls and their burrows, desert tortoise and their burrows, American badgers and their dens, and desert kit foxes and their dens. The pre-activity survey shall be walked using transects spaced at intervals of not greater than 30 feet to enable 100 percent coverage of the project site and a 250-foot buffer. Some areas of the buffer may not be accessible (other private land and inaccessible property) so transects within the buffer will only be required where feasible. If no evidence of these special-status species is detected, no further action is required. If evidence special status species are detected, the following mitigation (**MM 4.4-5** through **MM 4.5-7** for the listed terrestrial species shall be required). If one or more of the species are not detected the results will be documented/	

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
		MM 4.4-5: To avoid construction-level impacts to desert tortoise, not more than 45 days prior to ground-disturbing activities for the construction and/or decommissioning phase(s), qualified personnel shall perform a preconstruction clearance survey for desert tortoise. If the species is present on-site, individual(s) shall be allowed to leave the site on their own, and in consultation with California Department of Fish and Wildlife (CDFW), the applicant may be required to install exclusionary/perimeter fencing, with mesh attached to the fence fabric extending from approximately 12 inches below grade to approximately 24 inches above grade to ensure no tortoises re-enter the work limits. No person(s) shall be allowed to touch a tortoise without authorization from the US Fish and Wildlife Service (USFWS) and CDFW. Environmental awareness training shall be provided for all construction personnel to educate them on desert tortoise, protective status, and avoidance measures to be implemented by all personnel, including looking under vehicles and equipment prior to moving. If tortoises are encountered, such vehicles shall not be moved until the tortoises have voluntarily moved away from them or a qualified biologist has moved the tortoises out of harm's way. If a tortoise is present, a biological monitor shall be present during all disturbance activities in the vicinity of exclusionary fencing (if required) and shall have the authority to stop work as needed to avoid direct impacts to tortoises. Periodic biological inspections and maintenance shall be conducted during the construction period to ensure the integrity of exclusionary fencing (if required). Work may proceed within the excluded area when the biologist confirms all tortoises have left the excluded area. Should tortoises be found during construction activities, the biological monitor shall have the authority to stop work as needed to avoid direct impacts to tortoises, and further consultations with the USFWS and CDFW shall take place. Trash and food items shall be contained in closed containers and removed daily to reduce attractiveness to opportunistic predators of desert tortoise (e.g., ravens, coyotes, and feral dogs).	

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
		MM 4.4-6: If dens or burrows that could support any of these species are discovered during the pre-activity survey conducted under Measure BIO-1, 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 only) • Non-breeding season (September 1 - January 31): 160 feet • Breeding season (February 1 - August 31): 250 feet American Badger and Desert Kit Fox • Potential or Atypical den: 50 feet • Known den: 100 feet • Natal or pupping den: 200 feet. Burrows and dens may be excavated by a qualified biologist once it is determined that the burrow or den is not occupied. To determine occupation, each den should be monitored for three consecutive days/nights using tracking medium and/or remote cameras fitted with a motion detector and/or infra-red triggering system. In addition, prior to excavation of burrows or dens, one-way doors may be installed (only in non-breeding season) and the burrows or dens will be scoped with optic cameras to ensure no occupation of wildlife are present. All excavations would be accomplished by hand or backhoe under the direct supervision of a qualified biologist. **MM 4.4-7**: The following avoidance and minimization measures should be implemented during all phases of the Project to reduce the potential for impacts. These are modified from the U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance (USFWS 2011b) but they can be applied equally to protect all three species.	

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. Project-related vehicles should observe a daytime speed limit of 20-mph throughout the site in all Project areas, except on County roads and State and federal highways. b. All project activities should occur during daylight hours, but if work must be conducted at night then a night-time construction speed limit of 10-mph should be established. c. Off-road traffic outside of designated Project areas should be prohibited. d. To prevent inadvertent entrapment of kit foxes or other animals during construction of the project, all excavated, steep-walled holes, or trenches more than two feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps spaced at a minimum distance of 100 feet and constructed of earthen-fill or wooden planks should be installed. e. Before holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the CDFW should be contacted before proceeding with the work. f. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes, American badgers, and burrowing owls before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the animal vacates the pipe of its own accord. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox, badger, or burrowing owl has escaped.	

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. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or Project site. h. No pets, such as dogs or cats, should be permitted on the project site unless permitted in accordance with the Americans with Disabilities Act (ADA). i. Project-related use of rodenticides and herbicides should be restricted. j. A representative should be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure one of these species or who finds a dead, injured, or entrapped animal. The representative should be identified during the employee education program and their name and telephone number should be provided to the CDFW. k. Upon completion of the project, all areas subject to temporary ground disturbances (including storage and staging areas, temporary roads, pipeline corridors, etc.) should be recontoured and revegetated to promote restoration of the area to pre-project conditions following a revegetation plan approved by the County. An area subject to "temporary" disturbance means any area that is disturbed during the Project, but after project completion will not be subject to further disturbance and has the potential to be revegetated. l. Any project personnel who are responsible for inadvertently killing or injuring one of these species should immediately report the incident to their representative. This representative should contact the CDFW immediately in the case of a dead, injured, or entrapped kit fox, American badger, or western burrowing owl.	

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
		m. New sightings of American badger or western burrowing owl shall be reports to the CNDDB. **MM 4.4-8**: a. The project proponent/operator shall mitigate the loss of Swainson's hawk foraging habitat by providing Habitat Management (HM) lands within the Antelope Valley Swainson's hawk breeding range at a 0.5:1 ratio for the loss of 668 acres of moderate quality foraging habitat. Project developers may consider delegating responsibilities for acquisition and management of the HM lands to the CDFW or a third party, such as a nongovernmental organization dedicated to Mojave Desert habitat conservation. Approaches for acquisition and management of HM lands include the following: 1. Identify the region within which lands would be acquired, and the type/quality of habitat to be acquired. Foraging habitat should be moderate to good with a capacity to improve in quality and value to Swainson's hawks, and must be within the Antelope Valley Swainson's hawk breeding range. Foraging habitat with suitable nest trees is preferred. 2. Provide an acquisition proposal to the Department and the appropriate lead agency for their approval at least 3 months before acquiring the property. The proposal should discuss the suitability of the property by comparing it to the selection criteria. 3. If an irrevocable letter of credit or other form of security is provided, complete land acquisition within 12 months after beginning ground-disturbing project activities. Provide financial assurances for dedicating adequate funding for impact avoidance, minimization and compensation measures required for project approval. 4. Be prepared to provide a preliminary title report, initial hazardous materials survey report, biological analysis, at a minimum to 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. The information will likely also be reviewed by the California Department of General Services, Fish and Game Commission and/or Wildlife Conservation Board. Fee title or conservation easement will likely be transferred to a Department of Fish and Game-approved non-profit third party and the Department, or solely to the Department. Be prepared to support enhancement and endowment funds for protection and enhancement of acquired lands. The Department will approve establishment and management of the funds, ensuring that qualified non-profit organizations or the Department will manage the funds in an appropriate manner. Contributed funds and any related interest generated from the initial capital endowment would support long-term operation, management, and protection of the approved HM lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and any other action designed to protect or improve the habitat values of the HM lands. Be prepared to reimburse the Department or other entities for all land acquisition costs. b. The project proponent/operator shall perform preconstruction surveys to verify locations of Swainson's Hawks and active nests. The project proponent/operator shall be required to prepare and implement a Swainson's Hawk Monitoring and Mitigation Plan in coordination with the California Department of Fish and Wildlife and the Kern County Planning and Community Development Department. The Plan shall be prepared by a qualified wildlife biologist approved the County and shall include the following in order to avoid and minimize impacts to Swainson's hawks in and near the project site: 1. During the nesting season, ensure no new disturbances, habitat conversions, or other project activities that may cause nest abandonment or forced fledging within 0.5 miles of an	

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
		active nest between March 1 and September 15. Buffer zones may be adjusted in consultation with CDFW and the County. 2. The project proponent/operator shall not remove Swainson's hawk nest trees unless avoidance measures are determined to be infeasible. Removal of such trees should occur only during the timeframe of October 1 and the last day in February. c. If an injured Swainson's hawk is found during project-related activities: 1. A plan should be in place to call for immediate relocation to a raptor recovery center approved by CDFW. 2. A system should be set up so that costs associated with the care or treatment of such injured Swainson's hawks will be borne by the project proponent/operator 3. Include appropriate contact information for immediate notification to CDFW and the County if a hawk injury incident occurs. Have an approved procedure in place to notify CDFW and the County inside of normal business hours. Notify the appropriate personnel via telephone or email, followed by a written incident report. Include the date, time, location, and circumstance of the incident in reports. **MM 4.4-9**: 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 for collision-reducing techniques as 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 4.4-10**: If project activities must start construction during the nesting season (February 1 to September 15) and construction activities occur within 0.5 miles from and active Swainson's hawk	

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
		nest. If construction is initiated outside the nesting season, no additional action is required. Pre-activity nesting bird surveys shall be conducted 14 days prior to the start of construction at the construction site and include a 250-foot buffer (avoidance buffer) for songbirds and a 500-foot buffer for raptors (other than Swainson's hawk). The surveys should be phased with construction of the Project. If no active nests are found, no further action is required. However, existing nests may become active and new nests may be built at any time prior to and throughout the nesting season, including when construction activities are in progress. If active nests are found during the survey or at any time during construction of the Project, an avoidance buffer ranging from 250 feet to 500 feet may be required, with the avoidance buffer from any specific nest being determined by a qualified biologist. Full-time monitoring of an active nest may be needed when activities are occurring at the fringe of a buffer to determine whether activities are affecting nesting birds. Results of the monitoring may indicate a need to expand the size of avoidance buffer areas. The avoidance buffer shall remain in place until the biologist has determined that the young are no longer reliant on the adults or the nest. Work may occur within the avoidance buffer under the approval and guidance of the biologist, but full-time monitoring may be required. The biologist shall have the ability to stop construction if nesting adults show any sign of distress. **MM 4.4-11**: A qualified biologist shall monitor all initial ground-disturbing activities. The qualified biologist shall be present at all times during ground-disturbing activities (including drilling holes and trenching) within and adjacent to habitat with the potential to support special-status wildlife species, including northern legless lizard, desert tortoise, burrowing owl, American badger, desert kit fox, and nesting birds. If a special-status species is found within the construction area, all construction shall cease immediately and the animal will be allowed to leave the area of its own accord or	

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
		relocated by an authorized biologist to suitable habitat outside of the Project area. **MM 4.4-12**: Prior to the initiation of construction activities, all personnel shall attend a Worker Environmental Awareness Training program developed by a qualified biologist. The program should include information on the life histories of special-status species with potential to occur on the Project, their legal status, course of action should these species be encountered on-site, and avoidance and minimization measures to protect these species. All attendees at WEATs should signify that they have received and understand the training material by signing an attendance sheet, which will be maintained on site. All attendees will be provided with summary training materials that they can carry while on the job and can reference while working on the Project.	
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, or regulations or by CDFW or USFWS.	Less than significant	No mitigation is required.	Less than significant.
Impact 4.4-3: The project would have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	Potentially significant	**MM 4.4-13**: The following measures shall be implemented prior to the start of ground disturbance activities to avoid impacts to the intermittent riverine in CUP Area 2. 1. Any material/spoils from project activities shall be located away from jurisdictional areas. Jurisdictional areas shall be protected from stormwater run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and/or straw bale barriers, as appropriate. Protection measures shall follow project-specific criteria as developed in the project's Stormwater	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
		Pollution Prevention and Protection Plan (SWPPP) required by **MM 4.10-2**. 2. Prior to the start of construction activities, the project proponent/operator shall provide evidence that all fueling, and hazardous materials storage areas construction activities will be sited at least 100 feet away from on-site drainages and other water features, as identified in the project-specific delineation of wetlands and waters. 3. The project proponent should prepare a Hazardous Materials Business Plan (HMBP) in accordance with **MM 4.9-**1 and the California Health and Safety Code and Kern County regulations. The HMBP shall provide for hazardous material and hazardous waste storage areas; describe proper handling, storage, 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. 4. Any spillage of material shall be stopped if it can be done safely. The contaminated area will be cleaned, and any contaminated materials properly disposed. The Project foreman or designated environmental representative shall be notified of all spills. **MM 4.4-14:** The project shall be designed to avoid impacts to the intermittent riverine feature in CUP Area 2 to the extent feasible. If this feature cannot be avoided, the project proponent shall implement the following: 1. The project proponent/operator shall file a complete Report of Waste Discharge with the RWQCB to obtain Waste Discharge Requirements and shall also consult with California Department of Fish and Wildlife (CDFW) on the need for a Section 1602 Streambed Alteration Agreement.	

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
		Copies of reports and any necessary permits shall be submitted to the Country. 2. Based on consultation with RWQCB and CDFW, if permits are required for the project site, appropriate permits shall be obtained prior to disturbance of jurisdictional resources. 3. Compensatory mitigation for impacts to unvegetated streambeds/washes shall be identified prior to disturbance of the features, as approved by the RWQCB or CDFW either through onsite or offsite mitigation or purchasing credits from an approved mitigation bank. 4. The project proponent/operator shall comply with the compensatory mitigation required and proof of compliance, along with copies of permits obtained from RWQCB and/or CDFW, which shall be provided to the County. 5. A Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared that outlines the compensatory mitigation in coordination with the RWQCB and CDFW. A. If onsite mitigation is proposed, the HMMP 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). B. The HMMP shall include remedial measures in the event that performance criteria are not met. C. If mitigation is implemented off site, 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 HMMP should identify an approach for funding assurance for 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
		long-term management of the conserved land. Alternatively, the applicant may purchase credits from an approved mitigation bank. D. Copies of any coordination, permits, etc., with RWQCB and CDFW should be provided to the County.	
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.	Potentially Significant	Implement Mitigation Measure MM 4.1-5 (see Section 4.1, *Aesthetics*, for full Mitigation Measure text) and Mitigation Measures MM 4.4-7 through MM 4.4-12.	Less than significant.
Impact 4.4-5: The project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Potentially significant	Implement Mitigation Measures **MM 4.4-1** through **MM 4.4-14**.	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 would be required.	Less than significant.
Cumulative Impact	Potentially significant	Implement Mitigation Measures **MM 4.1-6** and **MM 4.1-7** from Section 4.1 Aesthetics, **MM 4.9-1** from Section 4.9 Hazards, and **MM 4.4 1** through **MM 4.4 14.**	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
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 historical resources. The contact information for this Lead Archaeologist shall be provided to the Kern County Planning and Natural Resources Department prior to the commencement of any construction activities on-site. Further, the Lead Archaeologist shall be responsible for ensuring the following employee training provisions are implemented during implementation of the project: a. Prior to commencement of any ground disturbing activities, the Lead Archaeologist, in consultation with the Native American monitor(s), shall prepare Cultural Resources Sensitivity Training materials to be used in orientation program given to all personnel working on the proposed project. A Cultural Resources Sensitivity Training Guide approved by the Lead Archaeologist shall be provided to all personnel. A copy of the Cultural Resources Sensitivity Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form. 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 for	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
		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 on-site 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 commencing work on-site. e. During implementation of the project, the services of Native American tribal monitors, as identified through consultation with appropriate Native American tribes under Public Resources Code Section 21080.3.1 and 21080.3.2, working under the supervision of the Lead Archaeologist, shall be retained by the project to monitor project-related construction activities as identified in Mitigation Measures MM 4.5-2 through MM 4.5-4. **MM 4.5-2:** Prior to the issuance of any grading or building permit, the project operator 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 the archaeological site P-15-14902, the County, in coordination with the Lead Archaeologist shall develop a treatment plan for the site. The treatment plan shall be adopted and implemented prior any ground disturbance within an exclusion area surrounding to include the recorded boundaries of the archaeological site (P-15-14902) and all areas within 25 feet thereof. The treatment plan shall consist of one of the following methodologies to the satisfaction of the County and archaeologist: 1. The site (P-15-14902) shall be preserved and buffered by a 25-foot preservation boundary temporarily marked with exclusion markers or protective fencing. No work shall occur within boundaries of the site and the gen-tie line and associated construction process shall string wires	

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
		over the site so ground disturbance or damage to the resource does not occur. Final project design shall preclude the area from being used or needed as a stringing set-up or splicing location. If work is required within the site, it shall require approval by the qualified archaeologist and County to ensure damage to the resource does not occur. All work within the area shall be monitored by a qualified archaeologist; or 2. A qualified archaeologist shall conduct a Phase II testing/excavation of the site (P-15-14902) to determine the significance of the resource and potential additional protection measures. The Phase II testing shall consist of the following: i. Further define the spatial boundaries of the site; ii. Perform further surface and subsurface investigations to more fully understand the potential of the site to produce significant archaeological data. iii. Determine if the site meets Criteria 1, 2, 3, or 4 to be designated as a California Historic Resource; iv. Development of a resource/data recovery plan, if needed, for the resource that would include but not be limited to: 1. Monitoring of removal activities; 2. Photo documentation, 3. Preservation of important materials; **MM 4.5-3:** During implementation of the project, the services of both Archaeological and Native American Tribal Monitors, 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	

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
		monitor, on a full-time basis, ground-disturbing activities associated with project-related construction activities, as follows: a. All initial excavation or ground-disturbing activities shall be monitored by Archaeological and Native American monitors. During the course of this initial monitoring, if the Lead Archaeologist can demonstrate that the level of monitoring should be reduced or discontinued, or if the Lead Archaeologist can demonstrate 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. b. The Archaeological monitors and Native American monitors shall work under the supervision of the Lead Archaeologist. The Lead Archaeologist, Archaeological monitors, and Native American monitors shall be provided all project documentation related to cultural resources within the project site prior to commencement of ground disturbance activities. 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. c. The Archaeological monitor shall keep daily logs and the Lead Archaeologist shall submit monthly written updates to the Kern County Planning and Natural Resources Department and to the San Manuel Band of Mission Indians. After	

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
		monitoring has been completed, the Lead Archaeologist shall prepare a monitoring report detailing the results of monitoring, which shall be submitted to the Kern County Planning and Natural Resources Department, the San Manuel Band of Mission Indians, and to the southern San Joaquin Valley Information Center at California State University, Bakersfield. **MM 4.5-4:** During implementation of the project, in the event archaeological materials are encountered during the course of grading or construction, the project contractor shall cease any ground disturbing activities within 50 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 50-foot radius from the location of discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area and all entrance to the area shall be avoided until the discovery is assessed by the Lead Archaeologist, as well as the San Manuel Band of Mission Indians if the discovery involves resources of interest to Native American tribes, including but not limited to prehistoric archaeological sites or tribal cultural resources. The Lead Archaeologist in consultation with the San Manuel Band of Mission Indians, if appropriate, shall evaluate the significance of the resources and recommend appropriate treatment measures. If further treatment of the discovery is necessary, the Environmentally Sensitive Area shall remain in place until all work is completed. Per California Environmental Quality Act (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 the San Manuel Band of Mission Indians shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The County shall consult with appropriate	

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
		Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. All resources of concern/interest to Native American tribes that cannot be avoided shall be reburied on site as close to the original find location as possible, and within an area that will not be subjected to disturbance in the future. Archaeological materials not of concern/interest to Native American tribes recovered during any investigation shall be curated at an accredited curation facility. The Lead Archaeologist, in consultation with the San Manuel Band of Mission Indians, 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, the San Manuel Band of Mission Indians, and to the southern San Joaquin Valley Information Center at California State University, Bakersfield.	
Impact 4.5-2: The project would cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.	Potentially significant	Implement Mitigation Measures **MM 4.5-1** through **MM 4.5-4**.	Less than significant.
Impact 4.5-3: The project would disturb any human remains, including those interred outside of formal cemeteries.	Potentially significant	**MM 4.5-5:** 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 of the California Environmental Quality Act Guidelines Section 15064.4(e)(1). 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 (PRC) Section 5097.98 (as amended by Assembly Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendent for the remains per PRC Section 5097.98. Per PRC Section 5097.98, the landowner shall ensure	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 the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. If the remains are determined to be neither of forensic value to the Coroner, nor of Native American origin, provisions of the California Health and Safety Code (Section 7100 et. seq.) directing identification of the next-of-kin will apply.	
Cumulative Impact	Potentially significant	Implement Mitigation Measures **MM 4.5-1** through **MM 4.5-5**.	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	Implement Mitigation Measure **MM 4.3-1** as provided in **Section 4.3, *Air Quality***, of this EIR.	Less than significant.
Impact 4.6-2: The project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	Less than significant	No mitigation would be required.	Less than significant
Cumulative Impact	Potentially significant	Implement Mitigation Measure **MM 4.3-1**, as provided in **Section 4.3, *Air Quality***, of this EIR.	Less than significant.
4.7 Geology and Soils			

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 4.7-1: 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.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.7-2: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.	Potentially significant	**MM 4.7-1:** Prior to the issuance of building or grading permits for the project, the project proponent shall conduct a final engineering design specific geotechnical study to evaluate soil conditions and geologic hazards on the project site and submit it to the Kern County Public Works Department for review and approval. a. The final geotechnical study must be signed by a California-registered and licensed professional geotechnical engineer or engineering geologist and must include, but not be limited to, the following: i. Location of fault traces and potential for surface rupture and groundshaking potential; ii. Maximum considered earthquake and associated ground acceleration for design; iii. Potential for seismically induced liquefaction, landslides, differential settlement, and unstable soils; iv. Stability of any existing or proposed cut-and-fill slopes; v. Collapsible or expansive soils and shrink swell potential; vi. Collapse due to groundwater pumping; vii. Foundation material type;	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
		viii. Potential for wind erosion, water erosion, sedimentation, and flooding; ix. Location and description of unprotected drainage that could be impacted by the proposed development; and, x. Recommendations for placement and design of facilities, foundations, and remediation of unstable ground. b. 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. All structures shall be offset at least 100 feet from any mapped fault trace. Alternatively, a detailed fault trenching investigation may be performed to accurately locate the fault trace(s) to avoid sighting improvements on or close to these fault structures and to evaluate the risk of fault rupture. After locating the fault, accurate setback distances can be proposed. c. The final geotechnical report shall be submitted for review and approval by the Kern County Public Works Department. 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. Final design requirements shall also be provided to the onsite construction supervisor and the Kern County Building Inspector to ensure compliance. A copy of the approved design shall be submitted to the Kern County Planning and Natural Resources Department.	

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 4.7-3: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving seismic-related ground failure, including liquefaction.	Potentially significant	Implement Mitigation Measures **MM 4.7-1**.	Less than significant.
Impact 4.7-4: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving landslides.	Less than significant	No mitigation would be required.	Less than significant.
Impact 4.7-5: The project would result in substantial soil erosion or the loss of topsoil.	Potentially significant	Implement Mitigation Measures **MM 4.10-1** and **MM 4.10-2**.	Less than significant.
Impact 4.7-6 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 Measure **MM 4.7-1**.	Less than significant.
Impact 4.7-7: 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 Measure **MM 4.7-1**.	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 4.7-8: 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.	Less than significant	No mitigation would be required.	Less than significant.
Impact 4.7-9: 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 4.7-2:** Prior to the issuance of grading permits, a qualified paleontological monitor shall prepare a Paleontological Resources Mitigation and Monitoring Plan (PRMMP). The PRMMP shall contain monitoring procedures, timing of monitoring, define areas and types of earthwork to be monitored, provide methods for determining the significance of fossil discoveries, and state that any fossils that are collected should be prepared to the point of curation, identified to the lowest reasonable taxonomic level, and curated into an accredited institutional repository. The PRMMP should emphasize screen washing of bulk matrix samples of potentially fossil-bearing sediment (e.g., paleosol horizons) as a tool for evaluating paleontological potential and should provide appropriate methods. The PRMMP will include a requirement for a paleontological monitor to monitor excavations and/or grading that occur at a depth of 15 feet or deeper below the ground surface in areas with low paleontological potential. Monitoring of pile-driving and small-diameter drilling (less than 18-inches) excavation methods will not be required. After the initial monitoring of excavation and/or grading, the Qualified Paleontologist in consultation with the Kern County Planning and Natural Resources Department may reduce the level of monitoring based on circumstances and as warranted. If potentially significant fossils are found, the Qualified Paleontologist (or paleontological monitor) shall be allowed to temporarily divert or redirect grading and excavation activities in the vicinity of the discovery site, as needed, to facilitate evaluation	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
		of the fossil and, if necessary, salvage. Salvaged fossils shall be curated and donated to an accredited institutional repository with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the San Bernardino County Museum. Accompanying notes, maps, and photographs shall also be filed at the repository. A final mitigation report prepared by the qualified paleontologist shall prepare a final documenting the findings of the monitoring activities. This shall include a summary of the results of the PRMMP, including a description of monitoring procedures, a summary of recovered data, and conclusions. If fossils are recovered, the report shall include a description of the salvaged fossils and their significance, and the methods used to salvage, prepare, identify, and curate them. A copy of the report shall be provided to Kern County and to the accredited repository that received any the fossils. **MM 4.7-3:** If paleontological resources are encountered during project ground disturbing activities when a Qualified Paleontologist (or paleontological monitor) is not onsite (an inadvertent discovery), all excavation work in the immediate vicinity of the find shall halt until the Qualified Paleontologist can evaluate the find and make recommendations. If the Qualified Paleontologist determines that the discovery represents a potentially significant paleontological resource, additional measures such as fossil salvage may be required to mitigate adverse impacts from project implementation. Ground-disturbance in the vicinity of the discovery site shall not resume until the resource-appropriate measures are implemented or the materials are determined to be less than significant.	
Cumulative Impact	Potentially significant	Implement Mitigation Measures **MM 4.7-1** through **MM 4.7- 3**, **MM 4.10-1 and MM 4.10-2**.	Less than significant.
4.8 Greenhouse Gas Emissions			

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 4.8-1: 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 would be 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 gas.	Less than significant	No mitigation would be required.	Less than significant.
Cumulative Impact	Less than significant	No mitigation would be required.	Less than significant.
4.9 Hazards and Hazardous Materials			
Impact 4.9-1: The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Potentially significant	Implement Mitigation Measure **MM 4.16-1** (see **Section 4.16**, Utilities and System Services, for full mitigation measure text). **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: a. Delineate hazardous material and hazardous waste storage areas b. Describe proper handling, storage, transport, and disposal techniques including which routes will be used to transport hazardous materials c. Describe methods to be used to avoid spills and minimize impacts in the event of a spill	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
		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. Describe federal, state, or local agency coordination, as applicable, and clean-up efforts that would occur in the event of an accidental release. g. 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	Implement Mitigation Measures of **MM 4.9 1** and **MM 4.16- 1** would be 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,	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
		chemical spill/splash wash supplies, and material safety data sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and water bodies, herbicides shall not be applied directly to wildlife. d. Products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed; and herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water. e. Herbicides shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift to 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 would be 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, would create a significant hazard to the public or the environment.	Less than significant	No mitigation would be 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 4.9-5: The project would expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.	Potentially significant	Implement Mitigation Measure **MM 4.13-1** (see **Section 4.13-1**, *Public Services*, for full text).	Less than significant
Cumulative Impact	Potentially significant	Implement of Mitigation Measures **MM 4.9-1** and **MM 4.9-2**, **MM 4.13-1**, and **MM 4.16-1** (see **Sections 4.13-1, *Public Services,*** and **4.16, *Utilities and System Services***, for full text).	Less than significant.
4.10 Hydrology and Water Quality			
Impact 4.10-1: The project would violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality.	Potentially significant	Implement Mitigation Measure **MM 4.9-1**. **MM 4.10-1:** Prior to the issuance of a grading permit, the project proponent/operator shall complete a hydrologic study and final drainage plan designed to evaluate and minimize potential increases in runoff from the project site. The study shall include, but is not limited to the following: a. 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	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
		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, O&M facilities, BESS, and other permanent structures 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. **MM 4.10-2:** Prior to issuance of a grading permit, the project proponent/operator shall submit a Stormwater Pollution Prevention Plan (SWPPP) approved by the Regional Water Quality Control Board- Lahontan Region for review 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;	

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. 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.	
Impact 4.10-2: The project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	Less than significant.	No mitigation would be 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 4.10-3: The project would substantially alter the existing drainage patterns of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner than would result in substantial erosion and/or sedimentation on-site or off-site.	Potentially significant	Implement Mitigation Measures **MM 4.10-1** and **MM 4.10-2**.	Less than significant.
Impact 4.10-4: The project would substantially alter the existing drainage patterns of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner that would result in flooding onsite or offsite.	Potentially significant	Implement Mitigation Measure **MM 4.10-1**.	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.	Potentially significant	Implementation of Mitigation Measure **MM 4.10-1**.	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	Implement Mitigation Measure **MM 4.10-1.**	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	Implement Mitigation Measure **MM 4.9-1** and **MM 4.10-1.**	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 4.10-8: The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Less than significant	No mitigation would be required.	Less than significant
Cumulative Impact	Potentially significant	Implement Mitigation Measures **MM 4.9-1, MM 4.10-1**, and **MM 4.10-2.**	Less than significant.
4.11 Land Use			
Impact 4.11-1: The project would cause a significant environmental impact due to physically dividing an established community.	Less than significant	No mitigation would be 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 would be required.	Less than significant
Cumulative Impact	Potentially significant	Prior to issuance of any building permit, the project operator shall provide a Decommission Plan for review and approval by the Kern County Public Works Department. The plan shall be carried out by the proposed operator 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	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
		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 decommissioning 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 decommissioning work will be completed in accordance with the approved decommission plan; or d. Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department. The financial institution or Surety Company shall give the County at least 120 days notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed annually by the Kern County Public Works 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 decommissioning of all solar panels and support structures identified on the approved Decommission Plan. Should the project operator decommission the site on their own, the County will not pursue forfeiture of the financial assurance. Once decommissioning 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	

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
		funds not utilized through decommissioning 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 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 to identify the appropriate Frequency Management Office officials to coordinate the use of telemetry to avoid potential frequency conflicts with military operations.	
4.12 Noise			
Impact 4.12-1: The project would result in generation of a substantial temporary or permanent increase in the ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies.	Potentially significant	**MM 4.12-1:** 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.	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
		on weekends. These hourly limitations shall not apply to activities where hourly limitations would result in increased safety risk to workers or the public, such as commissioning and maintenance activities that must occur after dark to ensure photovoltaic arrays are not energized, unanticipated emergencies requiring immediate attention, or security patrols. b. Equipment staging and laydown areas shall be located at the furthest practical distance from nearby residential land uses. To the extent possible, staging and laydown areas should be located at least 500 feet from existing residential dwellings. 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. On-site 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 4.12-2:** Prior to the issuance of grading permits, a "noise disturbance coordinator" shall be established. The project operator shall submit evidence of methods of implementation and shall continuously comply with the following during construction: The disturbance coordinator shall be responsible for responding to any	

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
		local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures such that the complaint is resolved. **MM 4.12-3:** Prior to the issuance of grading permits, the project operator shall submit evidence of the following: Construction contracts shall specify that notices shall be sent out to all residences within 1,000 feet of the construction areas at least 15 days prior to commencement of construction. The notices shall include the construction's schedule and a telephone number where complaints can be registered with the noise disturbance coordinator. A sign legible at a distance of 50 feet shall also be posted at the construction site throughout construction, which includes the same details as the notices.	
Impact 4.12-2: The project would generate excessive groundborne vibration or groundborne noise levels.	Less than significant	No mitigation would be required.	Less than significant
Impact 4.12-3: The project would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	Less than significant	No mitigation would be required.	Less than significant
Cumulative Impact	Potentially significant	Implement Mitigation Measures **MM 4.12-1** through **MM 4.12-3** to reduce and minimize cumulative construction noise and vibration levels.	Less than significant.
4.13 Public Services			
Impact 4.13-1: 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	Potentially significant	**MM 4.13-1:** 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.	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
maintain acceptable service ratios, response times, or other performance objectives for fire protection services or police protection services.		The project proponent/operator shall submit the plan, along with maps of the project site and access roads, to the Kern County Fire Department for review and approval. A copy of the approved Fire Safety Plan shall be submitted to the Kern County Planning and Natural Resources Department. The Fire Safety Plan shall contain notification procedures and emergency fire precautions including, but not limited to, the following: a. All internal combustion engines, both stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order. b. Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. These vehicle types will maintain their factory-installed (type) muffler in good condition. c. Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees. d. Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials. e. Personnel shall be trained in the practices of the fire safety plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires to prevent them from growing into more serious threats. f. The project proponent/operator shall make an effort to restrict the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to periods outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to personnel. **MM 4.13-2:** The following Cumulative Impact Charge (CIC) shall be implemented as payment on approved Conditional Use Permit acreage. a. Submittal of Building Permit and Phasing	

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
		i. Any building permit submitted shall be accompanied by a map and legal description showing a defined phase for which permits are being requested. All phases shall be numbered sequentially for identification. ii. The map for either the total project or a phase shall calculate the Cumulative Impact Charge (CIC) net acreage as follows: a) Total gross acreage (Phase) b) Total acres for Operations and Maintenance building permanent accessory improvements c) Total acres for Energy Storage structure and permanent accessory improvements d) Total acres of recorded easements iii. Formula: Net Acreage = (ii)a minus the sum of [(ii)b + (ii)c + (ii)d]. iv. Temporary storage areas or non-permanent commercial coaches or cargo containers for construction or operations are not eligible for inclusion under (ii)b or (ii)c, above. v. All areas of buildings, accessory improvements and easement used in the calculations shall be shown on the submitted Phase Map. vi. Any property included in the approved Conditional Use Permit that is not included in a phase must be included in the last phase or a formal modification processed to remove it from the Conditional Use Permit. b. Calculation and Payment of Cumulative Impact Charge (CIC) i. A payment of $620 per net acre for the map shown with the building permit submittal shall be paid upon issuance of the first building permit. If it is not paid within 30 days after the issuance of the first building permit for the phase regardless of the total number of building permits or type	

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 building permit issued, all such permits shall be suspended until the fee is paid in full. ii. 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 and phase number. iii. Any acres denoted for an operation and maintenance building or energy storage that are not built, cannot be used for solar panels unless payment is provided for the Cumulative Impact Charge (CIC). **MM 4.13-3:** 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. The SCIC payments shall be made annually by April 30 directly to the County Administrative Office Fiscal Division (CAO) and labeled "Supplemental Cumulative Impact Charge (SCIC)" with the project name and phase number. **MM 4.13-4:** 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.	

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
		MM 4.13-5: 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.	
Cumulative Impact	Potentially significant	Implement Mitigation Measures **MM 4.13-1** through **MM 4.13-5**.	Less than significant.
4.14 Transportation and Traffic			
Impact 4.14-1: The project would conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, as follows: Metropolitan Bakersfield General Plan LOS C and Kern County General Plan LOS "D."	Potentially significant	**MM 4.14-1:** Prior to the issuance of construction or building permits for each Facility, the project proponent/operator shall: a. Prepare and submit a Construction Traffic Control Plan to Kern County Public Works Department-Development Review and the California Department of Transportation offices for District 9, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues: i. Timing of deliveries of heavy equipment and building materials. To the extent feasible, restrict deliveries and vendor vehicle arrivals and departures during either the AM and PM peak periods; ii. Directing construction traffic with flaggers along the Rosamond Corridor; iii. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to,	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
		appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic; iv. Ensuring access for emergency vehicles to the project sites; v. Coordinate construction activities with schools that could be affected by increased vehicle delay along Rosamond Boulevard (i.e., Tropico Middle School and Rosamond High School); vi. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections; vii. Maintaining access to adjacent properties; viii. Specifying both construction-related vehicle travel and oversize load haul routes and avoiding residential neighborhoods to the maximum extent feasible; and ix. Consult with the County to develop coordinated plans that would address construction-related vehicle routing and detours adjacent to the construction area for the duration of construction overlap with neighboring projects. Key coordination meetings would be held jointly between applicants and contractors of other projects for which the County determines impacts could overlap. b. Obtain all necessary encroachment permits for the work within the road right-of-way or use of oversized/overweight vehicles that will utilize county-maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Natural Resources Department, the Kern County Public Works Department-Development Review, and Caltrans. c. Enter into a secured agreement with Kern County to ensure that any County roads that are demonstrably damaged by	

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
		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.	
Impact 4.14-2: 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 would be required.	Less than significant.
Impact 4.14-3: The project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Potentially significant	Implement Mitigation Measure **MM 4.14-1**.	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 4.14-4: Result in inadequate emergency access.	Potentially significant	Implement Mitigation Measures **MM 4.14-1**.	Less than significant.
Cumulative Impact	Potentially significant	Implement Mitigation Measures **MM 4.14-1**	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 Tribal Cultural Resources			
Impact 4.15-1a: 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	Implement Mitigation Measures **MM 4.5-1** through **MM 4.5-3**, see **Section 4.5 *Cultural Resources***.	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 4.15-1b: 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.	Potentially significant	Implement Mitigation Measures **MM 4.5-1** through **MM 4.5-5**, see **Section 4.5 *Cultural Resources***.	Less than significant.
Cumulative Impact	Potentially significant	Implement Mitigation Measures **MM 4.5-1** through **MM 4.5-5**, see **Section 4.5 *Cultural Resources***.	Impacts would be 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 Utilities and Service Systems			
Impact 4.16-1: The project would 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.	Potentially significant	Implement Mitigation Measure **MM 4.10-1** and **MM 4.10-2**.	Less than significant
Impact 4.16-2: 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 would be required.	Less than significant
Impact 4.16-3: The project would result in a determination by the wastewater treatment provider which may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	Less than significant	No mitigation would be 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 4.16-4: 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 4.16-1:** During construction, operation, and decommissioning, debris and waste generated shall be recycled to the extent feasible. The provisions listed below shall apply to the project. a. An onsite Recycling Coordinator shall be designated by the project proponent/operator to facilitate recycling as part of the Maintenance and Decommissioning, Trash Abatement and Pest Management Program. b. The Recycling Coordinator shall facilitate recycling of all construction waste through coordination with contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. c. The onsite Recycling Coordinator shall also be responsible for ensuring wastes requiring special disposal are handled according to State and County regulations that are in effect at the time of disposal d. Contact information of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits. e. The project proponent/operator shall provide a storage area for recyclable materials within the fenced project area that is clearly identified for recycling. This area shall be maintained on the site during construction, operations and decommissioning. A site plan showing the recycling storage area shall be submitted prior to the issuance of any grading or building permit for the site.	Less than significant.
Impact 4.16-5: The project would comply with Federal, State, and Local management and reduction statutes and regulations related to solid waste.	Potentially significant	Implement Mitigation Measure **MM 4.16-1.**	Less than significant.
Cumulative Impact	Potentially significant	Implement Mitigation Measures **MM 4.10-1, MM 4.10-2,** and **MM 4.16-1**.	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 Wildfire			
Impact 4.17-1: The project would substantially impair an adopted emergency response plan or emergency evacuation plan.	Less than significant	Implement Mitigation Measure **MM 4.14-2**.	Less than significant.
Impact 4.17-2: The project would, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.	Less than significant	No mitigation would be required.	Less than significant.
Impact 4.17-3: The project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.	Potentially significant	Implement Mitigation Measure **MM 4.13-1**.	Less than significant.
Impact 4.17-4: The project would expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.	Potentially significant	Implement Mitigation Measure **MM 4.10-1** and **MM 4.10-2**.	Less than significant.
Cumulative Impact	Potentially significant	Implement Mitigation Measures **MM 4.10-1, MM 4.10-2,** and **MM 4.13-1**.	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 Rosamond South Solar Project (project). The project proposes to develop up to four photovoltaic (PV) solar facilities (CUP Area 1, CUP Area 2, CUP Area 3, and CUP Area 4) and associated infrastructure located on approximately 1,292 acres and would generate a combined total of 165 megawatts (MW) of renewable electrical energy including associated energy storage system that would store up two 245 MW of energy in unincorporated Kern County.

The proposed project consists of four sites: CUP Area 1 consists of 70.99 acres, CUP Area 2 consists of 240.58 acres, CUP 3 consists of 541.16 acres, and CUP Area 4 consists of 439.26 acres. Collectively, these CUP Areas are referred to as the project site. The individual CUP Areas would be built at the same time, individually, or staged in phases depending on market condition. The project would be constructed to maximize efficiency and would occur depending on the timing of, and as power purchase agreements can be and are entered into for each facility. The proposed project also would include a battery energy storage system (BESS) with the capacity to store up to 200 MW. The BESS would be located within CUP Area 1 and occupy approximately 20 acres, or it would be located in four individual approximate five-acre areas within each CUP area. Power generated by the proposed project would be transferred via proposed collection lines, and then via an existing as well as proposed 230 kV gen-tie line to the SCE Whirlwind Substation, or via a proposed 230 kV gen-tie MV 34.5 kV to the Teddy Substation. The project proponent also requests three amendments to the Willow Springs Specific Plan, changes in zone classifications, and non-summary vacations to vacate public access easements within the CUP area boundaries

This EIR has been prepared pursuant to the following:

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

The overall purposes of the CEQA process are to:

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

2.2 Purpose of this Environmental Impact Report

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

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

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

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

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 regarding the project:

- Determine whether the Draft EIR adequately describes the environmental impacts of the project;
- Determine 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, in this case the Kern County Planning and Natural Resources Department, 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:

- **Notice of Preparation/Initial Study (NOP/IS).** Kern County prepared and circulated a NOP/IS for 30 days to responsible, trustee, and local agencies for review and comment beginning on June 3, 2021 and ending on July 3, 2021.
- **Draft EIR Preparation/Notice of Completion (NOC).** A Draft EIR is prepared, incorporating public and agency responses to the NOP/IS 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.

Notice of Preparation/Initial Study

Pursuant to Section 15082 of the *CEQA Guidelines*, as amended, the Kern County Planning and Natural Resources Department circulated an NOP/IS to the State Clearinghouse, public agencies, special districts, and members of the public for a public review period beginning June 3, 2021 and ending on July 3, 2021. The NOP/IS 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 NOP/IS is to formally convey that the Kern County Planning and Natural Resources Department, as the lead agency, solicited input regarding the scope and proposed content of the EIR. The NOP/IS 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 Friday June 25th, 2021 at the Kern County Planning and Natural Resources Department, located at 2700 "M" Street, Suite 100, Bakersfield, California.

Notice of Preparation/Initial Study and Scoping Meeting Results

During the June 25th, 2021 scoping meeting, no members of the public were present, and no testimony was given. Specific environmental remarks made in written comments received during the NOP/IS public review period are discussed below. The NOP/IS and all comments received are included in Appendix A, along with the Summary of Proceedings from the Scoping Meeting.

IS/NOP Written Comments

The following specific environmental concerns listed in **Table 2-1**, *Summary of NOP/IS 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
State Agencies	
CA Department of Fish and Wildlife July 8, 2021	The commenter expresses concern over potential impacts to special-status species and other biological resources. The commenter recommends the following: • Conduct survey for desert tortoise in adequate time frame by a qualified wildlife biologist and consult with CDFW if desert tortoises are found within Project area and if conducting ground-disturbing activities in order to comply with FESA; • Conduct surveys for nesting Swainson's Hawk (SWHA) and nests performed by qualified wildlife biologist in appropriate time frame based upon nesting season and determine if nesting occurs within 0.5 mile radius of Project site. Consult with CDFW if active findings are present in survey or if buffer is not feasible; • Compensate for loss of SWHA foraging habitat • Conduct survey for Burrowing Owl (BUOW) by a qualified wildlife biologist and consult with CDFW if BUOW are found within Project area or within suggested no-disturbance buffer zone during particular time of year. • If necessary, conduct burrow exclusion during non-breeding season and replace with artificial burrows, while continuing ongoing surveillance; • Conduct survey for American badger by a qualified wildlife biologist and consult with CDFW if American badgers are found within Project area or within suggested no-disturbance buffer zone. • Conduct identification survey by qualified botanist of all western Joshua tree within no-disturbance buffer. Obtain take authorization if necessary; • Conduct identification survey by qualified botanist to determine if Project area or vicinity contain suitable habitat for special-status plant species. If present, survey for special-status plants and observe no-disturbance buffer. Consult with CDFW and conduct take authorization if necessary; • Consult with CDFW if any active or potential desert kit fox dens are found on Project site, avoid excavation during pupping season, and alter fences to allow for kit fox movement; • Notify CDFW before any river, stream, or lake alteration; • Implement Project during non-nesting season or ensure no violation of Migratory Bird Treaty Act/Fish and Game Codes; and • Conduct pre-activity survey by qualified biologist to determine if Project area or vicinity contain active nests. If present, observe no-disturbance buffer and continue to have biologist monitor.
Local	
Kern County Public Health Services – Environmental Health June 23, 2021	The commenter states that a plan for the method of water supply and sewage disposal shall be subject to approval of the Environmental Health Division. Additionally, they request that if any abandoned wells are found, the Land and Water Division shall be contacted for permitting and destruction procedures. An account on the California Environmental Report System should be made for the project.

Table 2-1: Summary of IS/NOP Comments

Commenter/Date	Summary of Comment
Kern County Public Works – Building and Development- Survey June 22, 2021	The commenter states that prior to the issuance of permits, all survey monuments shall be tied out by a Licensed Land surveyor and a record of such shall be submitted to the County Surveyor. Prior to the final inspection, all survey monuments that were destroyed during construction shall be re-set and a record of such shall be submitted to the County Surveyor. Additionally, they request that all survey monuments be accessible by a Licensed Land Surveyor.
Interested Parties	
California Native Plant Society July 2, 2021	The commenter recommends the following: • Perform comprehensive botanical scoping and surveys consistent with CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities prior to construction and ground disturbing activities; • Conduct botanical surveys following adequate amounts of precipitation and timed appropriately to ensure that rare plants are detectable; • Map vegetation types and sensitive natural communities on the Project sites to the Alliance level in accordance with CDFW's Vegetation Classification and Mapping Standards; • Consider cumulative impacts of the Project in light of the other numerous solar projects in the area; and • Plan and implement mitigation measures that reduce impacts to a less than significant level in the event that the Project has unavoidable impacts to plants.
Defenders of Wildlife July 1, 2021	The commenter recommends the following: • Provide existing biological resources occurrence information in the NOP/IS until release of corresponding DEIR, to facilitate more informed and efficient commenting by the public during the scoping phase of any project with a potential to impact special status species and their habitats; • Adopt biological resources survey methods and impact mitigation measures recommended by CDFW in its CEQA issue scoping comments in preparing a DEIR for the project; • Acknowledge Candidate status of Joshua tree; • Analyze and disclose the cumulative impacts to special status species within the Antelope Valley, especially those listed under CESA, and the specific feasible impact mitigation measures considered necessary to reduce or mitigate for any increase in cumulative impacts; • Mitigate all adverse impacts of the Project on the threatened Swainson's hawk and Western Joshua tree; and • Ensure that the DEIR and responsibilities of the Project applicant are consistent with the emergency rules governing the Western Joshua tree established by the California Fish and Game Commission.

Table 2-1: Summary of IS/NOP Comments

Commenter/Date	Summary of Comment
Kern Audubon Society July 2, 2021	The commenter recommends the following: • Complete biological site evaluation performed by qualified biological consultants using the appropriate survey protocols as established by both state and federal wildlife agencies; • Perform all biological surveys during the appropriate time of year to discern species presence. Survey the area for roosting birds in the surrounding Joshua trees, used by Swainson's hawks (SWHA) and other birds. Since birds of prey have a 5-mile radius, trees within the 5-mile radius must be identified and evaluated. Provide detailed analysis of the Project's impacts (both direct and cumulative) on SWHA that utilize these areas for nesting and foraging; • Prepare a SWHA Monitoring and Mitigation Plan in consultation with CDFW and the appropriate lead agency should surveys locate a nest site; and • Evaluate Project's potential to subsidize and support local raven populations that depredate the endangered desert tortoises of the Mojave Desert region.
Chi-Lin (Jenny) Shiao July 2, 2021	The commenter expresses general opposition to the proposed project. Additionally, the commenter expresses concern for their property value and the environment surrounding as property is within 1000 feet of project boundaries.
Barbara Schultz June 14, 2021	The commenter requests copy of DEIR for this project and expresses concern for conflict of different solar project bordering the airport.
William Chavez July 1, 2021	The commenter expresses concern over the proximity of project boundary in relation to property. The commenter cites decrease in property value, health concerns, and wildlife and environmental impact as reasons for concern. Additionally, more details are requested on the exact project boundaries.
Kathleen and James Watson June 7, 2021	The commenter expresses opposition to proposed project. The commenter also cites increased vermin populations, diseases, fires, toxic waste, decreased property value, and job shortages as reasons for project opposition.
Jason Jones June 23, 2021	The commenter requests information regarding property placement in relation to the project boundary. Additionally, the commenter makes note of potential discussion to be had regarding transmission lines and their property.

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:https://kernplanning.com/planning/environmental-documents/.

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
Rosamond Branch
3611 Rosamond Boulevard
Rosamond, CA 93560

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 evaluate 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;
- Noise;
- Public Services;
- Transportation and Traffic;
- Tribal Cultural Resources;
- Utilities and Service Systems; and
- Wildfires.

With respect to the following resource areas (Mineral Resources, Population and Housing, and Recreation, which were discussed in the NOP/IS, it was determined that no impacts would occur that would require analysis in the EIR:

Mineral Resources

The project site is not designated as a mineral recovery area by the Willow Springs Specific Plan or identified as a mineral resource zone by the Department of Conservation's State Mining and Geology Board, or as a recognized oil field. The project site is not located within the County's NR (Natural Resources) or PE (Petroleum Extraction) zoned districts. The installation and operation of the solar facilities would not preclude future mineral resource development nor would it result in the loss of a locally important mineral resource recover site. No further discussion of these topics is warranted.

Population and Housing

The proposed project includes an approximate 5,000 square foot operations and maintenance (O&M) building that would be used to monitor the solar sites. The on-site construction workforce for the project would require an average of 120 workers per day is anticipated to be required during construction of the proposed project. During the peak construction period up to approximately 630

workers may be on the project site. Peak construction is anticipated to last for approximately 3 months. The operation and maintenance of the proposed project will require up to 2 full-time equivalent (FTE) personnel (or personnel hours totaling 2 FTE positions). Maintenance activities may occur seven days a week, 24 hours a day to ensure PV panel output when solar energy is available. Maintenance personnel would be expected to visit the project site several times per year for routine maintenance, but they would likely be drawn from the local labor force and would commute from their permanent residences to the project site during those times.

Construction workers are anticipated to travel to the site 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, it is expected that accommodations would be available in the nearby communities of Mojave, Rosamond, Lancaster, or other local communities and cities. Therefore, the project is not anticipated to directly or indirectly induce the development of any new housing or businesses within the local communities. During the operational phase, one to two full-time staff would be employed by the proposed project, who would commute to the site. Existing housing stock would accommodate operations personnel should they relocate to the area. The project would not directly or indirectly induce substantial unplanned population growth and no further discussion of these topics is warranted.

Recreation

It is estimated that up to 630 workers per day during peak construction periods (approximately three months) would be required on-site during construction of the proposed project. Workers, however, are not anticipated to visit or use local parks or recreation facilities during the workday. In addition, workers are anticipated to travel from the various local communities and other areas within southern California, so many would already be using local and regional resources, and few workers are expected to relocate to this area temporarily resulting in an increased demand. Thus, while the construction is underway there would be little or no impact on local recreational resources after work hours. Additionally, this increased demand would not require the construction of new recreational resources or replacement due to increased use and/or deterioration. Thus, the proposed project does not include or require the construction of new or expansion of existing recreational facilities, and there are no recreational facilities on the project site that would be affected. No impact would result, and no further discussion is warranted.

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

Table 2-2: Required EIR Contents

Requirement (*CEQA Guidelines* Section)	Location in EIR
Significant environmental impacts (Section 15126.2)	Sections 4.1–4.17
Environmental setting (Section 15125)	Sections 4.1–4.17
Mitigation measures (Section 15126.4)	Sections 4.1–4.17
Cumulative impacts (Section 15130)	Sections 4.1–4.17
Growth-inducing impacts (Section 15126.2)	Chapter 5
Effects found not to be significant (Section 15128)	Chapters 1, 5; Sections 4.1–4.17
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 EIR.
- Chapter 8, *Organizations and Persons Consulted*, lists the organizations and persons contacted during preparation of this EIR.
- Chapter 9, *Preparers*, identifies persons involved in the preparation of the EIR.
- Chapter 10, *Bibliography*, identifies reference sources for the EIR.

- *Appendices* provide information and technical studies that support the environmental analysis contained within the EIR.

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

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

2.6 Responsible and Trustee Agencies

Projects or actions undertaken by the lead agency, in this case the Kern County Planning and Natural Resources Department and the California State Lands Commission, 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)
- United States Environmental Protection Agency (EPA)
- Federal Aviation Administration (FAA)
- United States Army Corps of Engineers (USACOE)

State Agencies

- Governor's Office of Planning and Research (OPR)
- California Air Resources Board (CARB)
- California Energy Commission (CEC)
- California Public Utilities Commission (CPUC)
- California Department of Fish and Wildlife (CDFW)
- Lahontan Regional Water Quality Control Board (RWQCB)
- California Department of Transportation (Caltrans), District 9
- California Native American Heritage Commission (NAHC)

Regional Local Agencies

- Eastern Kern County Air Pollution Control District (EKAPCD)
- Kern Council of Governments (KCOG)

Kern County

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

Other additional permits or approvals 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.

Willow Springs Specific Plan

The Willow Springs Specific Plan was drafted in 1992 for the unincorporated community of Willow Springs. The plan includes the following elements: land use, seismic/safety; circulation; housing; noise; and open space/conservation. Within each of these element categories, an existing setting, policies and implementation strategies for those policies are provided.

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

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 and E, 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. As required by law, the following affected cities have adopted the ALUCP for their respective airports: Bakersfield, California City, Delano, Shafter, Taft, Tehachapi, and Wasco.

Rosamond Solar Array Project Final EIR

The Rosamond Solar Array Project and Final EIR was approved by the Kern County Board of Supervisors in 2014. The project is located on a 1,175-acre site over seven parcels and would generate renewable electrical energy through the installation of approximately 2,300,000 solar modules and associated infrastructure. The project would transmit energy to the nearby Whirlwind substation through development of a three to five mile generation-tie line. The project includes a Specific Plan Amendments (SPA) to the Willow Springs Specific Plan, a Zone Classification Change (ZCC), a Conditional Use Permit (CUP), street vacation, and approval of a franchise agreement from the Kern County Board of Supervisors.

The EIR is relevant to the proposed project because it is located in the same general area as the proposed project and connects to the same Whirlwind electrical substation as the proposed project. Additionally, the EIR analysis includes an area proposed for an alternate Gen-Tie route for the area known as CUP 1 for the proposed project.

2.8 Sources

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

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Chapter 3
Project Description

3.1 Introduction

This Environmental Impact Report (EIR) has been prepared by Kern County (County), which is the CEQA Lead Agency, to identify and evaluate potential environmental impacts associated with implementation of the Rosamond South Solar Project (Project) on approximately 1,292 acres of privately-owned land. The Rosamond South Solar is a proposal by Golden Fields Solar IV, LLC, a subsidiary of Clearway Energy Group, LLC (Clearway) (project proponents/operators). The project proposes to develop and operate up to four photovoltaic (PV) solar facilities and associated infrastructure necessary to generate up to a total of approximately 165 megawatts (MW) of renewable electrical energy and up to 245 MW of energy storage using a battery energy storage system (BESS).

The proposed project consists of four closely located sites that would require approval of individual Conditional Use Permits (CUP). The sites include the following: CUP Area 1 (solar and energy storage under CUP No 16, Map No. 233 on 70.99 acres) CUP Area 2 (solar and energy storage under CUP No. 40, Map No. 232 on 240.58 acres), CUP Area 3 (solar and energy storage under CUP No. 46, Map No 232 on 541.16 acres), and CUP Area 4 (solar and energy storage under CUP No. 120 Map No 231 on 439.26 acres), a telecommunications tower under CUP No. 44 and Map 232. Collectively, these sites are referred to as the project site and collectively they would combine to generate up to a total of approximately 165 MW and up to 245 total MW of energy storage.

The four proposed facilities would be built either at the same time or alternatively in stages as demand is realized and when commercial contracts are issued and entered into for each site. The proposed project also would include a Battery Energy Storage System (BESS) with the capacity to store up to 245 MW. The BESS would be located within CUP Area 1 and occupy approximately 20 acres, or it would be located within four individual areas of approximately five-acres within each CUP area. Power generated by the proposed project would be transferred to existing and nearby substations by both existing and proposed transmission lines. The proposed and alternate routes for the proposed 230 kV and 34.5kV transmission lines would traverse public access easements and County roads, and as such, will require Franchise Agreement(s) with the County of Kern, as described below. The alternate route along Rosamond Boulevard west to Whirlwind substation was previously analyzed in the certified EIR for the Rosamond Solar Array Project, which was approved in 2014.

CUP Area 1:

- Via the existing and proposed 230kV overhead or underground line to the existing Southern California Edison (SCE) Whirlwind Substation along 170th Street West.
- Via a proposed or existing 230 kV overhead or underground line via an overhead or underground 230kV line from CUP Area 1 running north along 170th street, turning west and running along the south side of Rosamond Blvd, and tying into the SCE Whirlwind substation on the west side. The route along Rosamond Boulevard west to Whirlwind

substation was previously analyzed in the certified EIR for the Rosamond Solar Array Project, which was approved in 2014.

CUP Area 2:

- Via the proposed 230kV overhead or 34.5kV overhead line or underground lines to Teddy Substation along Holiday Avenue (exact route is to be determined), then
- Via the existing 230kV overhead line or new overhead or underground line to the existing SCE Whirlwind Substation

CUP Area 3:

- Via proposed high voltage 230kV overhead lines or medium voltage 34.5kV overhead lines or underground lines to Teddy Substation along Holiday Avenue (exact route is to be determined), then

  Via the existing 230kV overhead line to the existing SCE Whirlwind Substation.

CUP Area 4:

- Via the proposed 230kV line or 34.5kV overhead line or underground line to Teddy Substation along Holiday Avenue (exact route is to be determined), then
- Via the existing 230kV overhead line or new overhead or underground line to the existing SCE Whirlwind Substation.

Alternate gen-tie route would connect CUP Area 2, 3, and 4 via an overhead or underground 34.5 kV 230 kV line from CUP Area 4 running west along Gaskell Road, going north at 140th Street West, turning west at Rosamond Boulevard, and tying into the Whirlwind substation on the west side.

Another alternative gen-tie route would connect CUP Area 2, 3, and 4 via an overhead or underground 34.5 kV or 230 kV gen-tie line from CUP Area 4 running north along 100th Street West, turning west at Holiday Avenue, then north at 170th Street West, connecting directly to Whirlwind.

In addition to the solar arrays, BESS, and transmission lines, the project also would construct permanent facilities that would include, but are not limited to, service roads, a power collection system, combiners, inverter stations, transformer systems, overhead and buried conductors, generation tie (gen-tie) lines, electrical switchyards, substations, telecommunications tower, security fencing, and operations and maintenance facilities.

The project proponent also requests three amendments to the Willow Springs Specific Plan, and changes in zone classifications.

There is also a request to vacate nonsummary public access easements within the CUP area boundaries.

3.2 Project Location

The project site is located in southeastern Kern County and is approximately 11 miles west of the unincorporated community of Rosamond (see **Figure 3-1:** *Regional Location Map*). The proposed project is in the eastern high desert region of unincorporated Kern County. The project is in the

western extent of the Mojave Desert approximately 7.5 miles southwest of Mojave, California, within the western Antelope Valley and approximately 50 miles southeast of the city of Bakersfield. All CUP sites areas are located within Section 24 Township 9 North, Range 15 West and Sections 20, 21, 27, and 28, Township 9 North, Range 14 West, and Sections 30 and 31 Township 9 N Range 13W, San Bernardino Base and Meridian. **Figure 3-2**: *Site Vicinity*, shows the project in context of the region. Additionally, the project is within the Willow Springs Specific Plan.

Land uses in the region include a mix of undeveloped land, agriculture, residential, recreational and public facilities, and renewable energy projects (solar and wind). The project site is comprised of a total of 64 individual parcels. The Assessor Parcel Numbers (APNs), acres, zone districts and land use designations of the parcels are summarized in **Table 3-1**, *Project Assessor Parcel Numbers (APNs) – Specific Plan Map Code Designations and Zone Districts – Rosamond South Solar Project*, below.

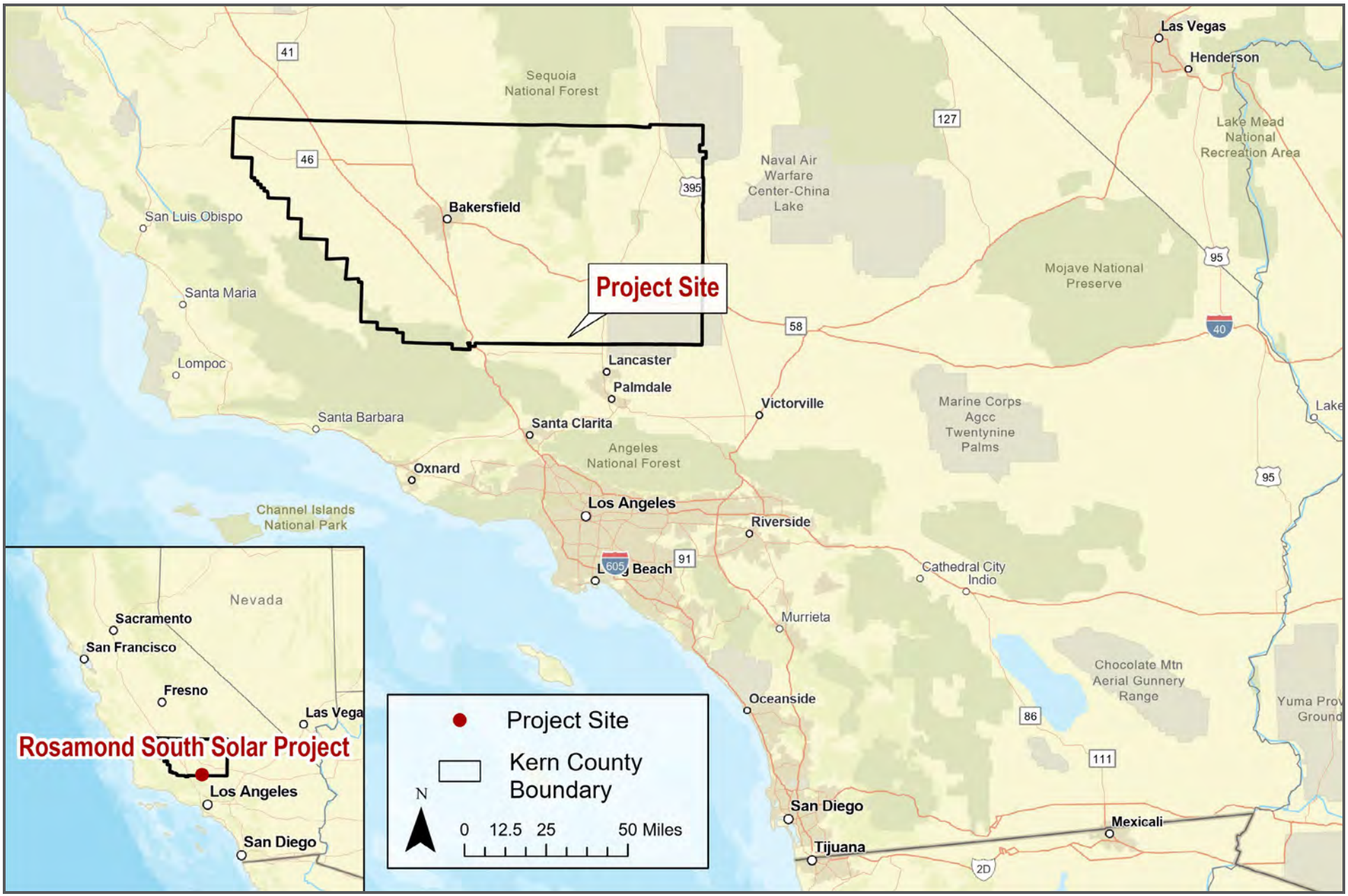
CUP Area 1 is directly accessed by Rosamond Boulevard, Holiday Avenue, and 170th Street west, and CUP Area 1 is generally bordered by 170th Street West on the west, an existing SCE transmission line easement to the south, and undeveloped land to the north and east.

CUP Area 2 is directly accessed via Holiday Avenue, and 140th Street West. CUP Area 2 is generally bordered by Holiday Avenue to the South, 140th Street West and undeveloped land to the west, Astoria Avenue, Rosamond Boulevard, and other solar uses to the north, 135th Street, undeveloped land, and solar uses to the east, and Holiday Avenue, undeveloped land, and solar uses to the south.

CUP Area 3 is directly accessed via Holiday Avenue, Gaskell Road, 140th Street West, and 120th Street West. CUP Area 3: is generally bordered by Gaskell Road and undeveloped land to the south, 140th Street West, and undeveloped land to the west, Willow Avenue, Holiday Avenue, and undeveloped land to the north, and 130th Avenue west and undeveloped land to the east.

CUP Area 4 is directly accessed via Gaskell Road, 100th Street West, and 90th West Street West. Paved and unpaved roadways generally following section lines are found throughout the area. CUP Area 4 is split from east to west by Gaskell Road and Kingbird Avenue, and is generally bordered by West Avenue A, undeveloped land and agricultural land to the south, 100th Street West, undeveloped, agricultural and rural residential use to the west, Buckhorn Avenue, undeveloped land, and rural residential uses to the north, and 90th West Street, undeveloped land, and rural residential uses to the east.

Desert vegetation dominates the proposed project site and region. Topography across the proposed project sites is relatively flat. The major north-south route in the region is State Route 14, a four-lane highway located approximately 8 miles east of the CUP Area 4 and approximately 14 miles east of CUP Area 1. The major east-west route near the proposed project is State Route 58, a four- lane highway located approximately 19 miles north of the proposed project CUP Areas near Tehachapi.



SOURCE: ArcGIS Pro

FIGURE 3-1: Regional Location Map

SOURCE: ArcGIS Pro

FIGURE 3-2: Site Vicinity

Table 3-1: Project Assessor Parcel Numbers (APNs) – Specific Plan Map Code Designations and Zone Districts – Rosamond South Solar Project

CUP Area	APN	Willow Springs Specific Plan-Existing Map Code Designation(s)	Willow Springs Specific Plan-Proposed Map Code Designation(s)	Existing Zone District(s)	Proposed Zone Districts	Acres
1	261-120-05	5.6; 5.6/2.6	5.6; 5.6/2.6	E(2 ½) RS FPS	A FPS	20.63
	261-120-06	5.6; 5.6/2.6	5.6; 5.6/2.6	E(2 ½) RS FPS	A FPS	20.68
	261-120-07	5.6; 5.6/2.6	5.6; 5.6/2.6	E(2 ½) RS FPS	A FPS	20.08
	261-120-09	5.6	5.6	E(2 ½) RS FPS	A FPS	9.60
Area 1 total acres: 70.99						
2	359-020-49	5.3/4.4; 5.3/4.4/2.6	5.3; 5.3/2.6	A FPS	A FPS	160.71
	359-100-05	5.7	5.7	E (5) RS FPS	A FPS	79.87
Area 2 total acres: 240.58						
3	359-175-05	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	78.48
	359-331-06	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	5.02
	359-331-07	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	5.02
	359-331-12	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	5.02
	359-331-13	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	5.02
	359-331-15	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	5.02
	359-331-16	8.1/2.85; 8.1/2.6/2.85	8.1/2.85; 8.1/2.6/2.85	A FPS	A FPS	20.07
	359-331-18	8.1/2.85; 8.1/2.6/2.85	8.1/2.85; 8.1/2.6/2.85	A FPS	A FPS	20.07
	359-331-20	5.7/2.85	5.7/2.85	E(5) RS FPS	A FPS	20.08
	359-331-21	5.7/2.85	5.7/2.85	E(5) RS FPS	A FPS	20.08
	359-331-22	5.7/2.85	5.7/2.85	E(5) RS FPS	A FPS	20.08
	359-331-23	5.7/2.85	5.7/2.85	E(5) RS FPS	A FPS	20.09
	359-332-01	5.7/2.6/2.85	5.7/2.6/2.85	E(5) RS FPS	A FPS	10.00
	359-332-02	5.7/2.6/2.85	5.7/2.6/2.85	E(5) RS FPS	A FPS	10.00
	359-332-03	5.7/2.85; 5.7/2.6/2.85	5.7/2.85; 5.7/2.6/2.85	E(5) RS FPS	A FPS	10.00
	359-332-04	5.7/2.85; 5.7/2.6/2.85	5.7/2.85; 5.7/2.6/2.85	E(5) RS FPS	A FPS	10.00
	359-332-05	5.7/2.85; 5.7/2.6/2.85	5.7/2.85; 5.7/2.6/2.85	E(5) RS FPS	A FPS	10.00
	359-332-06	5.7/2.85; 5.7/2.6/2.85	5.7/2.85; 5.7/2.6/2.85	E(5) RS FPS	A FPS	20.00

Table 3-1: Project Assessor Parcel Numbers (APNs) – Specific Plan Map Code Designations and Zone Districts – Rosamond South Solar Project

CUP Area	APN	Willow Springs Specific Plan-Existing Map Code Designation(s)	Willow Springs Specific Plan-Proposed Map Code Designation(s)	Existing Zone District(s)	Proposed Zone Districts	Acres
	359-332-07	5.7/2.85; 5.7/2.6/2.85	5.7/2.85; 5.7/2.6/2.85	E(5) RS FPS	A FPS	40.00
	359-332-09	5.7/2.85	5.7/2.85	E(5) RS FPS	A FPS	40.00
	359-332-10	5.7/2.85	5.7/2.85	E(5) RS FPS	A FPS	20.00
	359-332-11	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	5.02
	359-332-12	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	5.02
	359-332-16	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	2.50
	359-332-24	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	19.24
	359-332-30	5.7/2.85	5.7/2.85	E (5) RS FPS	A FPS	5.00
	359-332-31	5.7/2.85	5.7/2.85	E(5) RS FPS	A FPS	5.00
	359-332-35	5.7/2.85	5.7/2.85	E(5) RS FPS	A FPS	10.00
	359-401-02	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	5.00
	359-401-03	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	2.50
	359-401-05	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	2.50
	359-401-12	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	2.50
	359-401-15	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	2.50
	359-401-09	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	2.50
	359-401-16	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	5.01
	359-401-19	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	5.01
	359-401-20	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	4.24
	359-401-21	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	5.00
	359-401-22	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	5.00
	359-401-23	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	5.00
	359-402-11	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	10.0
	359-402-13	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	5.00
	359-402-14	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	5.00
	359-402-15	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	2.50
	359-402-16	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	2.50
	359-402-17	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	2.28
	359-402-18	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	2.28
	359-402-19	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	2.28

Table 3-1: Project Assessor Parcel Numbers (APNs) – Specific Plan Map Code Designations and Zone Districts – Rosamond South Solar Project

CUP Area	APN	Willow Springs Specific Plan-Existing Map Code Designation(s)	Willow Springs Specific Plan-Proposed Map Code Designation(s)	Existing Zone District(s)	Proposed Zone Districts	Acres
	359-402-20	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	2.28
	359-402-21	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	2.28
	359-402-22	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	2.28
	359-403-08	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	20.00
	359-403-09	5.6/2.85	5.6/2.85	E (2 ½) RS FPS	A FPS	20.00
Area 3 total acres: 541.16						
4	374-020-02	7.1/4.4; 7.2/4.4	7.1;7.2	E(2 ½) RS FPS	A FPS	165.00
	374-020-15	7.1/4.4	7.1	E(2 ½) RS FPS	A FPS	79.09
	374-020-16	7.2/4.4	7.2	E(2 ½) RS FPS	A FPS	79.09
	374-450-01	7.2/4.4	7.2	E(2 ½) RS FPS	A FPS	36.66
	374-460-12	5.6/2.85	5.6/2.85	E(2 ½) RS FPS	A FPS	75.00
Area 4 total acres: 439.26						
Proposed Solar Project Total Acreage 1291.99						

LEGEND

2.6= Erosion Hazard; 2.85 = Noise Management Area; 4.4 = Comprehensive Planning Area; 5.3 = Maximum 10 units/net acre; 5.6 = Minimum 2.5 gross acres/unit; 5.7 = Minimum 5 gross acres/unit; 6.2 = General Commercial; 7.1 = Light Industrial; 7.2 = Service Industrial; 8.1 = Intensive Agriculture

A = Exclusive Agriculture; E (2½) = Estate 2½ acres; E (5) = Estate 5 acres; FPS = Floodplain Secondary Combining; MH = Mobilehome Combining; RS = Residential Suburban Combining;

3.3 Project Objectives

The proposed project would provide Kern County, as well as the State of California, with a renewable energy source that would assist the State of California in complying with the Renewables Portfolio Standard (RPS) under Senate Bill 350 (2015). SB 350 requires that 50 percent of all electricity sold in the State to be generated from renewable energy sources by the year 2030. As further required by the State *CEQA Guidelines*, the specific objectives of the project are provided below:

- Assist the State of California in achieving or exceeding its Renewable Portfolio Standard (RPS), Senate Bill 350, Senate Bill 100, and the California Global Warming Solutions Act (Assembly Bill 32) and greenhouse gas emissions reduction objectives by developing and constructing new California RPS-qualified, solar power generation facilities.
- Develop a commercially viable solar power generation and battery storage facility that would support the economy by investing in the local community, creating local construction jobs, and increase tax and fee revenue to the County.
- Assist California in reducing its greenhouse gas (GHG) emissions as required by the California Global Warming Solutions Act.
- Provide a new source of energy storage that assists the state in achieving or exceeding its energy storage mandate (Assembly Bill 2514).
- Produce and transmit electricity at a competitive cost.
- Assist the County in achieving the goal in the Energy Element of its General Plan to develop large-scale solar energy development as a major energy source in the County.

3.4 Project Background

The project proponent, Golden Fields Solar IV, LLC, a subsidiary of Clearway Energy Group LLC, submitted applications for the Rosamond South Solar Project to the County that was deemed complete on October 16, 2020:

- Amendments to the Willow Springs Specific Plan as follows:
    - Specific Plan Amendment No. 40, Map No. 231 from map code designation 7.1/4.4 (Light Industrial, Comprehensive Planning Area) to 7.1 (Light Industrial) on approximately 247 acres and from map code designation 7.2/4.4 (Service Industrial, Comprehensive Planning Area) to 7.2 (Service Industrial) on approximately 118 acres;
    - Specific Plan Amendment No. 33, Map No. 232 from map code designation 5.3/4.4 (Residential Maximum 10 Units per Net Acre/Comprehensive Planning Area) to 5.3 (Residential, Maximum 10 Units per Net Acre) on approximately 80 acres and from map code designation 5.3/4.4/2.6 (Residential Maximum 10 Units per Net Acre/Comprehensive Planning Area/Erosion Hazard) to 5.3/2.6 (Residential Maximum 10 units per Net Acre/Erosion Hazard) on approximately 80 acres.
- Changes in zone classifications as follows:

  - Zone Change Case No. 157, Map No. 231 – From E(2 ½) RS FPS to A FPS on approximately 607 acres
  - Zone Change Case No. 43, Map No. 232 – From E(5) RS FPS to A FPS on approximately 330 acres
  - Zone Change Case No. 18, Map No. 233 – From E(2 ½) RS FPS to A FPS on approximately 96 acres

- Conditional Use Permits to allow for the construction and operation of four (4) solar facilities with a total generating capacity of approximately 165 megawatts-alternating current (MW-AC) of renewable energy (broken down by site, below), including up to 245 megawatts of energy storage (for all sites), within the A (Exclusive Agriculture) Zone Districts (in Zone Maps 231, 232, and 233) pursuant to Sections 19.12.030.G and 19.36.30.G, respectively, of the Kern County Zoning Ordinance:
  - CUP Area 1 (solar and energy storage) Conditional Use Permit No. 16, Map No. 233 for 70.99 acres
  - CUP Area 2 (solar and energy storage) Conditional Use Permit No. 40, Map No. 232 for 240.58 acres
  - CUP Area 3 (solar and energy storage) Conditional Use Permit No. 46, Map No. 232 for 541.16 acres
  - CUP Area 4 (solar and energy storage) Conditional Use Permit No. 120, Map No. 231 for 439.26 acres
  - CUP No. 44, Map No. 232- Telecommunication Tower
- Specific Plan Amendments to the Circulation Element of the Willow Springs Specific Plan to remove future road reservations on the section and mid-section lines within the project boundaries:
  - Specific Plan Amendment No. 31, Map No. 232
- Public Access Street Vacations
  - A portion of Kingbird Avenue from Kildeer Ave to 90th Street W
  - A portion of 90th Street W from Kingbird Ave extending approximately 800 feet south
  - A portion of Holiday Avenue from 130th Street W to 140th Street W
  - A portion of Willow Avenue from 130th Street W to 140th Street W
  - A portion of 130th Street W from Holiday Ave to Willow Ave
  - A portion of 140th Street W from Holiday Ave to Willow Ave
  - A portion of Sue Ave from 132nd Street W to 130th Street W
  - A portion of 126th Street W from Buckhorn Ave to Gaskell Road
  - Public assess easement running north of Gaskell Road created by Parcel Map 214

The County circulated the Notice of Preparation/Initial Study (NOP/IS) for the project from June 3, 2021, to July 3, 2021, and for which a public scoping meeting was held on Friday, June 25, 2021. No verbal comments were provided, but written comments were received from the California Department of Fish and Wildlife (CDFW), Kern County Public Health Service – Environmental Health Division, Kern County Public Works – Building and Development Survey, California Native Plant Society, Defenders of Wildlife, Kern Audubon Society, and five individuals [Chi-Lin (Jenny) Shiao, Barbara Schultz, Williams Chavez, Kathleen and James Watson, and Jason Jones]. **Table 2-1**: Summary of IS/NOP Comments, in Section 2.0, *Introduction* provides a summary of the comments and the complete letters are provided in Appendix A.

3.5 Environmental Setting

The proposed project is located on approximately 1,292 acres of generally undeveloped land with the exception of a single-family residence and outbuildings in CUP Area 2 and outbuildings in CUP Area 4. The proposed project is located on privately owned land in the western extent of the Mojave Desert, approximately 11 miles west of the unincorporated community of Rosamond, California. The proposed project is in the Mojave Basin and Range ecoregion CUP Areas 1, 2, and part of 3 are located within the Fairmont Butte USGS Quadrangle; the balance of CUP area 3 and CUP area 4 are located within the Little Butte USGS Quadrangle (USGS 2018a; USGS 2018b). Development in the area surrounding the project sites includes rural residences, agriculture, as well as renewable energy (solar and wind) facilities.

As discussed above, the area within the project site and surrounding vicinity is composed of a mix of undeveloped land, agricultural land, rural residential development, as well as existing solar and wind electrical generation facilities and transmission infrastructure. Desert vegetation and agricultural fields dominate the region. The most prevalent habitat type on the project site is Annual Grassland, which covered approximately two thirds of the project footprint and by Desert Scrub that covers most of the remaining habitat type within the project site. Scattered, widely spaced Joshua trees occur throughout portions of the creosote bush scrub communities present within the project site.

The foothills of the Tehachapi Range occur approximately 14 miles north of the proposed project, and the Central Transverse Range occurs approximately 12 miles west and southwest of the project site. The proposed project and surrounding land are in a relatively flat-lying plain and exhibit little topographic variation.

Existing development in the area includes rural access roads, scattered rural residences, off-highway vehicle use, and wind and solar energy.

There are several planned, existing, and permitted solar energy and transmission projects in the region and in proximity to the project site. In addition, there are several existing, planned, and permitted solar energy and transmission projects adjacent to the project site. These projects include AVEP, Antelope Valley Solar, Big Beau Solar Project, Kingbird Photovoltaic Project, RE Astoria Solar Project, Raceway Solar Project, Rosamond Solar Array, Antelope Valley Phases 1 & 2, Willow Springs Solar Array, and Rosamond Central Solar Project

A list of existing, approved and pending projects in the vicinity of the project is provided at the end of this chapter in **Section 3.10,** *Cumulative Projects.*

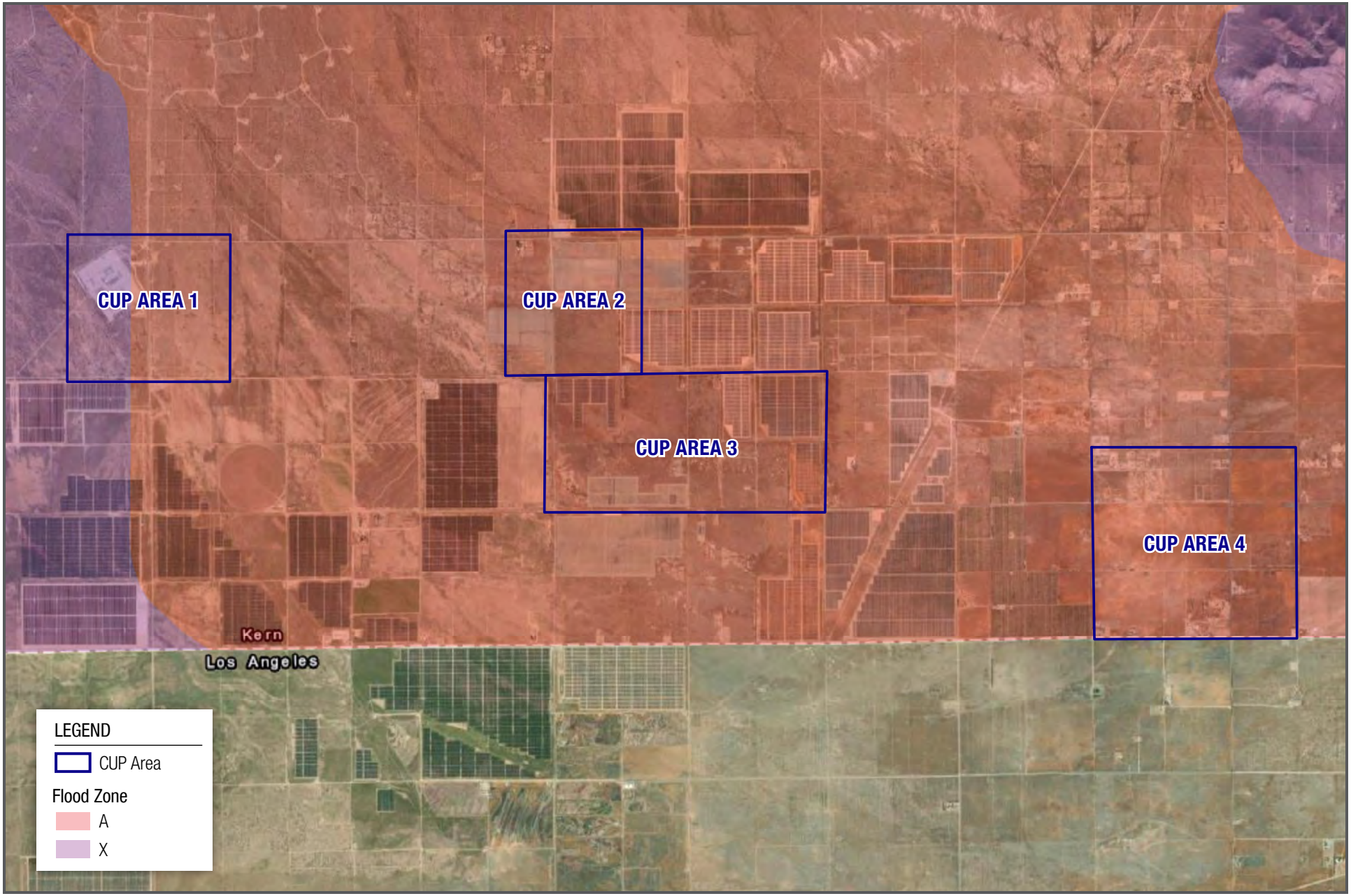
The proposed project is located entirely within a Federal Emergency Management Agency (FEMA) designated Flood Zone, as depicted in **Figure 3-3:** *Flood Zone Map*. The entirety of the project footprint is located within mapped Zone A (100-year 1% annual chance of flooding) flood hazard area on FEMA's Flood Insurance Rate Maps (FIRM) (Westwood, 2020). The project is located on flat terrain at the base of steep mountain slopes, with the project area situated on slopes of up to 2%. The entire site drains from west to east towards the wash south of the Rosamond community. There are several drainage routes on the proposed project sites. The drainage routes are isolated episodic or ephemeral waters, which typically only flow for brief periods in response to rainfall.

Based on a review of records maintained by the California Department of Conservation (DOC), Geologic Energy Management Division (CalGEM) [formerly Division of Oil, Gas and Geothermal Resources (DOGGR)], wells were not identified on the proposed project sites, and the proposed project is not within the jurisdictional boundaries of an oil field (CalGEM, 2021).

The proposed project would be served by the Kern County Sheriff's Office for law enforcement and public safety. The closest sheriff station is the Rosamond Station, located east of the project, at 3179 35th Street West in Rosamond. The station is approximately 14 miles from CUP Area 1, 11 miles from CUP Areas 2 and 3, and 8 miles from CUP Area 4. The Kern County Fire Department (KCFD) provides fire protection and emergency medical and rescue services for the project area. The closest KCFD fire station is located approximately east of the project at 3219 35th Street West in Rosamond at similar distances as noted above. The closest school is Tropico Middle School, located approximately 4.5 miles east of CUP Area 4. The nearest hospital is the Adventist Health Tehachapi Valley Hospital, located approximately 18 to 20 miles to the north of the project in Tehachapi.

The closest airport is Rosamond Skypark, which is located approximately nine miles east of the project site. The closest military base is Edwards Air Force Base, approximately 30 miles to the east of the project site. None of the project site or associated infrastructure, including gen-tie lines, is located within any airport influence area.

According to the DOC Farmland Mapping and Monitoring Program (FMMP) 2018 Important Farmland map for east Kern County, there are no agricultural lands designated as Prime Farmland, Unique Farmland, Unique Farmland, or Farmland of Statewide Importance located within the project site. CUP Areas 1, 2, and 3 are designated as Nonagricultural and Natural Vegetation and CUP Area 4 is designated as Grazing Land, Nonagricultural or Natural Vegetation, and Semi-Agricultural and Rural Commercial Land (DOC 2018). Parcels within the project boundary and in the vicinity are not subject to a Williamson Act Land Use contract.



Source: FEMA, 2021

N.T.S.

FIGURE 3-3: Flood Zone Map

3.6 Land Use and Zoning

Willow Springs Specific Plan Map Code Designations and Zone Districts

The existing Willow Springs Specific Plan map code designations are shown in for the CUP Areas are shown in **Figure 3-4a:** *CUP Area 1 Existing Willow Springs Specific Plan Designations,* **Figure 3-4b:** *CUP Area 2 and 3 - Existing Willow Springs Specific Plan Designations,* **Figure3- 4c**: *CUP Area 4 – Existing Willow Springs Specific Plan Designations.* These include the following: The proposed project is located within unincorporated Kern County and is currently designated as Willow Springs Specific Plan map codes:

- 5.3/4.4 (Residential Maximum 10 Units per Net Acre/Comprehensive Planning Area;
- 5.3/4.4/2.6 (Residential Maximum 10 Units per Net Acre/Comprehensive Planning Area/Erosion Hazard);
- 5.6 (Residential Minimum 2.5 Gross Acres per Unit);
- 5.6/2.6 (Residential Minimum 2.5 Gross Acres per Unit/Erosion Hazard);
- 5.6/2.85 (Residential Minimum 2.5 Gross Acres per Unit/Noise Management Area);
- 5.7 (Minimum 5 gross acres/unit)
- 5.7/2.6 (Residential Minimum 5 Gross Acres per Unit/Erosion Hazard);
- 5.7/2.6/2.85 (Residential Minimum 5 Gross Acres per Unit/Erosion Hazard/Noise Management Area);
- 7.2/4.4 (Service Industrial/Comprehensive Planning Area;
- 8.1/2.85 (Intensive Agriculture, Minimum 20 Acre Parcel Size/Noise Management Area(606db));
- 8.1/2.6/2.85 (Intensive Agriculture, Minimum 20 Acre Parcel Size/Erosion Hazard/Noise Management Area).

The proposed project would include two Specific Plan Amendments to the Willow Springs Specific Plan. Changes to the specific plan land use designations are shown on **Figure 3-5a** – *CUP Area 1 Proposed Willow Springs Specific Plan Designations,* and **Figure 3-5b** - *CUP Areas 2 and 3 Proposed Willow Springs Specific Plan Designations.* No changes to CUP Area 4 are proposed.

The two Specific Plan Amendment No. 33, Map No. 232 include:

- Changing map code designation 5.3/4.4 (Residential Maximum 10 Units per Net Acre/Comprehensive Planning Area) to 5.3 (Residential, Maximum 10 Units per Net Acre) on approximately 80 acres, and
- Changing map code designation 5.3/4.4/2.6 (Residential Maximum 10 Units per Net Acre/Comprehensive Planning Area/Erosion Hazard) to 5.3/2.6 (Residential Maximum 10 units per Net Acre/Erosion Hazard) on approximately 80 acres.

The project proponent proposes an amendment to the Willow Springs Specific Plan Circulation Element to remove future road reservations along a portion of the East/West and North/South midsection line of Section 21, T9N R14W within the project boundaries.

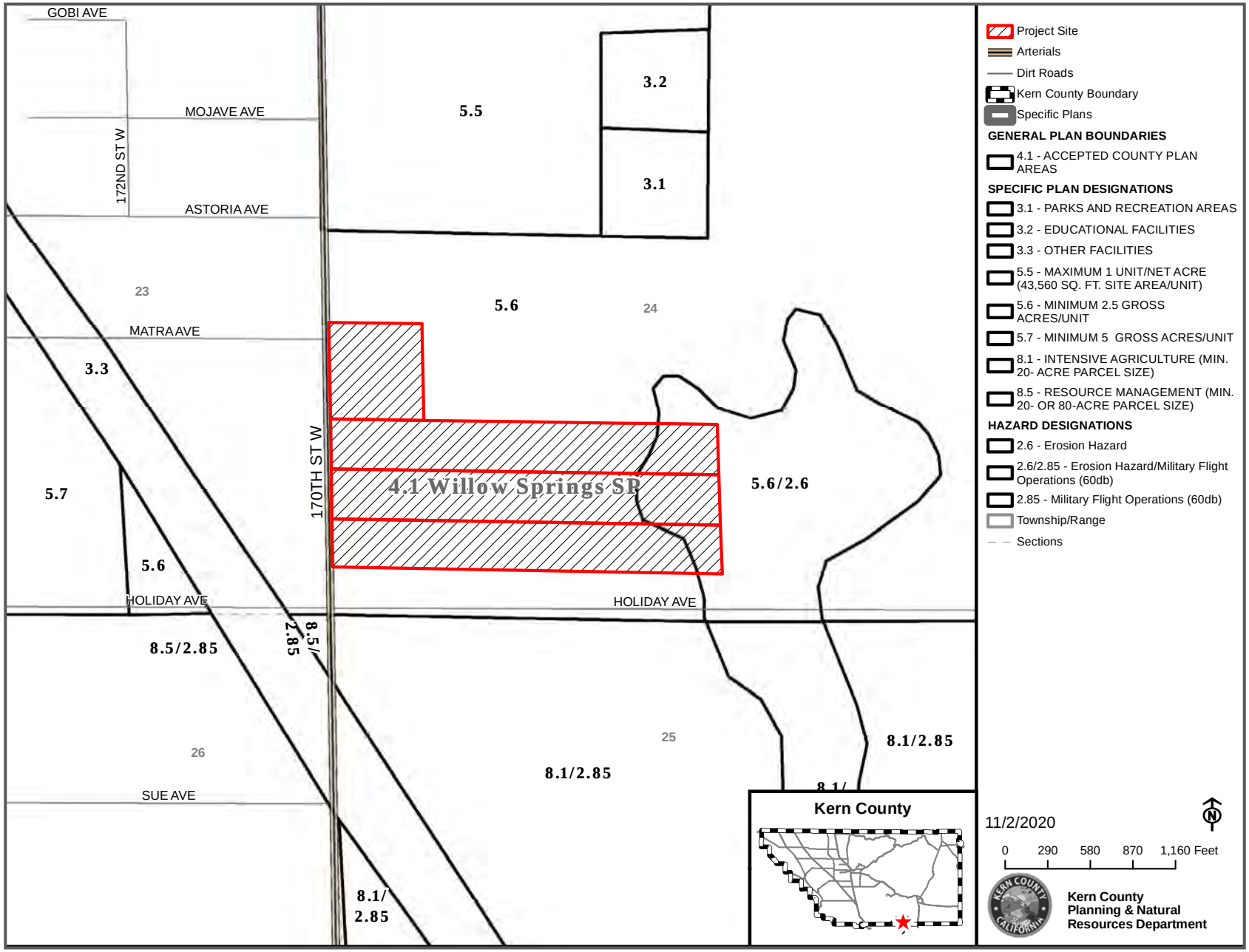


FIGURE 3-4a: CUP Area 1 Existing Willow Springs Specific Plan Designations

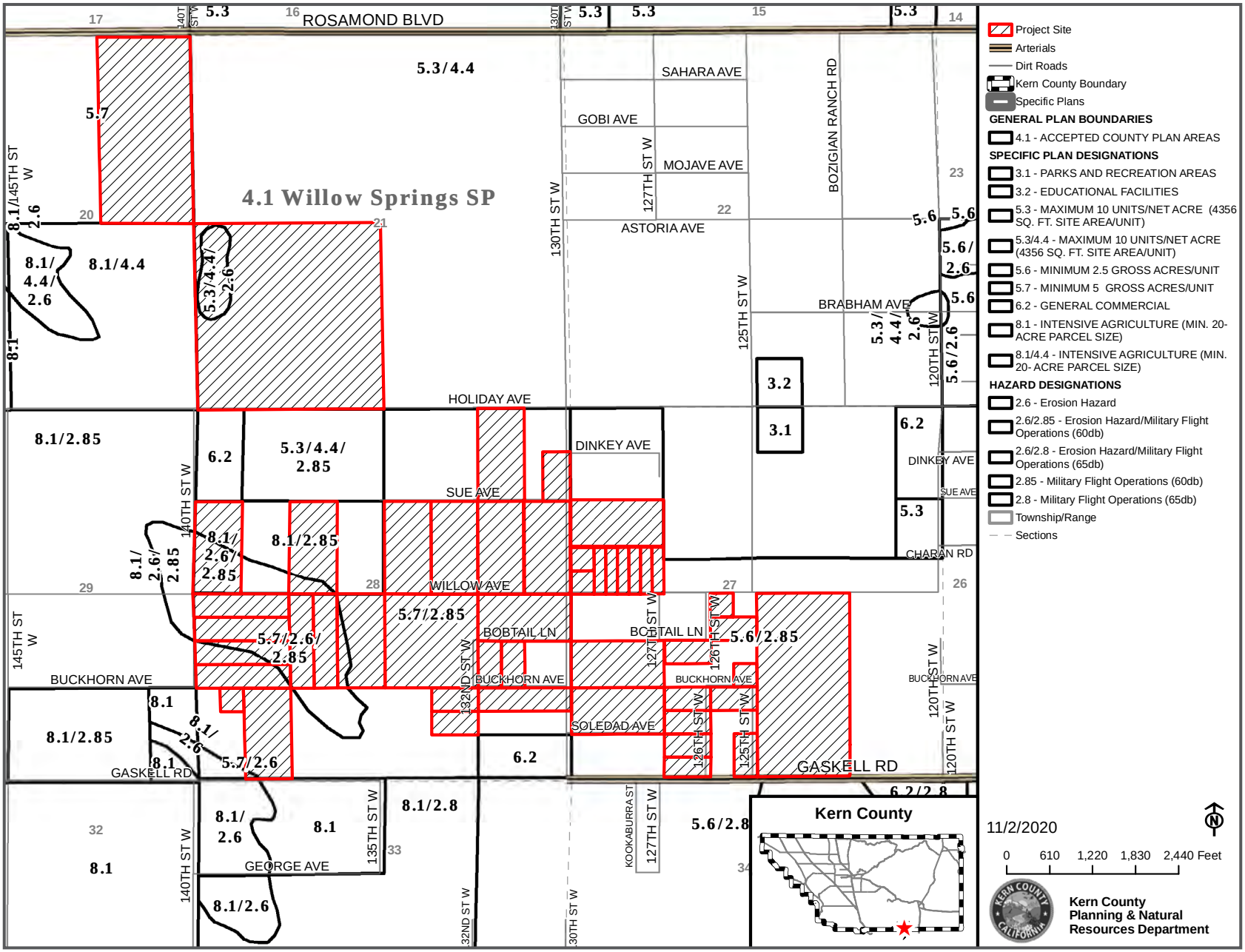


FIGURE 3-4b: CUP Area 2 and 3 Existing Willow Springs Specific Plan Designations

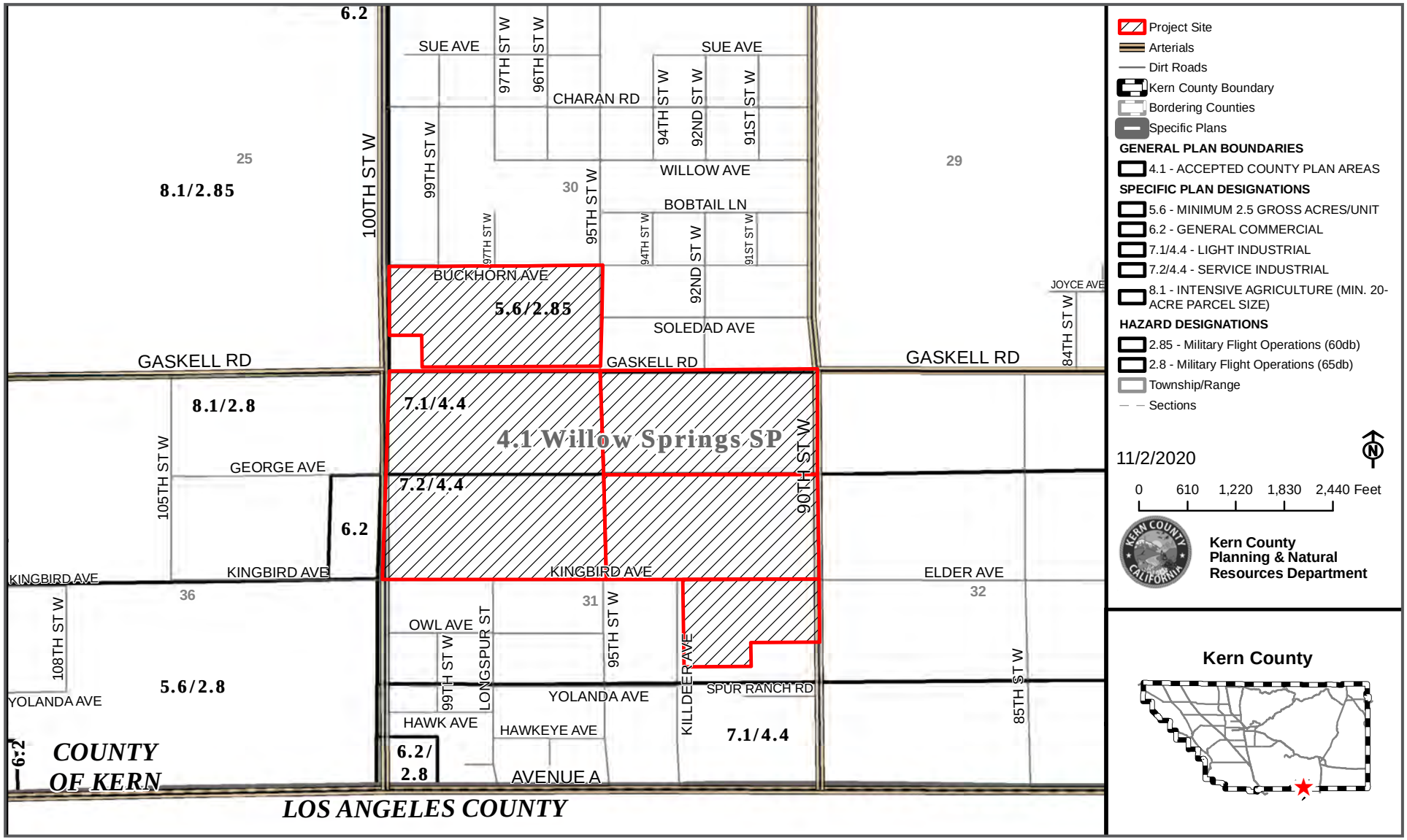


FIGURE 3-4c: CUP Area 4 Existing Willow Springs Specific Plan Designations

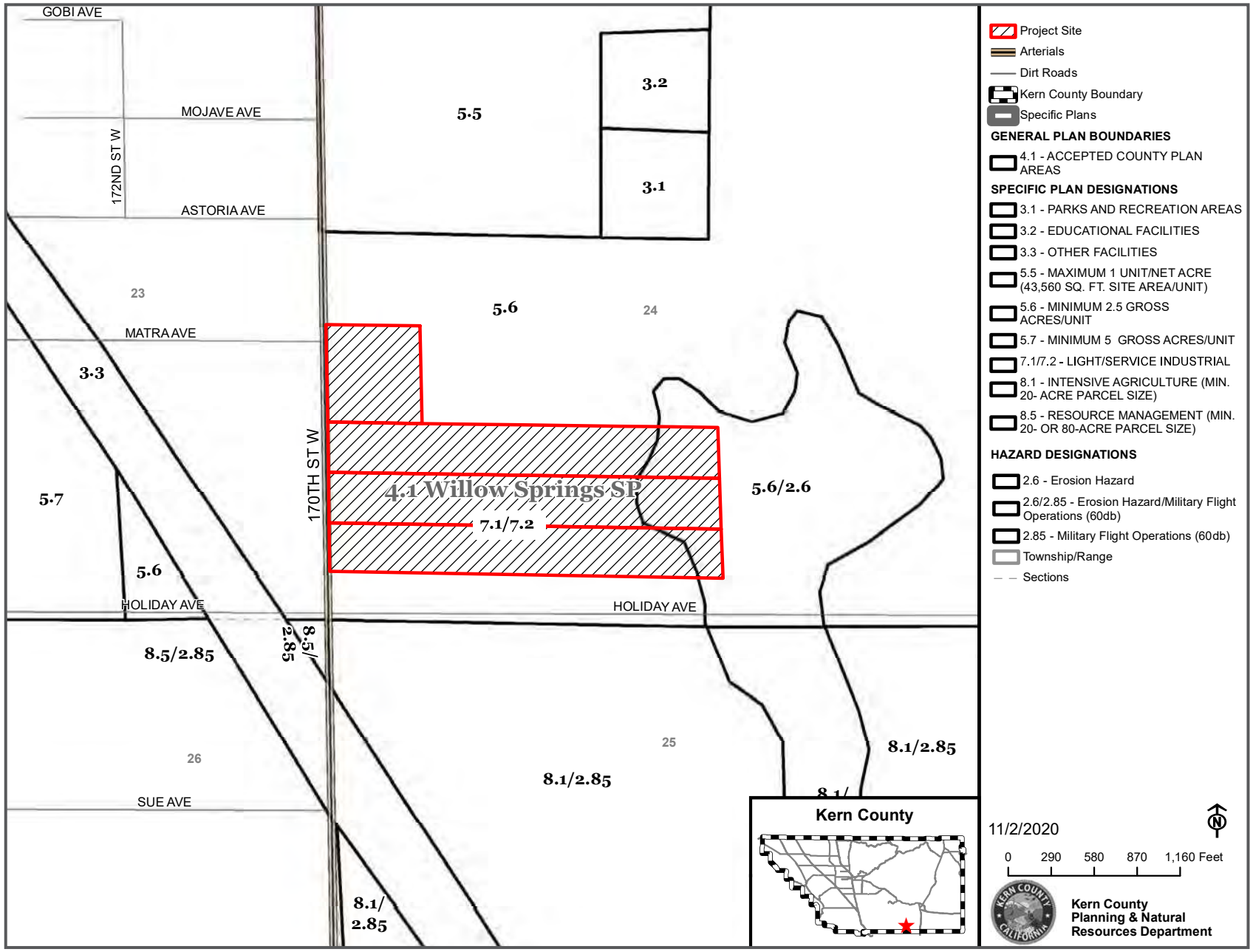


FIGURE 3-5a: CUP Area 1 Proposed Willow Springs Specific Plan Designations

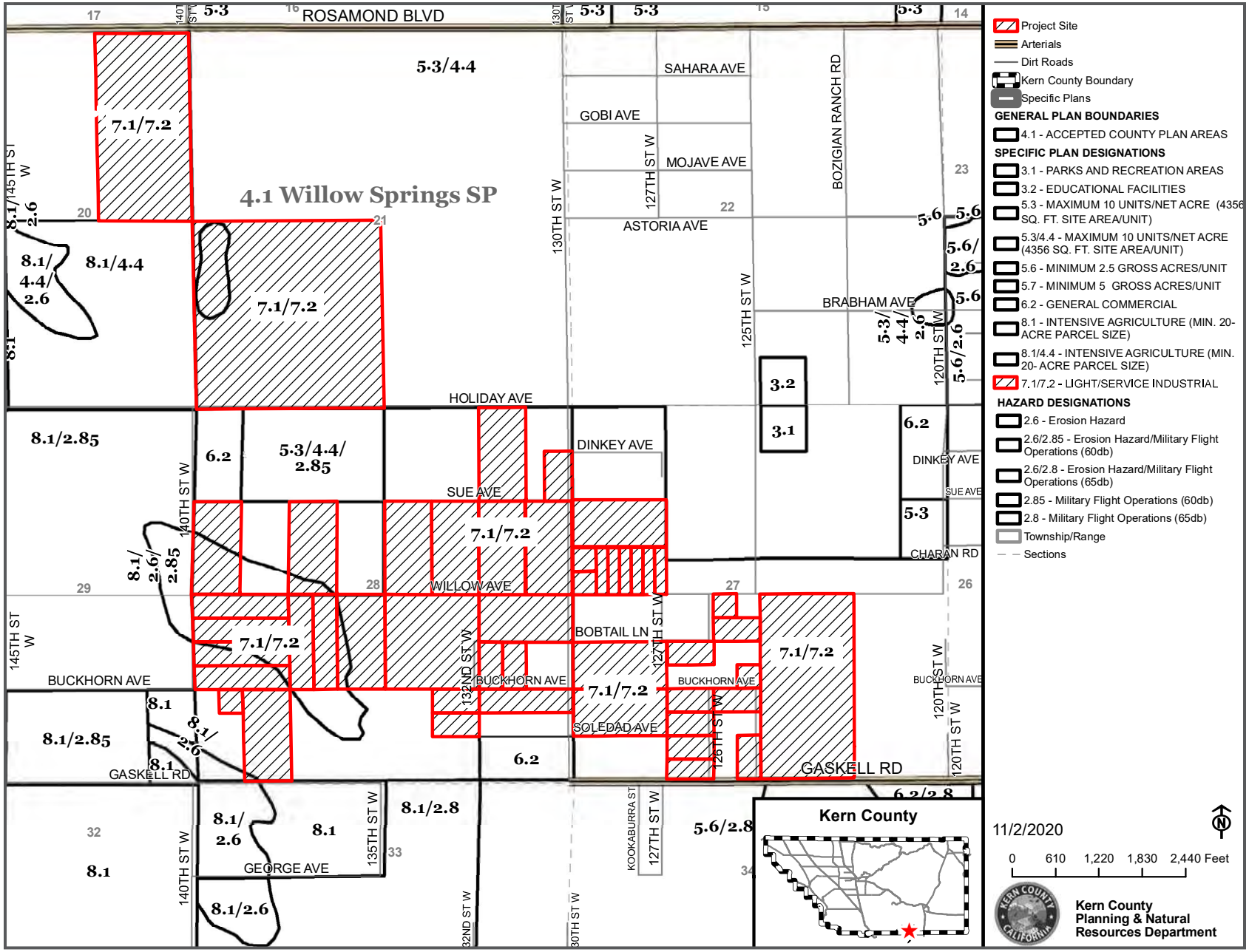


FIGURE 3-5b: CUP Area 2 and 3 Proposed Willow Springs Specific Plan Designations

The proposed Circulation Element future road reservations to be removed are shown in **Figure 3-6a:** *Proposed Future Road Reservations to be Removed from the Willow Springs Specific Plan Circulation Element.* The amendment is included to the project as a part of Specific Plan Amendment No. 31, Map No. 232.

Non-summary vacations of public access easements are also proposed by the project proponent which include the following:

- Nonsummary street vacations of portions of public access easements located within Sections 27 & 28, T9N, R14W, SBB&M in Zone Map No. 232.
- Nonsummary street vacations of portions of public access easements located within Section 31, T9N, R13W, SBB&M in Zone Map No. 231

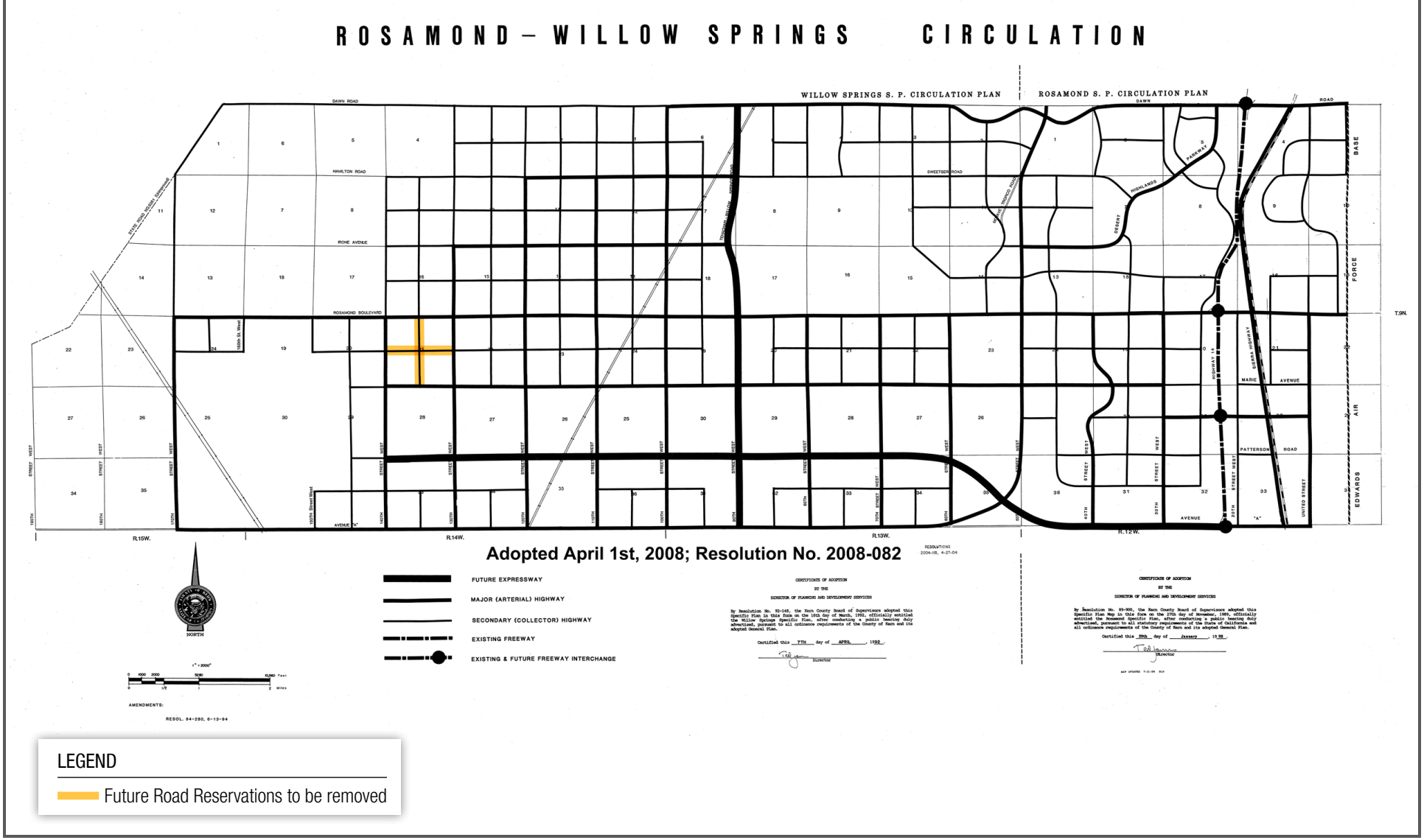
The locations of the proposed non-summary vacations are shown in **Figure 3-6b: Zone Map 232 Proposed Nonsummary Street Vacations**, and **Figure 3-6c: Zone Map 231 Proposed Nonsummary Street Vacations.**

Kern County Zoning Ordinance

The existing land uses of the project and its surroundings are listed in **Table 3-2**, *Project Sites and Surrounding Land Uses*, below.

The entire project is also subject to the provisions of the Kern County Zoning Ordinance and is zoned as specified in **Table 3-1**, *Project Assessor Parcel Numbers (APNs) – Specific Plan Map Code Designations and Zone Districts – Rosamond South Solar Project.* The existing zoning for the project site is shown for the CUP Areas in **Figure 3-7a:** *CUP Area 1 Existing Zoning,* **Figure 3-7b**: *CUP Area 2 and 3 - Existing Zoning,* and, **Figure 3-7c:** *CUP Area 4 – Existing Zoning*.

The proposed project would include changes to the zoning that are shown on **Figure 3-8a:** *CUP 1 Proposed Zoning*, **Figure 3-8b:** *CUP Areas 2 and 3 Proposed Zoning*, and **Figure 3-8c:** *CUP Area 4 Proposed Zoning*.



Source: Willow Springs Speci ic Plan, 2008

FIGURE 3-6a: Proposed Future Road Reservations to be Removed from the Willow Springs Specific Plan Circulation Element

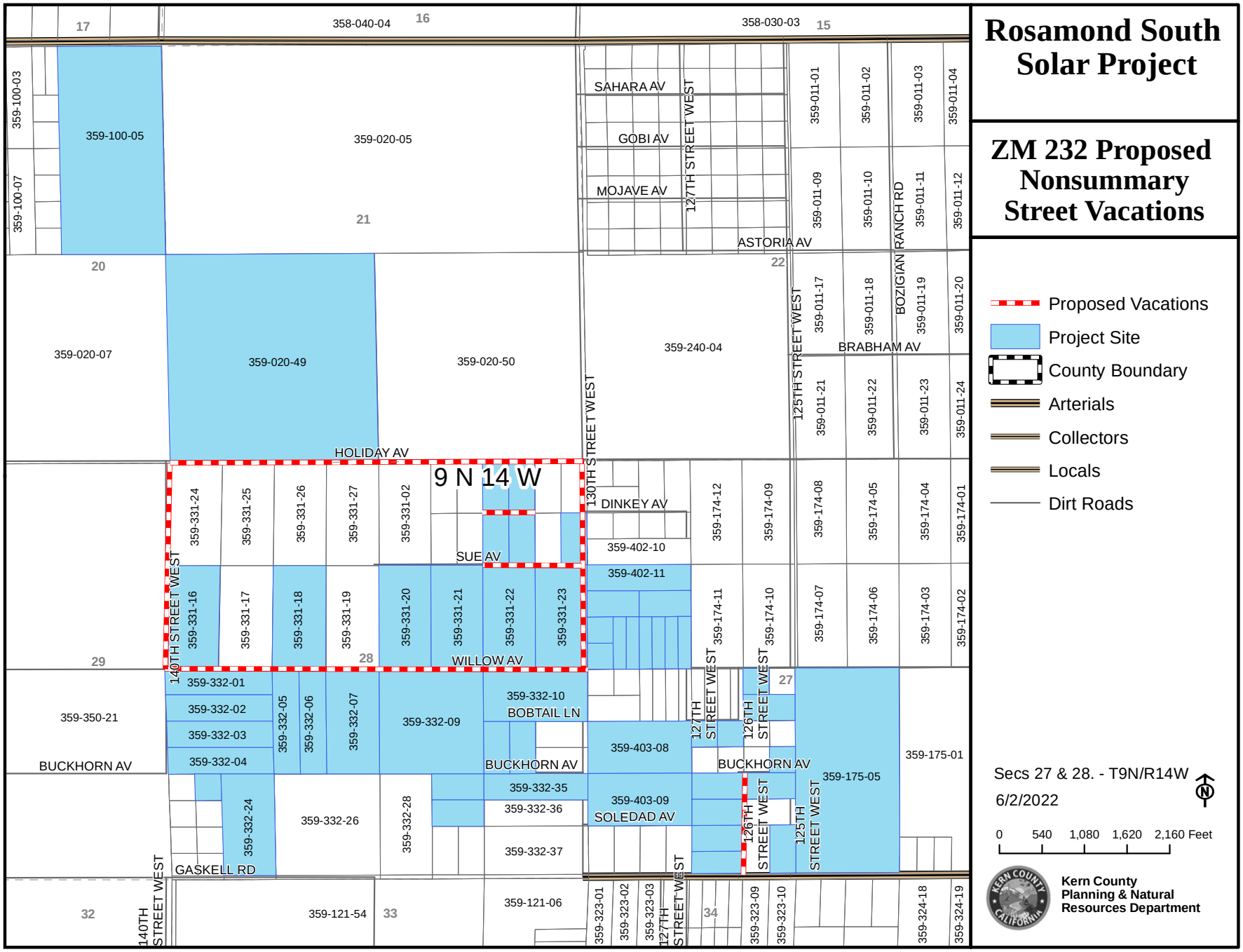


FIGURE 3-6b: Zone Map 232 Proposed Nonsummary Street Vacations

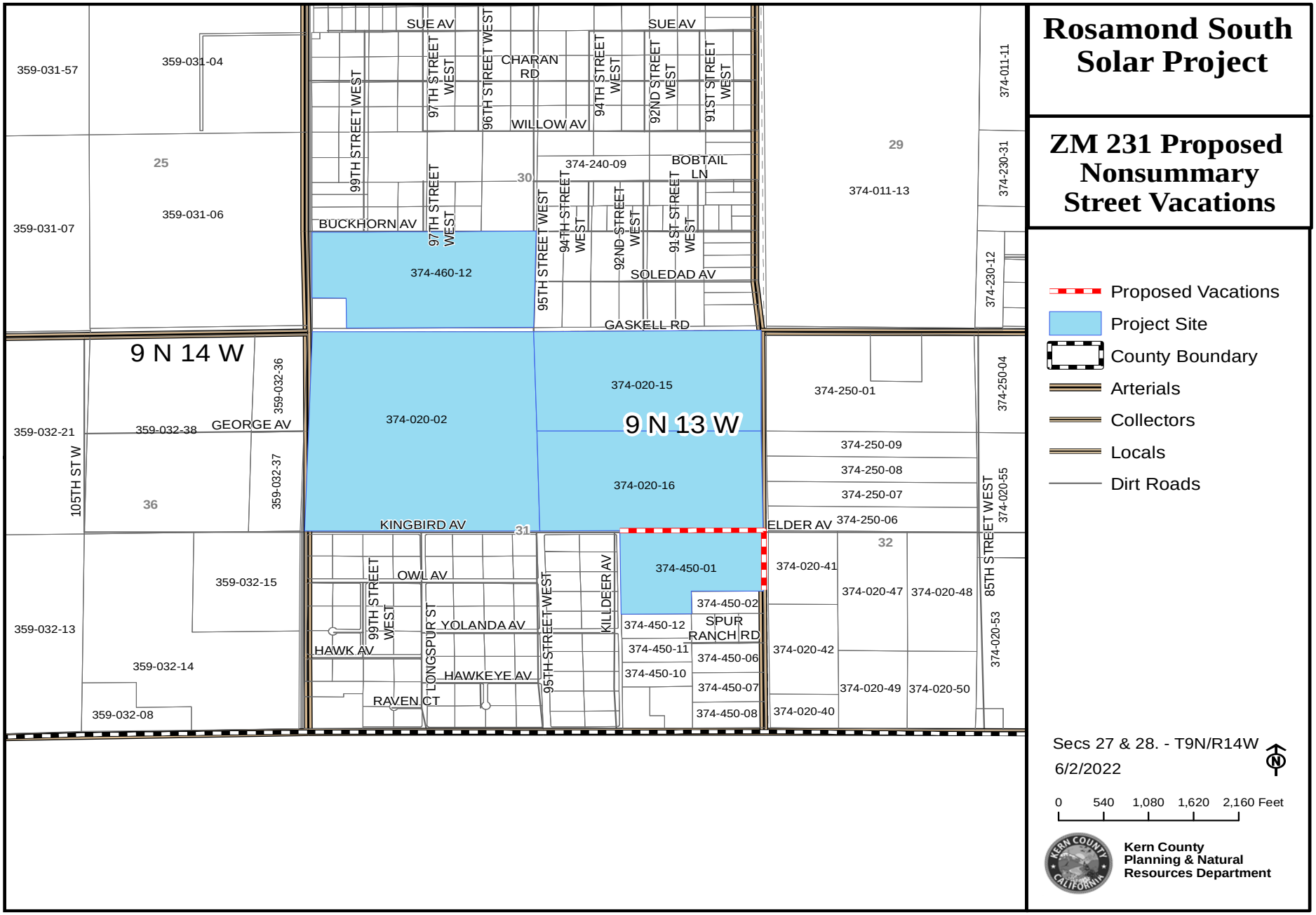


FIGURE 3-6c: Zone Map 231 Proposed Nonsummary Street Vacations

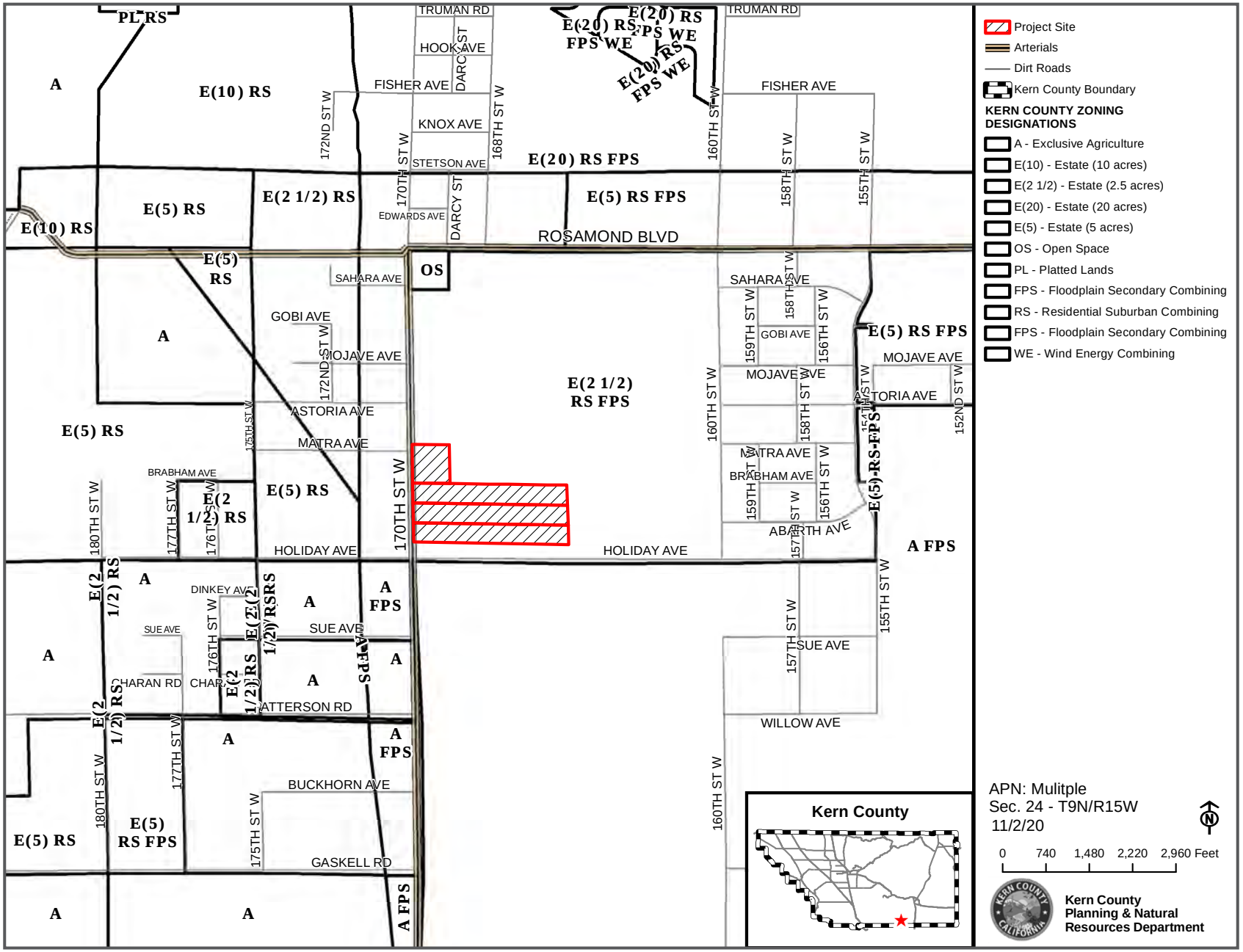


FIGURE 3-7a: CUP Area 1 Existing Zoning

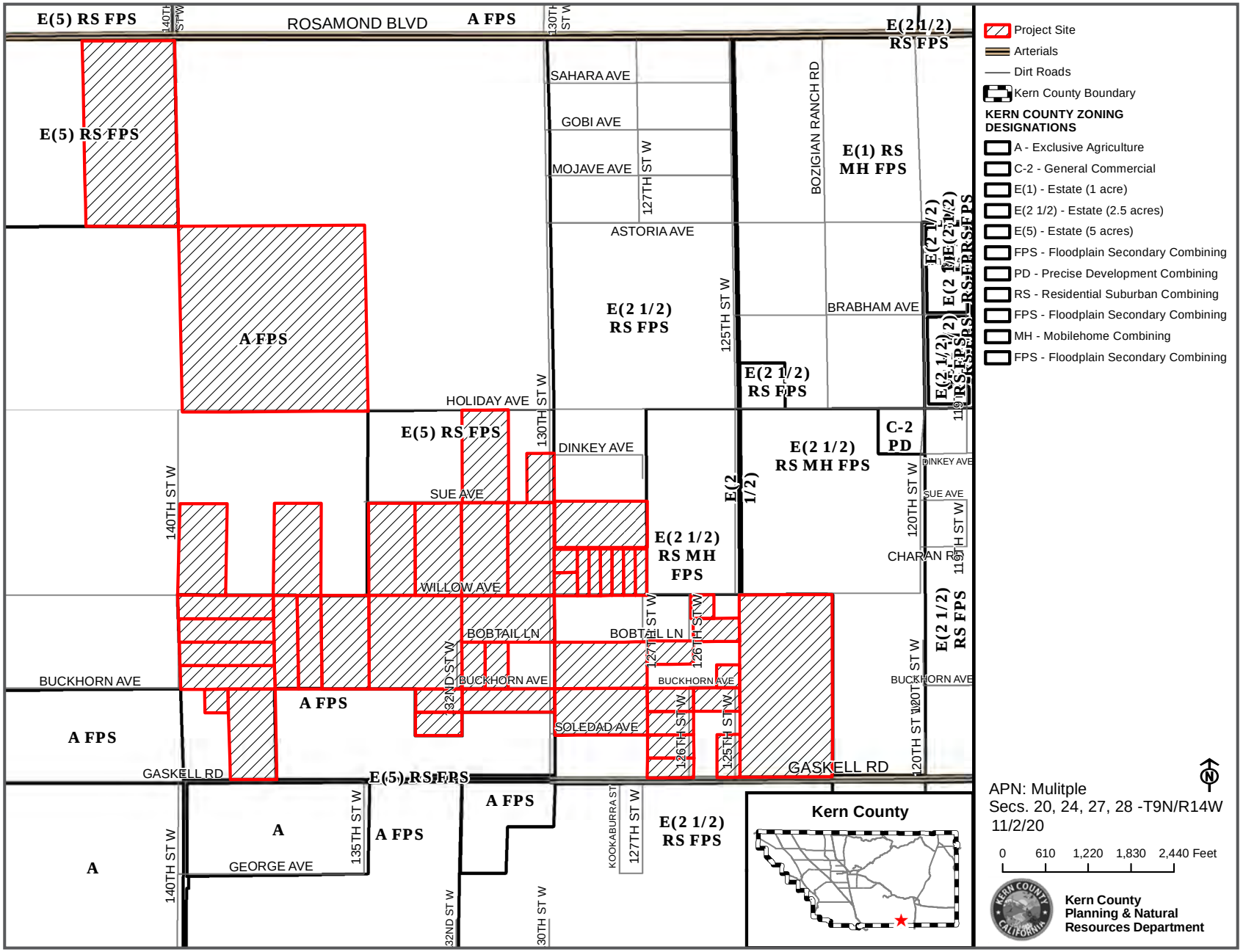


FIGURE 3-7b: CUP Area 2 and 3 Existing Zoning

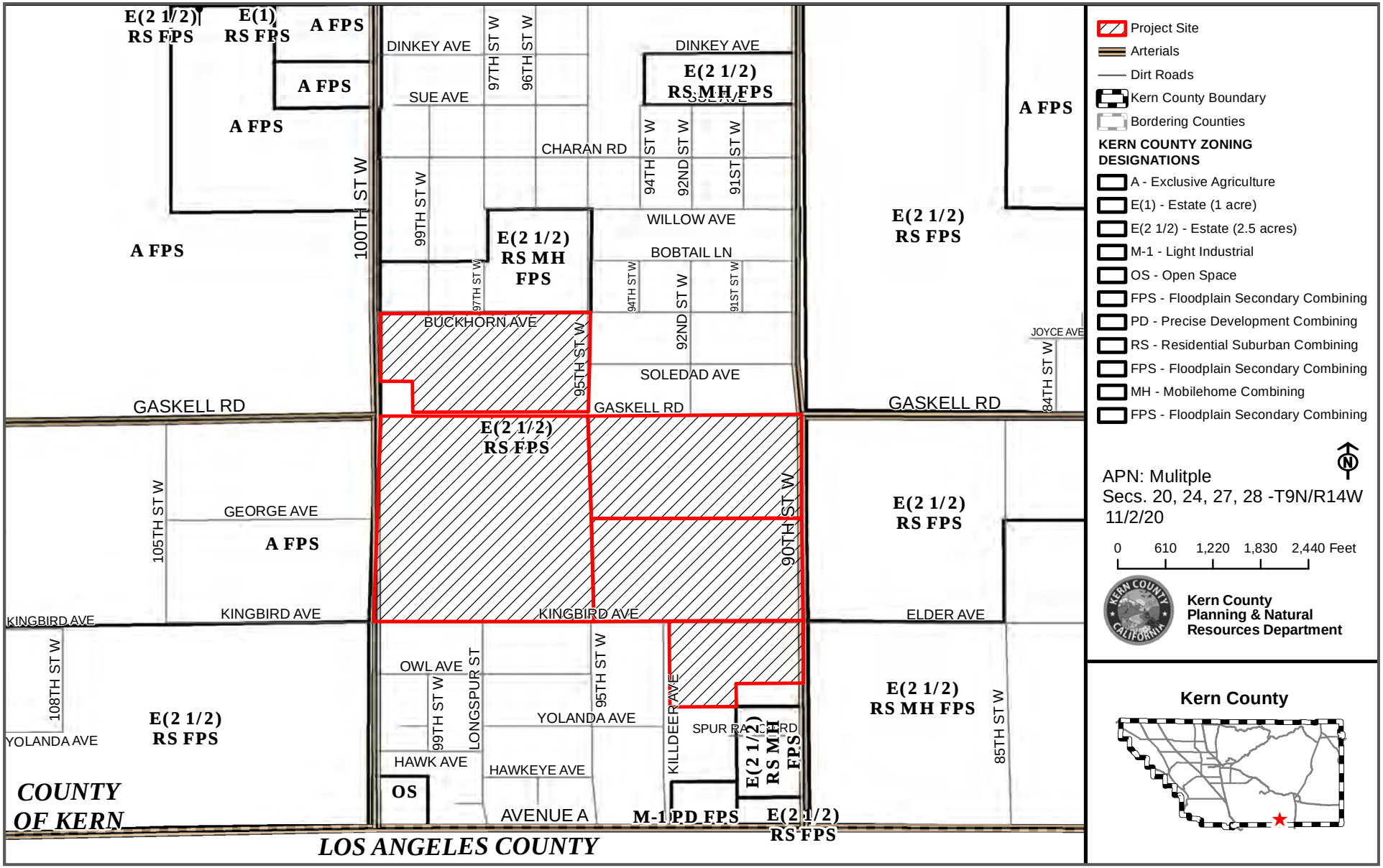


FIGURE 3-7c: CUP Area 4 Existing Zoning

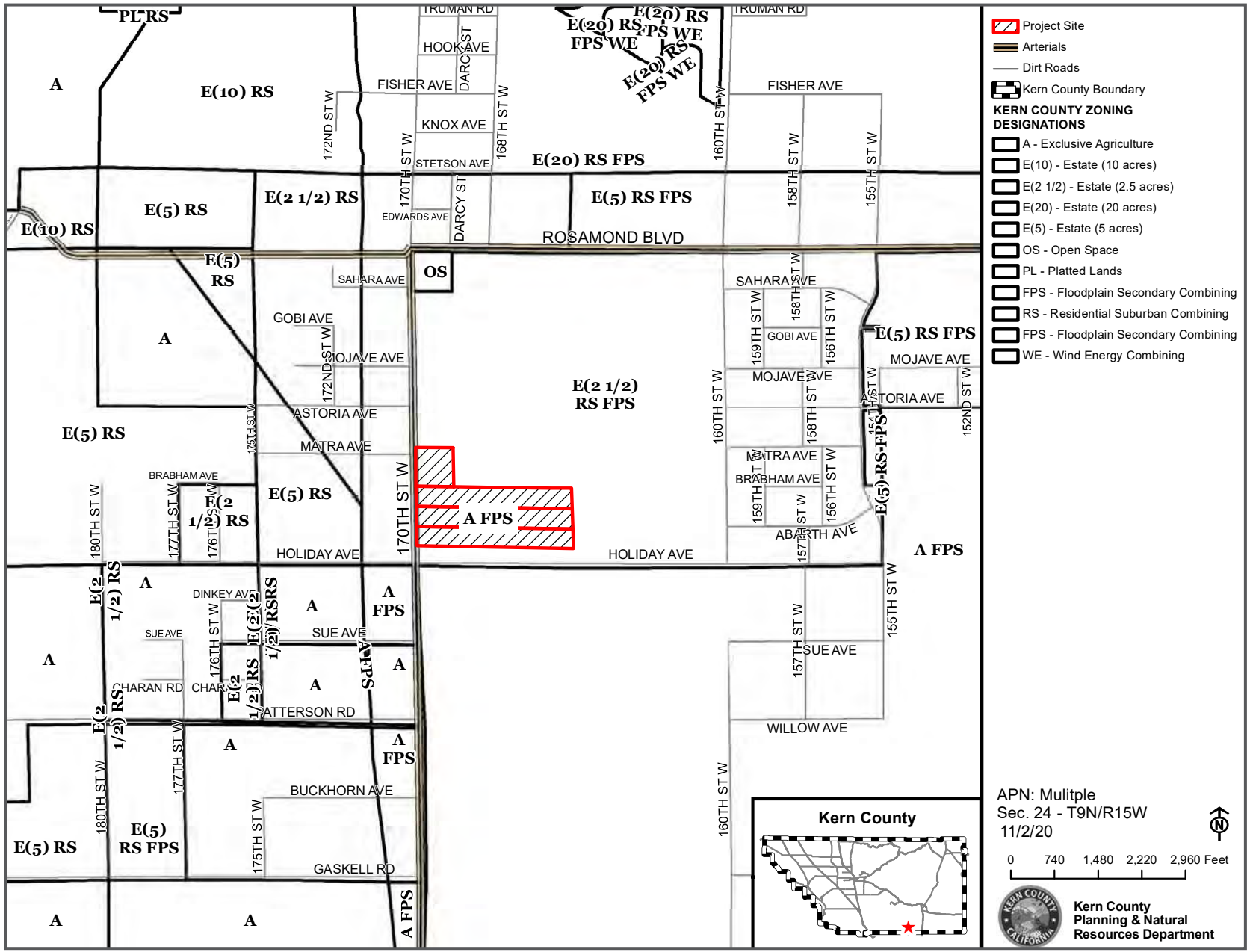


FIGURE 3-8a: CUP Area 1 Proposed Zoning

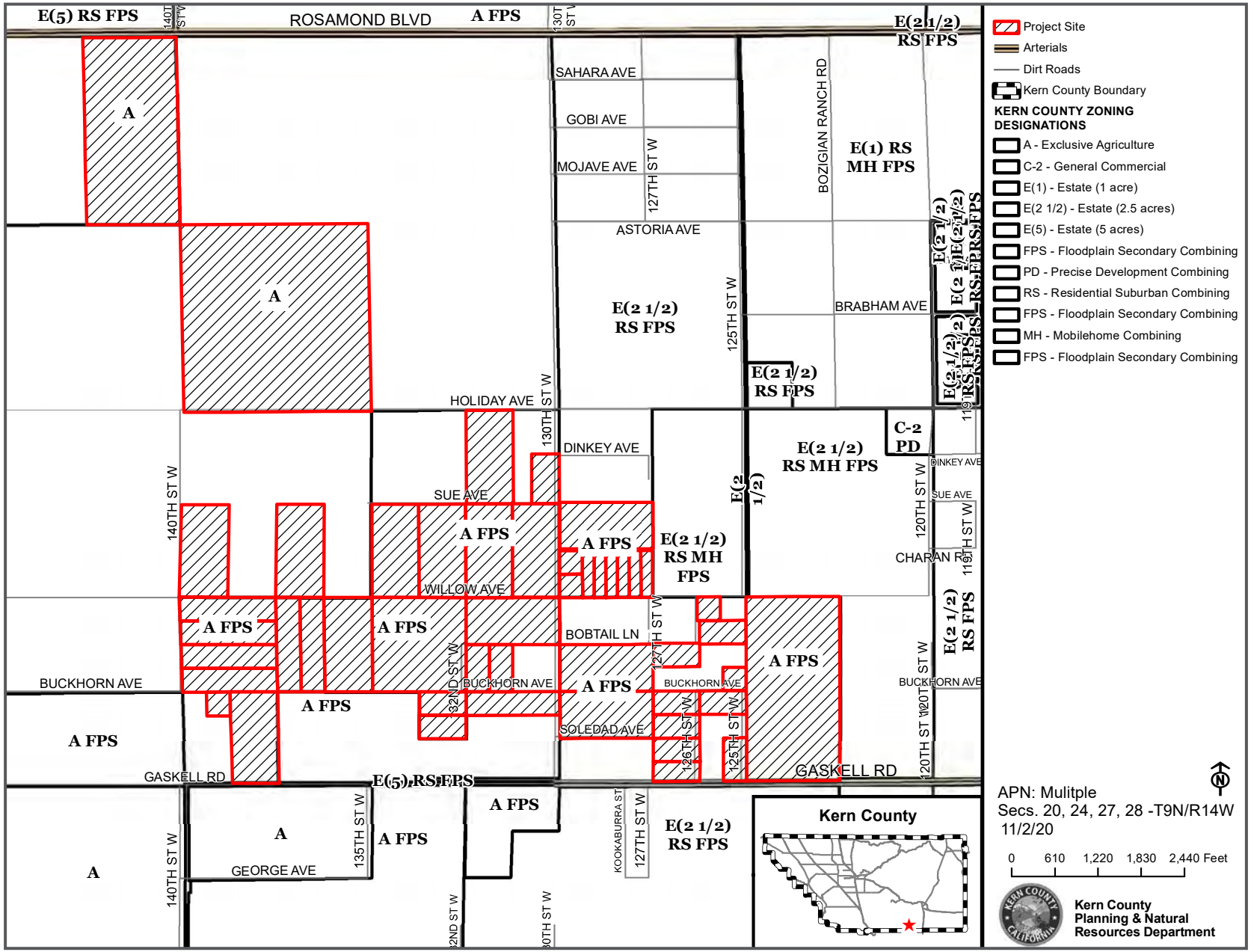


FIGURE 3-8b: CUP Area 2 and 3 Proposed Zoning

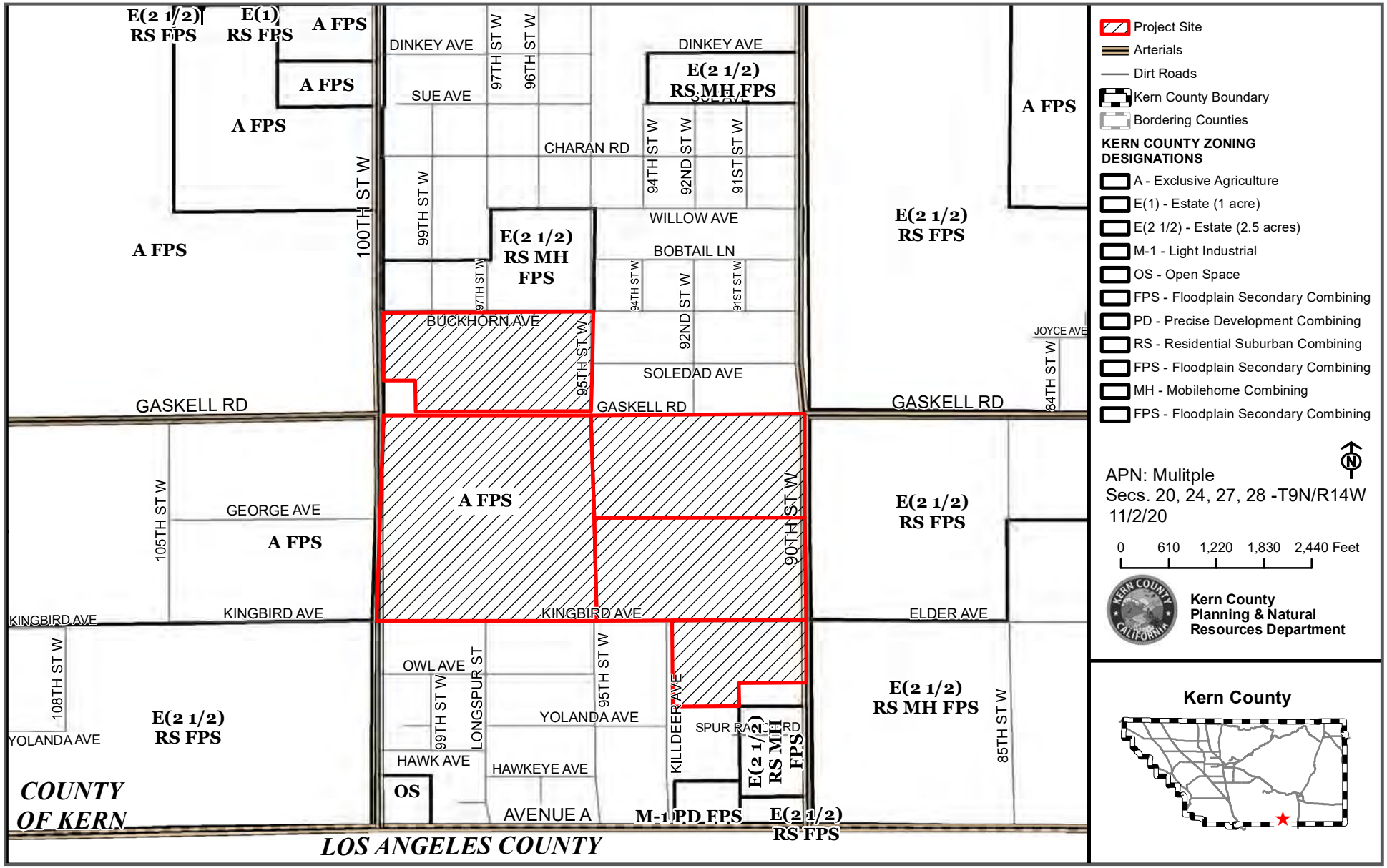


FIGURE 3-8c: CUP Area 4 Proposed Zoning

Table 3-2: Project Sites and Surrounding Land Uses

	Existing Land Use	Existing Map Code Designation	Existing Zoning Classification
CUP Area 1	**Undeveloped**	**5.6, 5.6/2.6,**	**E(2½) RS FPS**
North	Undeveloped	5.6	E(2½) RS FPS
South	Undeveloped, Substation, Solar array.	8.1/2.85	A FPS
East	Undeveloped, Single family residences	5.6/2.6	E(2½) RS FPS
West	Undeveloped, Substation	5.6	E (2½) RS FPS
CUP Area 2	**Single family residence, Out buildings, Undeveloped**	**5.3/4.4, 5.3/4.4/2.6, and 5.7**	**A FPS, E (5) RS FPS**
North	Undeveloped, Single family residences	5.3, 5.3/4.4	A FPS, E (5)
South	Undeveloped, Solar array, CUP Area 3	5.3/4.4/2.85	A FPS, RS FPS
East	Undeveloped, single family residences, Solar array	5.3/4.4, 5.6, 5.7	A FPS
West	Undeveloped	8.1/2.6, 8.1/4.4	A FPS, E(5) RS FPS,
CUP Area 3	**Undeveloped**	**5.6/2.85, 5.7/2.85, 5.7/2.6/2.85, 8.1/2.85, 8.1/2.6/2.85**	**E (2 ½) Rs FPS, E (5) RS FPS, A FPS**
North	Undeveloped, CUP Area 2, Solar array	5.3/4.4/2.85, 6.2	E (2 ½) RS MH FPS, E(5), RS FPS
South	Undeveloped, Single family residences, Solar array	6.2, 8.1, 8.1/2.6	A FPS, E(5) RS FPS
East	Undeveloped, Mortuary and cemetery, Single family residence	5.6/2.85	E (2 ½) RS MH FPS,
West	Undeveloped, Solar array	8.1/2.6/2.85	A FPS
CUP Area 4	**Outbuildings, Undeveloped**	**7.2/4.4, 7.1/4.4, 5.6/2.85**	**E (2 ½) RS FPS**
North	Undeveloped, Single family residences,	7.2/4.4	E (2 ½) RS FPS
South	Undeveloped, Single family residences	7.2/4.4	E (2 ½) RS FPS
East	Undeveloped, Single family residences	7.2/4.4	A FPS
West	Undeveloped, Single family residences	7.2/4.4	A FPS, E (2 ½) RS FPS

Existing Land Use	Existing Map Code Designation	Existing Zoning Classification
LEGEND 2.6= Erosion Hazard 2.85 = Noise Management Area 4.4 = Comprehensive Planning Area 5.3 = Maximum 10 units/net acre 5.6 = Minimum 2.5 gross acres/unit 5.7 = Minimum 5 gross acres/unit 6.2 = General Commercial 7.2 = Service Industrial 8.1 = Intensive Agriculture A = Exclusive Agriculture E (2½) = Estate 2½ acres E (5) = Estate 5 acres FPS = Floodplain Secondary Combining MH = Mobilehome Combining RS = Residential Suburban Combining		
SOURCE: Kern County, 2020		

3.7 Project Characteristics

The proposed project includes the construction and operation of four solar facilities with a total generating capacity of approximately 165 MW of renewable energy, including up to 245 MW of energy storage (for all sites), and one CUP for a communication tower, within the A (Exclusive Agriculture) zone district (in Zone Maps 231, 232, and 233). Pursuant to Section 19.12.030.G of the Kern County Zoning Ordinance approval of the following would be required for the proposed project as follows:

- CUP Area 1 (solar and energy storage)
  - Conditional Use Permit No. 16, Map No. 233 for 70.99 acres
- CUP Area 2 (solar and energy storage)
  - Conditional Use Permit No. 40, Map No. 232 for 240.58 acres
- CUP Area 3 (solar and energy storage)
  - Conditional Use Permit No. 46, Map No. 232 for 541.16 acres
- CUP Area 4 (solar and energy storage)
  - Conditional Use Permit No. 120, Map No. 231 for 439.26 acres
- Telecommunication Tower
  - Conditional Use Permit No. 44, Map No. 232
- Zone Change Case No. 157, Map No. 231 from the existing zone district E(2 ½) RS FPS to A FPS on approximately 440 acres
- Zone Change Case No. 43, Map No. 232 from the existing zone district E(5) RS FPS to A FPS on approximately 330 acres and from existing zone district E (2 ½) RS FPS to A FPS on approximately 96
- Zone Change Case No. 18, Map No. 233 from the existing zone district E (2 ½) RS FPS to A FPS on approximately 71 acres

- Specific Plan Amendment No. 40, Map No. 231 from map code designation 7.1/4.4 (Light Industrial, Comprehensive Planning Area) to 7.1 (Light Industrial) on approximately 247 acres and from map code designation 7.2/4.4 (Service Industrial, Comprehensive Planning Area) to 7.2 (Service Industrial) on approximately 118 acres.
- Specific Plan Amendment No. 33, Map No. 232 from map code designation 5.3/4.4 (Residential Maximum 10 Units per Net Acre/Comprehensive Planning Area) to 5.3 (Residential, Maximum 10 Units per Net Acre) on approximately 80 acres and from map code designation 5.3/4.4/2.6 (Residential Maximum 10 Units per Net Acre/Comprehensive Planning Area/Erosion Hazard) to 5.3/2.6 (Residential Maximum 10 units per Net Acre/Erosion Hazard) on approximately 80 acres.
- Specific Plan Amendment No. 31, Map No. 232 Amendments to the Circulation Element of the Kern County General Plan to remove future road reservations on the section and mid-section lines within the project boundaries.
- Nonsummary vacations of portions of public access easements located within Sections 27 & 28, T9N, R14W, SBB&M in Zone Map No. 232.
- Nonsummary vacations of portions of public access easements located within Section 31, T9N, R13W, SBB&M in Zone Map No. 231

Approval to allow the vacation of existing public access easements on the project site as shown in **Figures 3.6b and 3.6c**. The purpose of the request is to facilitate the optimal layout of solar panels by removing recorded but unused/undeveloped public rights-of-way on vacant land. These easements have been created by grant deed or parcel maps, and some dirt roads exist within the project refinement. 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 proponent would be responsible for recording private easements for access purposes prior to the vacation being recorded. In most cases, the proposed private easements would be recorded along with the vacation of the original public easement.

The proposed project is located on 1,292 acres of privately-owned land in the eastern high desert region of unincorporated Kern County. The proposed facility 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 onsite batteries and discharge it into the grid at various times when electricity demand is at its peak.

The proposed project would utilize high-efficiency commercially available solar PV modules that are listed or approved by a nationally recognized testing laboratory. Materials commonly used for solar PV modules include monocrystalline silicon, polycrystalline silicon, amorphous silicon, cadmium telluride (CdTe), and copper indium selenide/sulfide. The principal materials incorporated into the PV modules include glass, steel, and various semiconductor metals, including CdTe. Although the specific materials that would be used may change, this would not alter the project footprint or any areas of disturbance. Accordingly, the solar arrays mounted either on fixed- tilt systems, horizontal tracker systems, or a combination thereof, and would be mounted to vertical posts.

The power generated by the proposed project would be sold to California investor-owned utilities, California Community Choice Aggregators (CCAs), or other power off taker(s) in the furtherance of the goals of the California Renewable Energy Portfolio Standard and other similar renewable

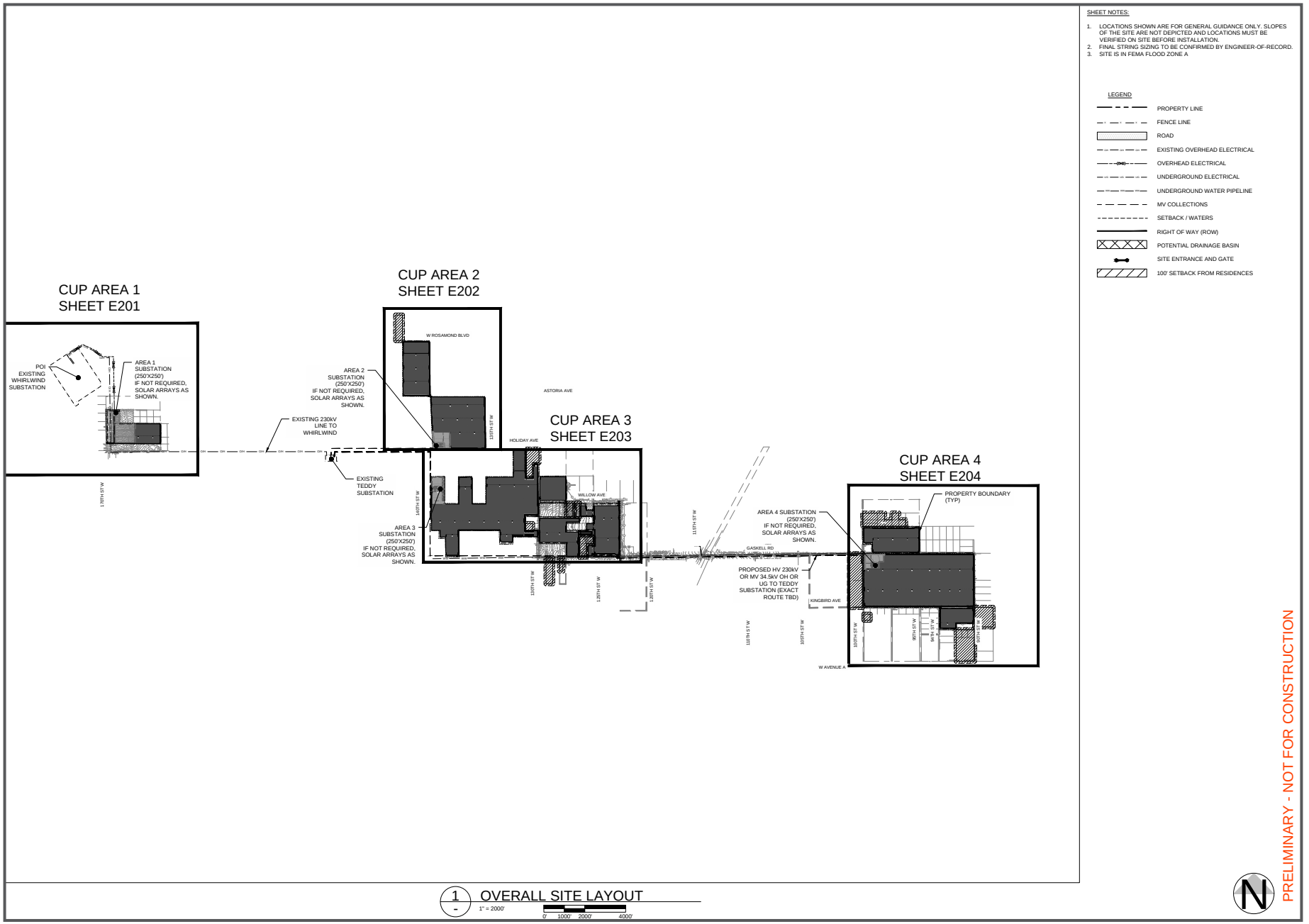
programs in the state. The project proponents may eventually choose to decommission and remove all or none of the systems from the proposed project sites. If any of the facilities are decommissioned, it would be converted to another use consistent with the applicable land use regulations in effect at that time.

The project sites and transmission lines are depicted on **Figure 3-9a:** *Project Site Plan Overview,* **Figure 3-9b:** *CUP Area 1 Site Plan,* **Figure 3-9c:** *CUP Area 2 Site Plan*, **Figure 3-9d:** *CUP Area 3 Site Plan,* **Figure 3-9e:** *CUP Area 4 Site Plan*. Power generated from each CUP area would be conducted from each site using the existing and/or proposed transmission to substations. These facilities are summarized below.

The combined project facilities would include the following components:

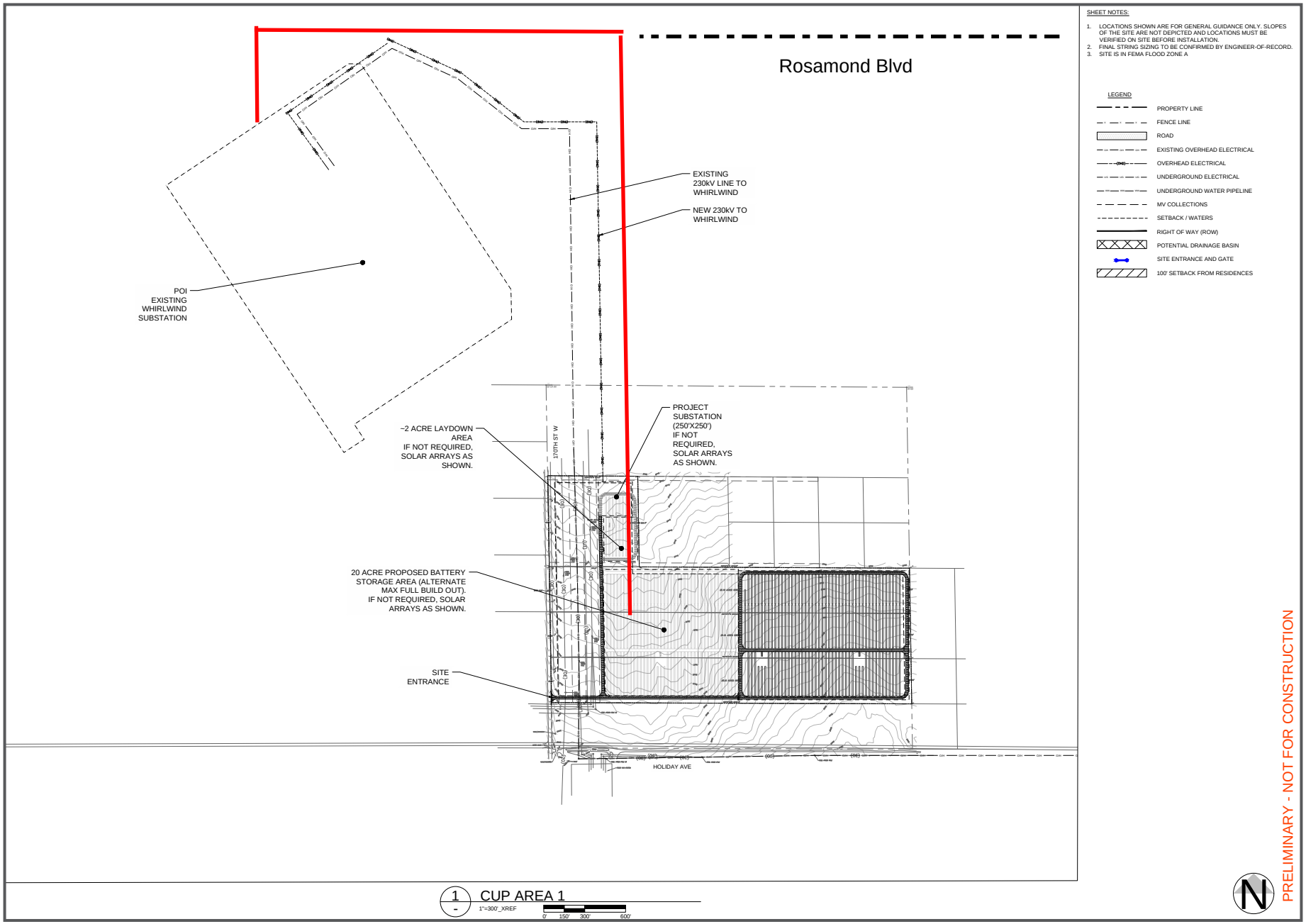
- Installation of a total of approximately 165 MW of solar PV modules, mounted either on fixed-tilt systems, horizontal tracker systems, or a combination thereof. The mounting system for the modules would be supported by in ground steel posts;
- Lead acid-based and/or lithium ion batteries for emergency backup required by applicable County or local codes for emergency onsite backup power during project operations for stowing the trackers, or to maintain critical electronic equipment that is used for operation of the plant;
- Underground and above ground electrical collections systems, both on-site and off-site;
- Inverters and medium voltage transformers;
- Installation of equipment within the Whirlwind and Teddy substations.
- On-site access roads;
- Perimeter security fencing;
- Concrete pads for the switchyard, inverters, transformers, and O&M buildings as well as foundational supports for panel installation Meteorological data collection systems;
- Operations and Maintenance (O&M) Building(s);
- Battery Energy Storage System component
- On-site telecommunications facilities to facilitate collection and transmission of meteorological data and data regarding performance of the solar arrays.

The proposed solar project development will require retention of stormwater to mitigate the runoff from the new impervious surfaces, primarily from solar panels and other structures such as the BESS units. Because it is not practical to route all runoff to a common basin, a series of basins would be located throughout the CUP Areas. The stormwater retention basins would meet the retention volume required for anticipated runoff volumes and would be determined based on final project design. The proposed project will be further evaluated for the potential stormwater runoff and needed water storage-related components including retention basis, detention basins, and **Figure 3-9a: Project Site Plan Overview.**



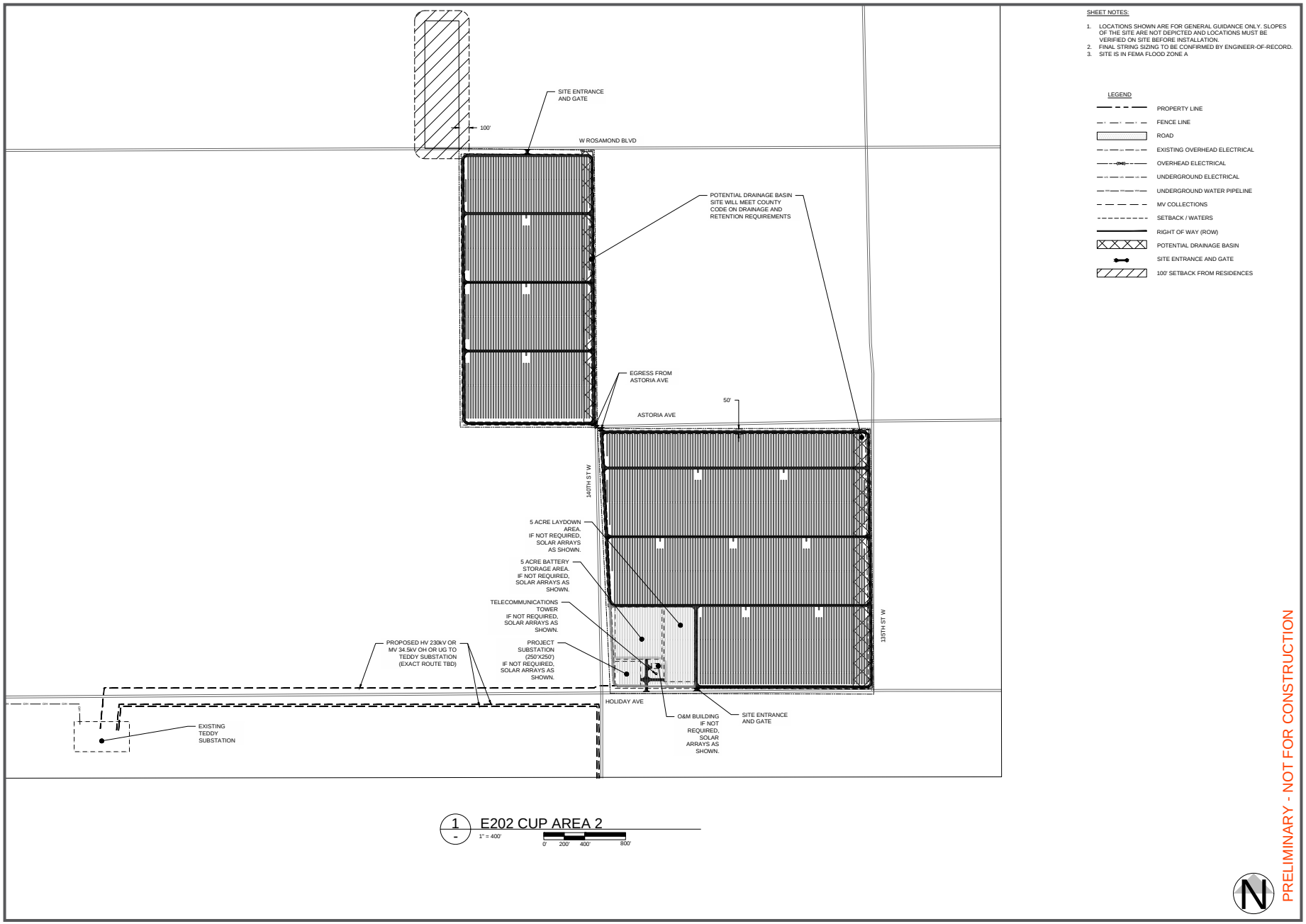
Source: REVAMP Engineering, 2021

FIGURE 3-9a: Project Site Plan Overview



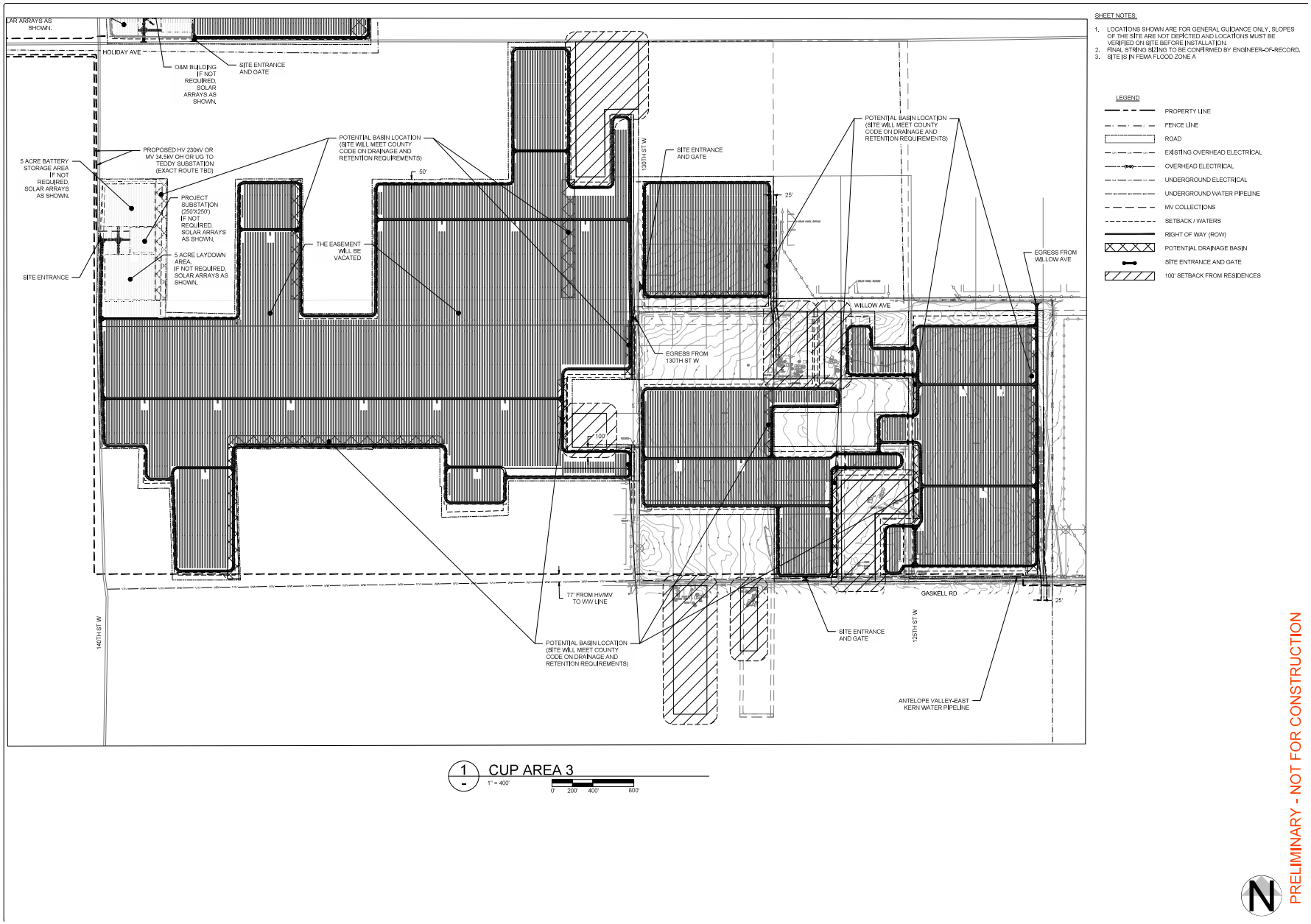
Source: REVAMP Engineering, 2021

FIGURE 3-9b: CUP Area 1 Site Plan



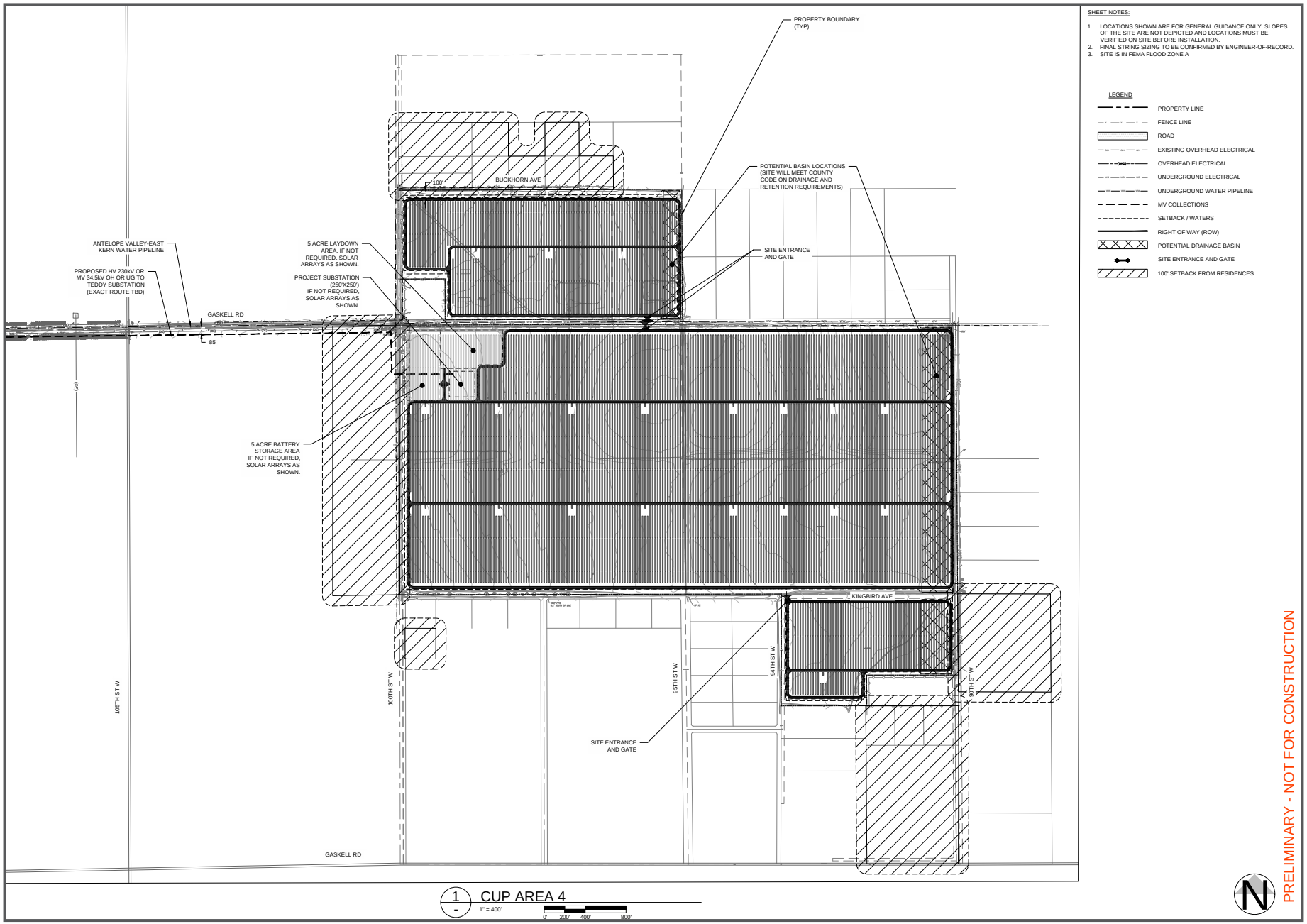
Source: REVAMP Engineering, 2021

FIGURE 3-9c: CUP Area 2 Site Plan



SOURCE: REVAMP Engineering, 2021

FIGURE 3-9d: CUP Area 3 Site Plan



Source: REVAMP Engineering, 2021

FIGURE 3-9e: CUP Area 4 Site Plan

channels needed to conduct runoff (the location and number of which will be determined during detailed design engineering). The drainage design will be in accordance with applicable building codes and in conformance with Appendix F Kern County Development Standards (Standards for Drainage):

- Concrete pads for the switchyard, inverters, transformers, and O&M buildings as well as foundational supports for panel installation Meteorological data collection systems;
- Operations and Maintenance (O&M) Building(s);
- Battery Energy Storage System component
- On-site telecommunications facilities to facilitate collection and transmission of meteorological data and data regarding performance of the solar arrays.

The proposed solar project development will require retention of stormwater to mitigate the runoff from the new impervious surfaces, primarily from solar panels and other structures such as the BESS units. Because it is not practical to route all runoff to a common basin, a series of basins would be located throughout the CUP Areas. The stormwater retention basins would meet the retention volume required for anticipated runoff volumes and would be determined based on final project design. The proposed project will be further evaluated for the potential stormwater runoff and needed water storage-related components including retention basis, detention basins, and channels needed to conduct runoff (the location and number of which will be determined during detailed design engineering). The drainage design will be in accordance with applicable building codes and in conformance with Appendix F Kern County Development Standards: Standards for Drainage).

The power generated on the project site would assist the State in complying with the Renewables Portfolio Standard under Senate Bill 350, which requires that by December 31, 2030, 50 percent of all electricity sold in the State shall be generated from renewable energy sources. 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 Renewable Energy Portfolio Standard. The proposed project has an anticipated operational life of over 30 years. At the end of the project's operational term, the project proponent would determine whether the project site should be decommissioned and deconstructed or if they would seek an extension of the project's CUPs and repower the facilities. 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.

Solar Arrays

The proposed project would utilize either monofacial or bifacial PV solar panels on mounting frameworks to convert sunlight directly into electricity; the final number would be based upon the specific panel model selected for the Project. Individual panels would be installed on either fixed- tilt or single axis horizontal tracker mount systems. If the panels are configured for fixed- tilt, the panels would be oriented toward the south. If the completed assembly of PV modules is mounted on a single axis horizontal tracker framework structure it would track the sun from east to west throughout the day. The foundations for the mounting structures can extend up to 10 feet below ground, depending on the structure, soil conditions, and wind loads, and may be encased in concrete or utilize small concrete footings. A solar tracking mechanism is used to maximize the

solar energy conversion efficiency by keeping the modules perpendicular to the sun's energy rays throughout the day. If used, single-axis trackers would increase the efficiency of energy production from the arrays relative to a fixed tilt system. The exact tracker manufacturer and model would be determined in the final design. All trackers are intended to function identically in terms of following the motion of the sun.

Maximum panel height is anticipated to be up to 14 feet high, depending on the mounting system selected and on County building codes, however it could be lower depending on the angle of the sun and post height as determined during final engineering design. Module layout and spacing is optimized to balance energy production versus peak capacity and would depend on the sun angles and shading caused by objects surrounding the project. The spacing between the rows of trackers is dependent on site-specific features and also would be identified in the final design. The final configuration would allow for sufficient clearance for maintenance vehicles and panel access.

The solar array fields would be arranged in groups called "blocks" with inverter power conversion stations (PCS) that houses the inverter and the generation step-up voltage transformer, generally located centrally within the blocks. Blocks would produce direct electrical current (DC), which is converted to alternating electrical current (AC) at the PCS. A light-colored ground cover or palliative may be used to increase electricity production. Final solar panel layout and spacing would be optimized for project area characteristics and the desired energy production profile.

Electrical Collector System and Inverters

Photovoltaic energy is delivered via cable to each PCS, generally located near the center of each block. PCS are typically comprised of one or more inverter modules with a rated power of up to 5 MW each, a unit transformer, and voltage switch gear. The unit transformer and voltage switch gear are housed in steel enclosures, while the inverter module(s) are housed in cabinets. Depending on the vendor selected, the PCS may lie within an enclosed or canopied metal structure, typically on a skid or concrete mounted pad.

Each facility will have a collection system connecting PV modules to the substation which includes a combination of underground, aboveground cable trays and overhead (poles or H-Frame structures) DC and AC electrical and communication cables. DC electrical collection lines would connect the PV modules to the inverter. Inverters will convert the DC power into low voltage AC power within the power conversion station (PCS) unit. Transformers within the PCS unit will then increase the AC power from low voltage to medium voltage (MV). MV AC electrical lines will connect onsite generation step-up transformers to the offsite generation step-up transformer(s) in the substations which will be utilized in conjunction with the proposed project. PV combining switchgear (PVCS), Sectionalizing Cabinets (SC) or other electrical combiner boxes may be installed to combine electrical lines on the collection system. The overhead collection system may contain single or multiple three phase electrical circuits and communication lines on the same structures. Overhead collection systems typically consist of wood or steel poles on monopoles or H-Frame structures. The collection system structures are proposed to have a maximum height of 75 feet, but may vary based on voltage, minimum height to avoid shading over modules, ground elevation, crossing of existing or proposed facilities, National Electric Safety code and right- of- way requirements.

Energy Storage System

As proposed, the proposed project includes a BESS that could be centrally located, or it would have one BESS located at each CUP area. The BESS would encompass a maximum of approximately 20 total acres (if centrally located) within a single CUP Area, or within approximate five-acre areas if located in the individual CUP Areas. The location of the BESS would be determined at the time of final design and would be entirely within the proposed project footprint and areas of disturbance discussed in this document. **Figure 3-9a**, **Figure 3-9b**, **Figure 3-9c, Figure 3-9d,** and **Figure 3-9e** show the potential locations of the BESS and a detailed view of the other proposed improvements for the four solar facility sites, generation areas, other storage sites building, and transmission lines.

The approximately 245 MW BESS would consist of a series of batteries housed within the inverter pads or in separate storage containers either built on site or in prefabricated metal containers. Any structures or containers used to house the BESS, would be installed/constructed on the project site(s) and would have appropriate fire suppression systems built to applicable state and local code requirements. The final design would include appropriate containment features (secondary containment) to prevent the escape of liquids or spills from the BESS site.

If the BESS is centrally located, it would be contained within an outdoor-rated steel enclosure. If distributed throughout the solar array, the BESS would be contained within metal housings at each of the equipment pads and electrically connected to the inverters. The containers would be set on a concrete or steel pile foundation and would be approximately 8 feet wide by 10 feet long by 10 feet high. The proposed BESS would be designed, constructed, operated, and maintained in accordance with applicable industry best practices and regulatory requirements, including compliance with the latest National Fire Protection Association (NFPA) fire safety codes and fire rating in conformance with Kern county standards.

The BESS would use one of several commercially available lithium ion (Li-ion) technologies, though alternatives may be considered (such as flow batteries). Due to the rapidly changing technology in the battery industry, it may be more efficient, environmentally conscious, and economical, to use a then-current technology.

In general, a Li-ion battery is a rechargeable type of battery consisting of three major functional components: a positive electrode made from metal oxide, a negative electrode made from carbon, and an electrolyte made from lithium salt. Lithium ions move from negative to positive electrodes during discharging and in the opposite direction when charging. There are five major Li-ion battery sub chemistries that are commercially available, including: lithium nickel cobalt aluminum, lithium nickel manganese cobalt, lithium manganese oxide, lithium titanate oxide, and lithium-iron phosphate. Selection of the Li-ion battery for the Project would take into consideration various technical factors, including safety, life span, energy performance, and cost.

As planned, the BESS would consist of self-contained battery storage modules placed in racks, switchboards, inverters, transformers, controls, and integrated heating, ventilation, and air conditioning (HVAC) units, all enclosed in one or more buildings or in prefabricated metal containers. If the BESSs use prefabricated metal containers, each container would use a 40-foot-long by 8-foot-wide battery container. Potential hazards associated with BESS include increased potential for electrical shock and chemical release associated with the batteries used. The BESS would have a fire rating in conformance with County standards and specialized fire suppression

systems would be installed. Also, implementation of established construction controls and safety procedures would reduce the risk of hazardous materials spills and releases.

The proposed battery energy storage system would be designed, constructed, operated and maintained in accordance with applicable industry best practices and regulatory requirements, including fire safety standards.

Substation(s)

Up to four substations across and within the proposed CUP Areas could be constructed to support the 165MW project. The substations (which would contain high-voltage equipment) would be unenclosed, occupy an area of approximately 250 feet by 250 feet each, and be protected with security fences. The electrical equipment inside the substation fence would have a maximum height of approximately 100 feet. A one-story, rectangular control building, housing the communication and supervisory control and data acquisition (SCADA) equipment, would also be located in the substation footprint. For substations located in CUP Areas 2, 3, and 4, an underground or overhead gen-tie line would be constructed to connect each solar area to the existing central Teddy substation discussed below. For the substation located in CUP Area 1, a dedicated overhead gen-tie line connecting the project substation to the SCE Whirlwind substation, discussed below, would be constructed. The final location(s) of the substations within the CUP Areas would be determined before issuance of building permits.

Electricity produced in CUP Areas, 2, 3, and 4 would be collected and routed to the existing Teddy Substation, where it would be stepped up in voltage and transmitted to the SCE Whirlwind substation via an existing 230 kV transmission line or it would be collected and routed directly to the SCE Whirlwind substation via a new 230 kV transmission line. Electricity produced in CUP Area 1 will connect to the Whirlwind substation via either an existing or proposed 230 kV transmission line.

Generation-Tie Line and Interconnection to the Statewide Grid

From the proposed project's substation(s), power could be transmitted to the existing privately-owned Teddy substation and/or the SCE Whirlwind Substation via up to 230 kV overhead and/or underground line(s). The possible gen-tie line alignments are shown in **Figure 3-10:** *Gen-tie Routes.* An alternative alignment for CUP Area 1, is shown in **Figure 3-11:** *CUP Area 1 Alternate Gen-Tie Route.* This alternative route provides another option for a connection from CUP Area 1 to the Whirlwind substation. If aboveground, the overhead lines would be mounted on either tubular steel monopoles or lattice structures up to 140 feet in height. Alternatively, the proposed project could transmit its power to the Teddy or SCE Whirlwind Substation via an existing 230-kV line as a result of a shared facilities agreement the project proponent is exploring. A franchise and/or encroachment agreement with Kern County along affected County roadways may ultimately be required for portions of the transmission line.

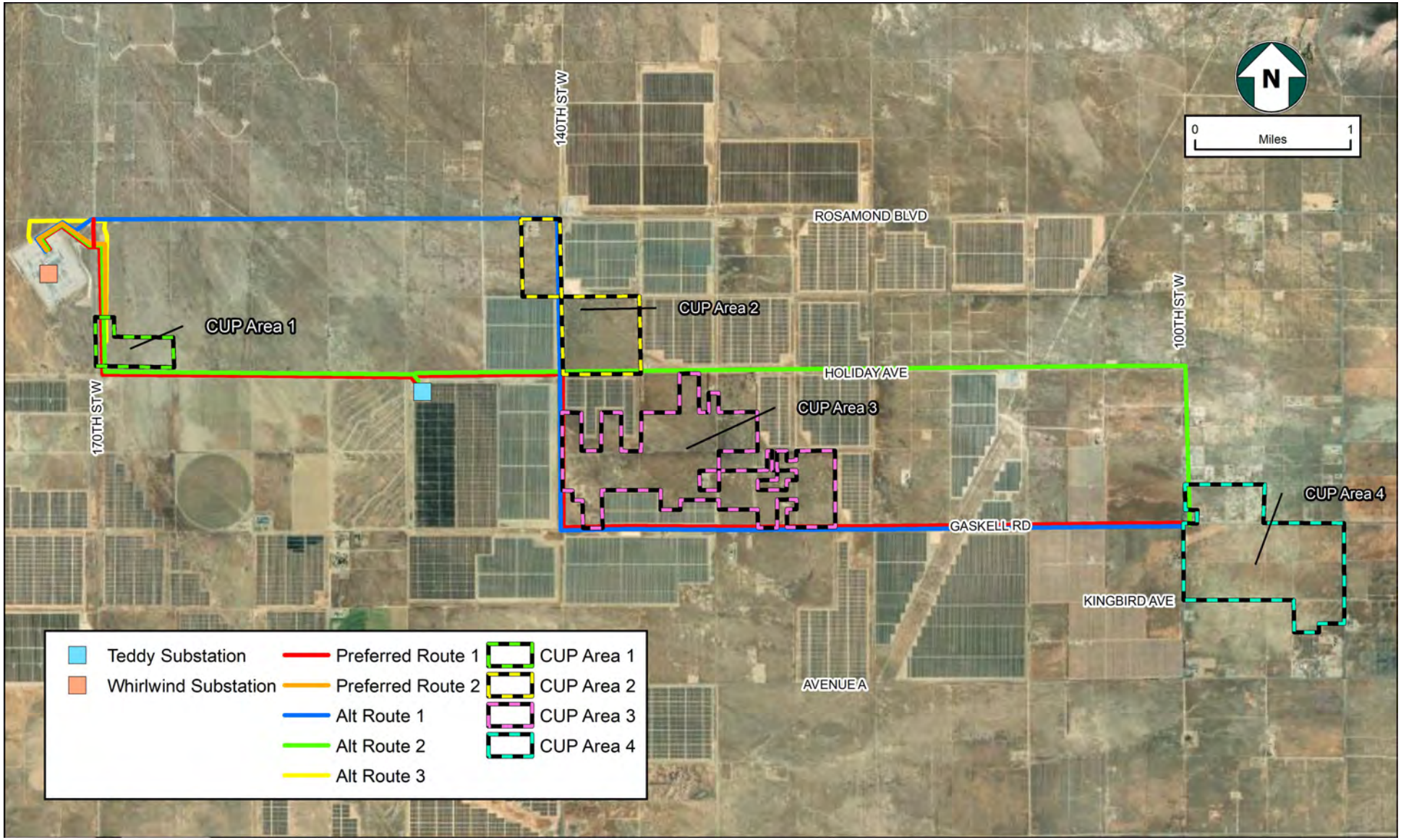


FIGURE 3-10: Gen-Tie Routes

FIGURE 3-11: CUP Area 1 Alternate Gen-Tie Route

The project applicant/contractors will work with SCE and/or owner(s) of the substation to install improvements and new interconnection-related components such as additional control equipment at the Substations. As proposed, the aforementioned components and other needed infrastructure would occur within area proposed for disturbance as part of the project or in areas previously disturbed and occupied by existing electrical facilities. Approval of the improvements would fall under the discretionary permitting jurisdiction of the California Public Utilities Commission (CPUC). Because CEQA requires analysis of the environmental impacts of the full project, the proposed project and project description include the two Interconnection Facilities related to the proposed project for this purpose and are thus considered in this scope of this document and project.

On-Site Communications Towers

The proposed project includes on-site telecommunications facilities to facilitate collection and transmission of meteorological data and data regarding performance of the solar arrays. Telecommunications equipment, such as microwave tower up to 200 feet tall or underground fiber optic system for essential communication, and voice and data communications relay will be required, in addition to a supervisory control and data acquisition (SCADA) system, and auxiliary power, would be installed throughout the project at each inverter equipment pad, substation, and security system. A digital radio system may also be used. Fire protection would also be included per applicable requirements.

On-Site Meteorological Stations and Meteorological Towers

The project would include an on-site solar meteorological station located near the O&M building and others distributed across the areas. A meteorological station is a device that collects data related to weather and the environment using many different sensors. The station would consist of solar energy (irradiance) meters, as well as an air temperature sensor and wind anemometer. Wind anemometer towers may be located within the array at strategic locations or near the fence line. The wind anemometer would have an estimated height of approximately 30 feet, the maximum proposed equipment height. The meteorological tower would be a free-standing tower which carriers the measuring instruments. The preliminary locations for the meteorological towers are shown on the site plan figures, above.

Site Access and Internal Circulation

The proposed project would have private driveway access off of County roads, private perimeter access roads, and interior access to facilitate construction and operational activities such as maintenance. Perimeter access roads and interior access ways would be composed of native compacted earth and would be up to 20 feet in width. All driveway approaches to/from the public right of way would be constructed in accordance with Kern County Development Standards. The solar facility will be accessed using existing roadways including Rosamond Boulevard, Avenue A, Avenue D, Astoria Avenue, Gaskell Road, Holiday Avenue, Willow Avenue, Kingbird Avenue, 100th Street West, 130th St West, 140th Street West and 170th Street West.

Site Security

Chain link fencing with three-strand barbed wire strung one foot from the top of the fence would be installed along the perimeter of the project site. Access gates would be installed at each project

site entry point and may be motorized. Additional security may be provided through remote controlled cameras. For each of the sites, interior roadway alignments would be finalized once placement of the solar panels is determined and would be influenced by topographical, biological, or cultural resource determinations, or other site conditions. Where on-site access roads may cross streambed areas under the jurisdiction of the California Department of Fish and Wildlife, crossings would be designed to minimize or avoid any impacts to such jurisdictional resources and in compliance with California Fish and Game Code requirements, including authorization through a Streambed Alteration Agreement as appropriate.

Manual, timed, and/or motion sensor lights would be installed at equipment pads for maintenance and security purposes. Nighttime lighting would provide O&M personnel with illumination for both normal and emergency operating conditions. The minimum illumination needed to ensure worker safety and security on-site would be provided. All nighttime lighting installed would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties as required by Kern County Ordinance (Chapter 19.81) - Outdoor Lighting-Dark Skies requirements.

3.7.2 Construction Activities

Construction Schedule

Construction traffic would access the CUP Areas from the above listed roads but is anticipated to primarily occur from Rosamond Boulevard, Avenue A, Avenue D, Astoria Avenue, Gaskell Road, Holiday Avenue, Willow Avenue, Kingbird Avenue,100th Street West, 130th Street West, 140th Street West and 170th Street West. An average of 120 workers per day is anticipated to be required during construction of the proposed project. During the peak construction period up to approximately 630 workers may be on the project site. Peak construction is anticipated to last for approximately 3 months and 12 months overall. Construction is defined as activities requiring the use of heavy off-road equipment and lasting up to mechanical completion.

Construction is generally anticipated to occur during daylight hours, roughly between 6:00 am and 5:00 pm, Monday through Friday. Additional hours and or nighttime activities, as permitted by the County, may be necessary to make up schedule deficiencies or to complete critical construction activities.

Construction materials and supplies would be delivered to the project site by truck. Truck deliveries would normally occur during daylight hours. It is anticipated that all materials and supplies will be stored on-site within the fenced project site boundaries. Storage containers may be used to house tools and other construction equipment. In addition, a temporary construction trailer would be located onsite during the course of construction. Restroom facilities during construction would be provided by portable units to be serviced by licensed providers and would be disposed of at an approved off-site disposal facility following County requirements.

Site Grading and Earthwork

Project construction for each CUP Area is expected to consist of two major stages: site preparation and array construction. Conventional grading techniques may be used for PV array locations, access roads, parking areas, substations, energy storage systems, building or equipment foundations,

detention pond(s), retention pond(s), and laydown areas. The first stage would include light grading and establishing staging areas and on-site access routes. Sediment and erosion controls would be installed in accordance with an approved Storm Water Pollution Prevention Plan (SWPPP). Site preparation would also be consistent with Kern County Best Management Practices (BMPs) and Eastern Kern Air Pollution Control District rules for dust control.

Earthmoving activities are expected to be limited to the construction of the internal access roads, solar panel arrays, the O&M building(s), substations, energy storage systems, gen-tie lines, and for storm water protection or storage (detention) facilities. Within the solar field areas, a combination of mowing, "disk-and-roll" techniques and, where necessary, conventional grading would be used to prepare the site for array installation. In areas where mowing would not yield a satisfactory work surface, disk-and-roll techniques may be utilized. Disk-and-roll site preparation uses tractors pulling disking equipment to till under vegetation.

Final grading may include revegetation with low lying grass or applying earth-binding materials to disturbed areas. However, as the project site is relatively flat, minimal grading is anticipated. Grading will be minimized to the extent practical.

Dust-minimizing techniques, such as maintaining natural vegetation where possible, use of mow-and-roll vegetation clearing, placement of wind control fencing, application of water, and/or application of dust suppressants would be implemented as needed. Project grading would be minimized to the extent feasible to reduce unnecessary soil movement that may result in dust generation. Water trucks, bulldozers, front end loaders, graders, roller compactors, backhoes, and excavators may all be used in site preparation. On site roads would be constructed with a scarified and compacted subgrade. Roads may be additionally compacted to 90 percent or greater, as required, to support construction and emergency vehicles. Certain access roads may also require the use of aggregate to meet emergency access requirements. No importing or exporting of materials would be necessary. Grading includes approximately 273,600 cubic yards of cut / 267,600 cubic yards fill. Additionally, on-site trenching for the placement of underground electrical and communication lines would be needed.

Noise-generating construction activities would be limited to construction hours allowed by the County's noise ordinance. All stationary construction equipment that may result in excessive noise or vibration levels would be operated away from sensitive noise receptors to the extent feasible. Construction activities would occur such that maximum noise levels at affected sensitive noise receptors (i.e., rural residential uses) would not exceed the County's adopted noise threshold levels.

Applicable local, state, and federal requirements and best management practices (BMPs) would be implemented during the construction phase. Consistent with the County zoning ordinance and with guidelines provided in the California Stormwater Quality Association's Construction Best Management Practice Handbook, BMPs would be implemented, including preparation of a Stormwater Pollution and Prevention Plan (SWPPP) and a soil erosion and sedimentation control plan to reduce the potential for erosion and to minimize effects on stormwater quality. Stabilized construction entrances and exits would be installed at the entrances to each site to reduce the tracking of sediment onto adjacent public roadways.

Additionally, site preparation would occur in conformance with County BMPs and Eastern Kern Air Pollution Control District rules for dust control.

Solar PV Generating Facility Installation

Each individual solar PV facility installation will include site preparation to accommodate the placement of PV arrays, concrete for foundations, access roads, and drainage features. The construction period for the proposed project is anticipated to commence in the 3rd quarter of 2022 and last for approximately 12 months.

Construction of the proposed project would include the following activities:

- Site preparation
- Access and internal circulation roads
- Grading and earthwork
- Panel installation
- Concrete foundations
- Structural steel work
- Electrical/instrumentation work
- Collector line installation
- Stormwater management facilities
- Architecture and landscaping

Substations

The existing substations (Whirlwind Substation and Teddy Substation), which the project would be connected to distribute power, are fenced to provide required security around the high-voltage electrical equipment. These stations may require installation of additional fencing for security and equipment such as transformers, breakers, bus-work, and new lines. All work would occur within previously disturbed areas and within the footprint of the existing stations. Needed new equipment and infrastructure would be determined as part of final project design.

The work SCE will perform to connect the gen-tie line to the Whirlwind substation will occur primarily inside the existing substation; therefore, no expansion of the substation' footprint is anticipated.

SCE would conduct a limited scope of work within and surrounding the existing Whirlwind substation to facilitate connection of the solar project to the SCE system, including extending the gen-tie from the last pole structure into the substation and installing underground telecom facilities both inside and outside the existing substation fence line. The work SCE will perform to connect the gen-tie line to the Whirlwind substation will occur primarily inside the existing substation; therefore, no expansion of the substation' footprint is anticipated.

Temporary Construction Trailers

The project will include temporary construction trailers that would be located onsite during the course of construction. Restroom facilities during construction would be provided by portable units to be serviced by licensed providers and would be disposed of at an approved off-site disposal facility.

Water Use

Water would be required during the construction phase for such activities as dust suppression, soil compaction, and grading. Smaller quantities would be required for preparation of the concrete required for foundations and other minor uses. Water usage during construction, primarily for dust-suppression purposes, is not expected to exceed 450 acre-feet over the 12-month construction phase. Bottled water would be provided to the construction workers. Additionally, on-site restroom facilities for the construction workers would be provided by portable units to be serviced by licensed providers; no connection to a public sewer system is required for project construction, and therefore, water for such purposes is not required.

It is anticipated that water would be delivered via truck from an off-site source within the project vicinity. RMR Water has provided a will-serve letter indicating their ability to provide sufficient water during the construction of the project.

Solid and Nonhazardous Waste

Inert solid wastes resulting from construction activities may include recyclable items such as paper, cardboard, solid concrete and block, metals, wire, glass, type 1-4 plastics, drywall, wood, and lubricating oils. These wastes would be segregated for recycling. Vegetation wastes generated by site clearing and grubbing would be chipped/mulched and spread on site or hauled offsite to an appropriate green waste facility. Non-recyclable items include insulation, other plastics, food waste, vinyl flooring and base, carpeting, paint containers, packing materials, and other construction wastes. 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.

A Construction Waste Management Plan will be prepared for review by the County. Consistent with local regulations and the California Green Building Code, the Plan would provide for diversion of a minimum of 50 percent of construction waste from landfills. Chemical storage tanks (if any) would be designed and installed to meet applicable local and state regulations. Any wastes classified as hazardous such as solvents, degreasing agents, concrete curing compounds, paints, adhesives, chemicals, or chemical containers will be stored (in an approved storage facility/shed/structure) and disposed of as required by local and state regulations. Material quantities of hazardous wastes are not expected.

Hazardous Materials

The hazardous materials used for construction would be typical of most construction projects of this type. During project construction, material safety data sheets for all applicable materials present at the site would be made readily available to onsite personnel. The proposed project would have minimal levels of materials on-site that have been defined as hazardous under 40 CFR, Part 261. The following materials are expected to be used during the construction, operation, and long-term maintenance of the proposed project:

- Diesel fuel, gasoline and motor oil – used for vehicles
- Mineral oil - to be sealed within the transformers
- Various solvents/detergents – equipment cleaning

- Lead acid-based and/or lithium ion batteries – used for emergency backup

Hazardous materials and wastes will be managed, used, handled, stored, and transported in accordance with applicable local and State regulations. Spill prevention and containment for construction and operation of the proposed project will adhere to the Environmental Protection Agency's (EPA) guidance on Spill Prevention Control and Countermeasures (SPCC). A hazardous materials business plan would be implemented and provided to the Kern County Public Health Services Department, Environmental Health Services Division/Hazardous Materials Section. The hazardous materials business plan would include a complete list of all materials used onsite and information regarding how the materials would be transported and in what form they would be used. All hazardous wastes will be maintained at quantities below the threshold requiring a Hazardous Material Management Program (HMMP) (one 55-gallon drum). Though not expected, should any on-site storage of hazardous materials exceed one 55-gallon drum, an HMMP would be prepared and implemented.

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 and this information would be recorded to maintain safety and prevent possible environmental contamination or worker exposure. 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.

Stormwater Management

To control surface runoff, a series of retention and or infiltration basins, berms or channels may be constructed. These retention features would be designed to retain storm water on site to infiltrate into the soil within a reasonable amount of time. The design of the retention basins would meet all Kern County codes.

3.7.3 Operation and Maintenance Activities

Operations and Maintenance (O&M) Area

The O&M building would measure approximately 100 feet by 50 feet, a communications building measuring approximately 20 feet by 30 feet, and a parking area. The O&M building would include office and storage space for spare parts and materials for the day-to-day operations and maintenance of the facility. Restroom facilities inside of the O&M Building(s) would be served by water and a septic system. Portable hand washing facilities would be provided if the O&M building did not include office space. These portable hand washing facilities would be serviced by truck, and any wastewater generated would be disposed of at an approved off-site disposal facility.

The operation of the proposed project would require up to 2 full-time equivalent (FTE) personnel (one FTE position is equivalent to 40 personnel hours per week). Operations staff would typically work during regular business hours Monday through Friday and would work mainly indoors within

the O & M building. Employees for routine maintenance and monitoring activities could be needed up to seven days a week, 24 hours a day. These employees are anticipated to be drawn from the local labor force and would commute to the project site. When non-routine maintenance or major repairs are needed, the maintenance staff also are anticipated to come from the local labor force and would typically work at night when the project is not generating power. The project also could utilize 24-hour security, but security personnel would be minimal and not add substantial number of employees during security shifts.

Operations Water Use

The project's operational water consumption is expected to be approximately 18 acre-feet per year. Potable water would be imported for O&M staff consumption as necessary. Water would be necessary for use in the O&M building and routine panel washing. It is anticipated that panels would be washed up to four times a year, using small water trucks. A Will Serve letter has been obtained from a private local water purveyor, indicating his capacity and willingness to provide water for construction and operation of the project.

3.7.4 Decommissioning

Solar equipment typically has a lifespan of over 35 years. The proposed project expects to sell the renewable energy produced by the project under the terms of a long-term Power Purchase Agreement (PPA) with a utility or other power off taker. Upon completion of the PPA term, the project operator may, at its discretion, choose to enter into a subsequent PPA and repower the facility or decommission and remove the system and its components. Upon decommissioning, the solar facility could be converted to other uses in accordance with applicable land use regulations in effect at that time.

It is anticipated that, during project decommissioning, project structures that would not be needed for subsequent use would be removed from the project site. Above-ground equipment that may 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 project site, inverters, transformers, electrical wiring, equipment on the inverter pads, and related equipment and concrete pads.

Project roads would be restored to their pre-construction condition unless the landowner elects to retain the improved roads for access throughout that landowner's property. The project site would be thoroughly cleaned, and all debris removed. Most materials would be recycled to the extent feasible, with minimal disposal to occur in landfills in compliance with all applicable laws. A collection and recycling program would be executed to promote recycling of project components and minimize disposal of project components in landfills. All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, State, and County regulations. The project proponent expects a secondary market for PV modules to develop over time. Although energy output may diminish, PV modules are expected to continue to have a productive life and can be decommissioned from a prime location or re-commissioned in another location.

3.8 Entitlements Required

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 (USFWS), Incidental Take Permit, if required

State

- California Public Utilities Commission
- California Department of Fish and Wildlife (CDFW)
  - Section 1600 et seq. (Lake and Streambed Alteration Agreement), if required
  - Section 2081 Permit (Incidental Take Permit), if required
- Lahontan Regional Water Quality Control Board (RWQCB)
  - Waste Discharge Requirements, if required
  - Regional Water Quality Certification CWA Section 401 Permit (if 404 Permit is required)
  - National Pollution Discharge Elimination System (NPDES) Construction General Permit if impacts to federal jurisdictional waters will occur
- California Department of Transportation (Caltrans)
  - Right-of-Way Encroachment Permit, if required
  - Oversized Loads Permit, if required

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

Local

Kern County Board of Supervisors

- Consideration and Certification of Final EIR.
- Adoption of 15091 Findings of Fact and 15093 Findings and Statement of Overriding Considerations.
- Approval of proposed Mitigation Monitoring and Reporting Program.
- Approval for proposed changes to Land Use Map Codes of the Willow Springs Specific Plan.
- Approval for proposed changes in zone classification.
- Approval for proposed conditional use permits.
- Approval for proposed circulation amendments to the Willow Springs Specific Plan
- Approval for proposed non-summary public access easement vacations.

- Approval of Franchise Agreement(s).

Kern County Public Works

- Approval of Kern County Grading Permits
- Approval of Kern County Building Permits
- Approval of Kern County Encroachment Permits

Kern County Fire Department

- Fire Safety Plan

Eastern Kern Air Pollution Control District (EKAPCD)

- Fugitive Dust Control Plan
- Authority to Construct Permit
- Authority to Operate Permit
- Any other permits as required

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

3.9 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.

3.10 Cumulative Projects

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

According to the *CEQA Guidelines*:

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

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

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

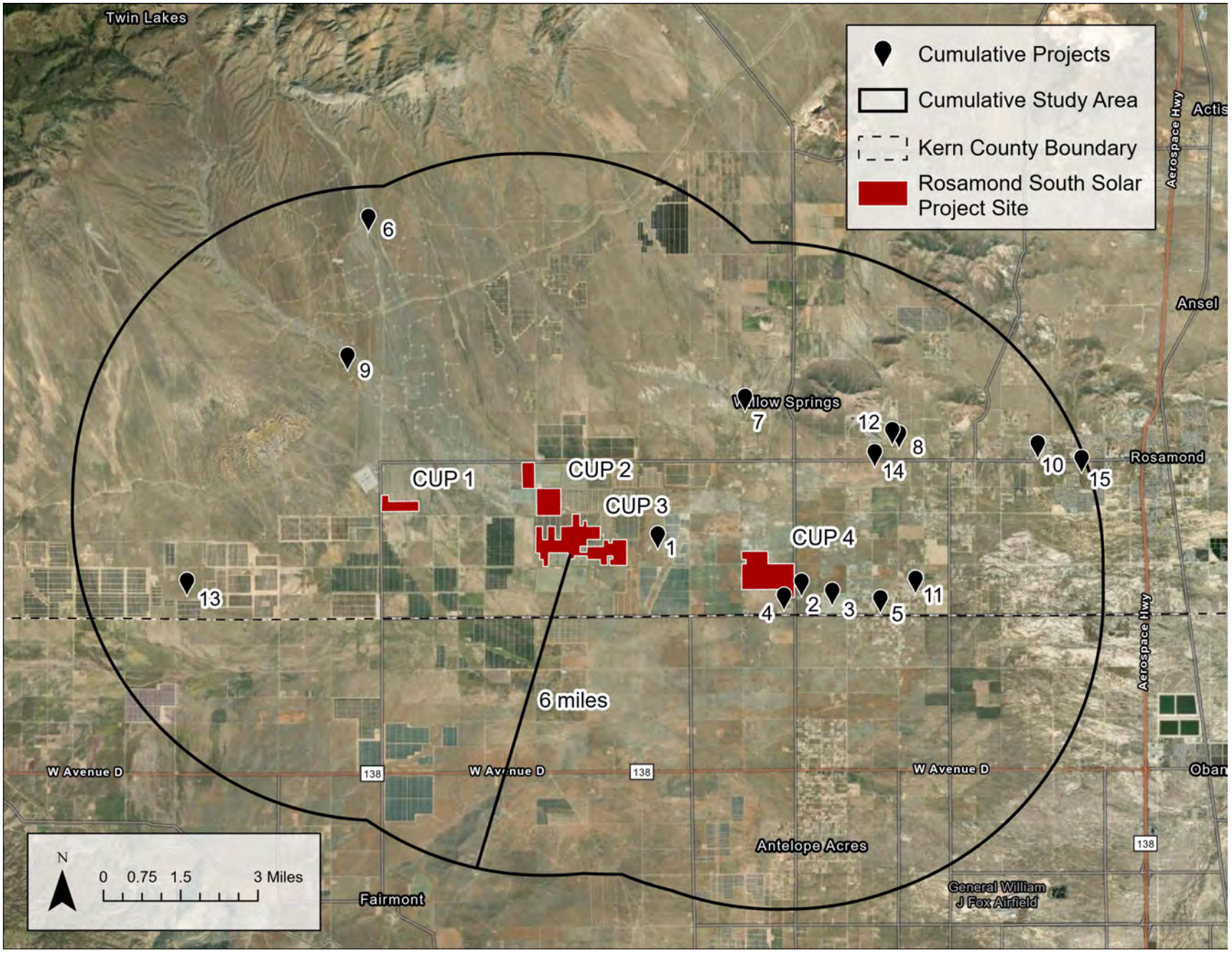
In addition, as stated in *CEQA Guidelines*, it should be noted that:

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

Cumulative impact discussions for each environmental topic area are provided at the end of each technical analysis presented in Chapter 4 of this EIR. As previously stated, and as set forth in the *CEQA Guidelines*, related projects consist of "closely related past, present, and 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).

Unless otherwise noted in each chapter, the geographic scope for the cumulative impact analysis is the western Antelope Valley. The western Antelope Valley includes portions of the southeast corner of Kern County and portions of northern Los Angeles County. The valley is formed by the Tehachapi Mountains to the northwest and San Gabriel Mountains to the southwest. SR-14 is considered the eastern boundary of this area. The western Antelope Valley is triangularly-shaped and is about 35 miles from west to east and 40 miles from north to south at its widest points. This geographic scope is selected because of its relatively uniform terrain, soil conditions, climate, habitat value, low population and development density relative to areas east of SR-14, and the region's common groundwater basin and water supply considerations. SR-14 is a major north-south route in the area, dividing the western Antelope Valley from the rest of the Mojave Desert. The Mojave Desert broadens considerably east of SR-14 as the Tehachapi Mountains run north and the San Gabriel Mountains run southeast. East of SR-14, the valley does not feature the same mountain viewsheds found in the western Antelope Valley, and includes more densely developed areas, including the community of Rosamond, the cities of Lancaster and Palmdale, Mojave Air & Space Port, Edwards Air Force Base, and U.S. Air Force Plant 42. Projects within Lancaster and Palmdale's urban cores are not considered to be part of the western Antelope Valley. These projects are of a distinctly urban character, and in many respects, would not have the same type of potential impacts as the project and others in the western Antelope Valley. Further, inclusion of urban projects could dilute, improperly magnify, or otherwise impair analysis of certain project impact areas. However, when appropriate (as determined by the impact being analyzed), a smaller or larger geographic scope was selected.

Table 3-3, *Cumulative Projects List*, shows the related projects considered in the cumulative analysis and focuses on similar projects within the aforementioned region but closer proximity to the proposed project. **Figure 3-12**, *Cumulative Projects Map* shows the approximate location of the proposed solar projects in Kern County considered in the cumulative analysis.



SOURCE: ArcGIS Pro

FIGURE 3-12: Cumulative Projects Map

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Table 3-3: Cumulative Projects List

Project Name	Location	Project Description	Permit Request	Project Site APN	Acreage/ Square Feet	Project Status
1. Proposed Project: Rosamond South Solar Project; Golden Fields Solar VI, LLC**	Near Willow Ave. in Rosamond CA	Map 232, Rosamond 7 Solar Project	Conditional Use Permit, Zone Change, and General/Specific Plan Amendment	359-331-16 359-331-20 359-331-21 359-331-22 359-332-01 359-332-02 359-332-03 359-332-04 359-332-09 359-332-10		Applied
2. Tumbleweed Solar, LLC*		Request to develop a 5 Megawatt (MW) utility-scale solar, which will include: solar panels; tracker system; inverters and transformers; electrical cabling and communication lines; on-site switch gear; generation-tie lines; access roads; security fence and cameras; an operations and maintenance (O&M) facility; and an energy storage battery system.		359-183-027	39.18	Applied
3. Sustainable Power Group**	102 90th Street West, Rosamond,	Commercial Solar Project, 400 MW		Various	1854	Processing
4. Tapia Bros., Inc.*		Map 231, ZCC - E(2 1/2) RS MH FPS & OS to A		374-020-53		Applied
5. Don ILIC *	9201 West Avenue A, Rosamond	Case #106, Map 231, Notice of Decision 104-15	Extension of Conditional Use Permit (CUP)	374-450-09		Applied
6. Sundale Mutual Water Company**	7337 Avenue A, Rosamond	Map 231	CUP Modification to delete Condition of	374-132-306	2.19	Applied

			Approval 6(a)2 of CUP Permit # 107			
7. Avangrid Solar by Avangrid Renewables, LLC**		Construct/maintain energy generating facility, battery storage, private and federal lands		476-052-097 476-061-098 476-062-047 476-110-036 476-110-044 476-110-143 476-110-168 476-110-192 476-130-026 476-130-117	855.12	Processing
8. First Solar, et al**		Solar/Wind	GPA to change map code, zone change, CUP for solar energy and communications tower	252-341-482		Processing
9. Jefferies John & Jessica**		Map 231-15, Warehouse/Storage	Precise Development Plan and Zone Change	252-190-129	2.55	In Review
10. EDF Renewables on behalf of BigBeau Solar LLC**	4551 170th Street West, Rosamond	Development of 128 MW PV solar including photovoltaic panels, battery storage, generators, foundations, generators, foundations, generation tie routes, transformers, substations, laydown yards, a meteorological tower, communication towers, temporary concrete batch plants,		Various	2,557	Under construction
11. NA**	Rosamond BL, Rosamond	Map 231-13 for EOT - Apartment Complex	Conditional Use Permit 2	252-161-492	2.51	Applied
12. NA**	6643 Dogwood Ave., Rosamond, CA	Map 231 to allow the use of Cargo Containers on a Residential Lot	Conditional Use Permit	374-141-117	2.48	In Review

13.NA**	ZCC, PD, Map 231-16 to allow a zone change from OS to M-1 PD to allow the development of six (6) 5,000 sq. ft buildings for light industrial/storage use		252-171-095	2.53	Applied
14.Recurrent Energy**	Garland Solar Battery Storage Compliance		261-213-06		In Review
15.Gettysburg Solar Farm, LLC**	Gettysburg Solar Project, Map 231-21, SPA, ZCC	Conditional Use Permit	374-011-06		Approved
16.FH II LLC dba Frontier Communities**	Map 230, ZCC - 120 Unit SFR Development		472-100-63		Applied

NOTES:
* Indicates that the cumulative project is located within 1 mile of the proposed project.
** Indicates that the cumulative project is located within 6 miles of the proposed project.

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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) of 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 by Kimley-Horn and these illustrate various representative views of the project site after buildout of the proposed project. The locations of the visual simulations are shown in **Figure 4.1-1**: *Key Observation Point (Kop) Locations*, and the visual simulations are shown further below. The terms and concepts are used in the discussion below are used to describe and assess the aesthetic setting and impacts from the project.

Visual Concepts and Terminology

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

The following terms and concepts are used in the discussion below to describe and assess the aesthetic setting and impacts from the 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 highway** – any stretch of public roadway that is designated as a scenic corridor by a federal, State, or local agency.
- **Sensitive receptors or sensitive viewpoints** – viewer responses to visual settings are inferred from a variety of factors, including distance and viewing angle, type of viewers, number of

viewers, duration of view, and viewer activities. The viewer type and associated viewer sensitivity are distinguished among project viewers in recreational, residential, commercial, military, and industrial areas. Viewer activities can range from a circumstance that encourages a viewer to observe the surroundings more closely (such as recreational activities), to discouraging close observation (such as commuting in heavy traffic). Residential viewers typically have extended viewing periods and are generally considered to have high visual sensitivity. For this reason, residential views are typically considered sensitive. Viewers from public parks, recreational trails, and/or culturally important sites also have high visual sensitivities; therefore, such locations are considered sensitive viewpoints. Viewers in commercial, military, and industrial areas are not typically focused on the views and the areas do not promote enjoyment of views; therefore, viewers in these locations are assumed to have low sensitivity.

- **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.

- **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.

- **Viewing distance zones** – the landscape is subdivided into three distance zones based on relative visibility from travel routes or observation points. The three zones are: foreground, middleground, and background. The foreground zone includes areas less than ¼ mile away, the middleground zone includes areas ¼ mile to 3 miles away, and the background zone includes areas beyond 3 miles.

- **Viewers and Viewer Sensitivity**. Viewer sensitivity refers to responses to visual changes in a landscape that can be 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 be stationary or mobile and involve varying circumstances that encourage close observation of a landscape (i.e., recreational activities) or discouraging close observation of a landscape (i.e., commuting in traffic). Residential viewers have extended viewing periods and are generally considered to have high visual sensitivity. For this reason, residential views are typically considered sensitive; however, CEQA does not require an analysis of impacts on private views. Viewers from public parks, recreational trails, and/or culturally important sites may also have high visual sensitivities; therefore, such locations are considered sensitive VPs. People located in commercial, military, and industrial areas are not typically focused on views and such areas do not promote typical scenic values; therefore, viewers in these locations are assumed to have low sensitivity. In general, residents and others participating in recreational activities (e.g., hikers, equestrians, tourists) are expected to be more concerned with scenery and landscape character. Local motorists who commute daily through the same landscape may have a moderate concern for scenery and landscape character, while regional motorists or people who

work within highly urbanized areas are expected to have a lower concern for scenery and landscape character.

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

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

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

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

4.1.2 Environmental Setting

Regional Character

The project site is located within the western Antelope Valley, in the southeastern portion of Kern County. The project site is located approximately 11 miles west of the unincorporated community of Rosamond and is within the western Mojave Desert. The project site is approximately one mile north of the Kern County/Los Angeles County line.

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. Existing development in the project vicinity includes rural access roads, scattered rural residences, producing and non-producing water wells, off-highway vehicle use, cattle ranching and maintenance facilities, mining, wind and solar energy, and meteorological towers.

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 12 miles southwest and approximately 18 miles northwest of the project site. Forest, parkland, and preserve areas in the vicinity of the project site include the Angeles National Forest located approximately 31 miles southeast; the Desert Pines Wildlife Sanctuary and the Arthur B. Ripley Desert Woodland State Park located approximately 9 miles to the southwest; and the Antelope Valley California Poppy Reserve located approximately 8 miles to the south.

In total there are over 30,000 acres of existing large scale commercial solar projects in the Eastern Kern desert areas. Surrounding solar projects in the vicinity include: AVEP, Antelope Valley Solar, Big Beau Solar Project, Kingbird Photovoltaic Project, RE Astoria Solar Project, Raceway Solar Project, Rosamond Solar Array, Antelope Valley Phases 1 & 2, Willow Springs Solar Array, and Clearway's Rosamond Central Solar Project.

Furthermore, the Avalon Wind Energy Project site is located directly north of CUP Area 1 north of Rosamond Boulevard, and is operational.

Local Character

The nearest populated areas to the project site in Kern County are the unincorporated community of Rosamond, the unincorporated community of Mojave, and the City of Tehachapi, which are approximately 7 miles east of CUP Area 4 and 14 miles east of CUP Area 1, 20 miles northeast of CUP Area 1 and 17 miles north of CUP Area 4, 19 miles north of Area 1 and 23 miles northwest of CUP Area 4, respectively. Existing development in the area includes rural access roads, scattered rural residences, producing and non-producing water wells, off-highway vehicle use, and wind and solar energy.

CUP Area 1 is directly accessed by Rosamond Boulevard, Holiday Avenue and 170th Street west, and CUP Area 1 is generally bordered by 170th Street West on the west, an existing SCE transmission line easement to the south, and undeveloped land to the north and east.

CUP Area 2 is directly accessed via Rosamond Boulevard, Holiday Avenue, and 140th Street West. CUP Area 2 is generally bordered by Holiday Avenue to the South, 140th Street West and undeveloped land to the west, Rosamond Boulevard, and other solar development to the north, 135th Street, undeveloped land, and solar development to the east, Rosamond Boulevard, undeveloped land, and solar development to the south, and 130th Street West, undeveloped land and solar uses to the east.

CUP Area 3 is directly accessed via Holiday Avenue, Gaskell Road, 140th Street West, and 120th Street West. CUP Area 3: is generally bordered by Gaskell Road and undeveloped land to the south,

100th Street West, 140th Street West, and undeveloped land to the west, Willow Avenue, Holiday Avenue, and undeveloped land to the north, and 130th Avenue west and undeveloped land to the east.

CUP Area 4 is directly access via Gaskell Road, 100th Street West, and 90th Street West, Paved and unpaved roadways generally following section lines are found throughout the area. CUP Area 4: is split from east to west by Gaskell Road and Kingbird Avenue, and is generally bordered by West Avenue A, undeveloped land and agricultural land to the south, 150th West Street, undeveloped, agricultural and rural residential use to the west, Buckhorn avenue, undeveloped land, and rural residential uses to the north, and 90th West Street, undeveloped land, and rural residential uses to the east.

Elevations across the 1,292-acre project site range from approximately 2,760 feet above mean sea level (amsl) in the northwesterly portion of CUP Area 1 to approximately 2,450 feet amsl in CUP Area 4. As described in more detail in Section 4.4, *Biological Resources*, based on descriptions and the habitat classification system in the California Wildlife Habitat Relationships (CWHR), six habitat types were present within the BSA. These included Annual Grassland, Desert Scrub, Alkali Desert Scrub, Barren, Urban, and Deciduous Orchard. The most prevalent habitat type on the project site was Annual Grassland, which covers approximately 69 percent of the project footprint and by Desert Scrub that covers approximately 30 percent of the project footprint. There is one (1) existing residence located within the project boundaries that is within the northerly portion of CUP Area 2 adjacent to Rosamond Boulevard.

Scenic Highways

According to the California Department of Transportation (Caltrans) California Scenic Highway Mapping System, there are no Designated State Scenic Highways within Kern County (see Section 4.1.3, *Regulatory Setting*, below for more information on the State Scenic Highway Mapping System). The closest Eligible Scenic Highways are SR-58 (portion east of SR-14), located approximately 23 miles northeast of CUP Area 1 and 18 miles northwest of CUP Area 4 (Caltrans, 2021). Prominent views along SR-14 and SR-58 add to the scenic elements in the landscape for motorists and 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 closest designated scenic route is State Route 210, located approximately 37 miles south of the project site.

Lighting Environment

The project site does not currently contain any substantial sources of lighting except for the local rural residential uses, 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. These sources of lighting also produce a limited amount of nighttime lighting. The main source of nighttime lighting, although

insubstantial, is from motorists passing through the area with headlights on, and from the required FAA lights on the wind turbine projects generally located north of CUP Area 1.

Solar Panel Glare Potential

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

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

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

SCE Interconnection Facilities

The views and lighting environment for the SCE property are substantially similar to the project site. The SCE property is developed with the Whirlwind Power Station.

4.1.3 Regulatory Setting

Federal

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, 2016). PCT's southern terminus is on the U.S. border with Mexico, just south of Campo, California, and its northern terminus on the Canada–US border on the edge of Manning Park in British Columbia; its corridor through the U.S. is in the states of California, Oregon, and Washington. As stated previously, the PCT is located approximately 4.5 miles west of the proposed project site. Views of the project components from the PCT would be limited given their distance from the PCT, and intervening topography between viewers along the PCT and the project components would partially obscure views of the project components.

State

California Scenic Highway Program

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

As described in Section 4.1.2, *Environmental Setting*, there are no Designated State Scenic Highways within Kern County and the project site is not located directly adjacent to any eligible State Scenic Highway. The closest Eligible Scenic Highways are SR-58 (portion east of SR-14), located approximately 23 miles northeast of CUP Area 1 and 18 miles northwest of CUP Area 4 (Caltrans, 2021).

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, Willow Springs Specific 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 and Willow Springs Specific Plan related to aesthetics 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 proposed 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 (Kern County, 2009) evaluate the visual and aesthetic setting of Kern County and assess the potential for visual impacts. The Kern County General Plan Energy Element sets forth policies to encourage orderly energy development in visually sensitive areas.

The Kern County General Plan Circulation Element also provides a discussion regarding Scenic Routes. A Scenic Route is defined in the Kern County General Plan as any freeway, highway, road, or other public right-of-way which traverses an area of exceptional scenic quality. A roadway can only be designated as a scenic route by direct action of the Kern County Board of Supervisors or the State of California. A route may not be selected as scenic until a visual assessment of the route has been conducted to determine if the route meets the current scenic highway criteria as mentioned above and to what extent development has encroached on the scenic views. The County also has to prepare and adopt a plan and program for the protection and enhancement of adjacent roadside viewshed land. As such, goals, policies and implementation measures regarding Scenic Routes in the Circulation Element are focused 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 State Route 14 and State Highway 395. Route 2 consists of State Route 58 between Mojave and Boron. Route 3 consists of 5 miles of State Route 41 in northwest Kern County. The project site would not be visible from any of these Routes. The Kern County General Plan provides general goals and policies for design features of development projects in order to reduce their impacts to scenic resources.

As 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.

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

1.10.7 Light and Glare

Policies

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

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

Implementation Measures

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

Chapter 5: Energy Element

5.4.7 Transmission Lines

Goal

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

Policy

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

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

Willow Springs Specific Plan

The proposed project is located within the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in 1992 and amended in 2008 as part of the Land Use, Open Space, and Conservation Element of the Kern County General Plan. Its goals, policies, and standards are compatible with those of the General Plan but are tailored to the particular needs of the expanded Willow Springs area. The aesthetic-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project are outlined below (Kern County, 2008).

Land Use Element

Policies (Industrial)

Policy 13: Encourage the maintenance of visual aesthetics in all new construction.

Mitigation/Implementation Measures

Measure 18: Initial development within the Willow Springs Specific Plan Update area shall, when possible, be directed towards previously impacted areas (i.e., agricultural fields). Portions of the plan area with native vegetation, especially along the northern and western borders, shall be developed in the later phases of project buildout.

Kern County Zoning Ordinance

Chapter 19.80.030 – Development and Performance Standards – Commercial and Industrial Districts

Standard J: All exterior lighting shall be directed away from adjacent properties and roads. When lighting will be visible from a residential district or adjacent public roads, the lighting will be visible from a residential district or adjacent public roads, the lighting standards shall be equipped with glare shields or baffles and shall not exceed forty (40) feet in height above grade.

Chapter 19.81, Dark Skies Ordinance (Outdoor Lighting)

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

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

Objective 2: Promote a reduction in unnecessary light intensity and glare, and to reduce light spillover onto adjacent properties.

Objective 3: Protect the ability to view the night sky by restricting unnecessary upward projections of light.

Objective 4: Promote a reduction in the generation of greenhouse gases by reducing wasted electricity that can result from excessive or unwanted outdoor lighting.

Kern County Development Standards

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

4.1.4 Impacts and Mitigation Measures

This section describes the impact analysis relating to aesthetics for the proposed 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 (FHWA, 2015), the Bureau of Land Management (BLM), the U.S. Forest Service (USFS), and other federal regulatory agencies. This method includes:

- Defining the project and its visual setting by assessing the project proponent's submitted project application materials, including plans and descriptions, and reviewing Google Earth Pro aerial photographs and street-level photography, Kern County Geographic Information System (GIS) topographic and land use data, and U.S. Geological Survey (USGS) topographic data;
- Conducting a field visit in September 2021 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 six Key Observation Points (KOPs) within vicinity from which to evaluate potential visual impacts resulting from implementation of the proposed project.
  - KOPs that are the most representative and important VPs identified during the field survey to evaluate potential visual impacts that would result from the project.
- Preparing visual simulations of post-development views from the KOPs.
- Assessing the project's impacts to sensitive views by applying the visual quality rating system to each of the visual simulations.
- Proposing methods to mitigate or reduce 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 CEQA *Guidelines*, Appendix G. More detailed information on the methodology behind the selection of KOPs and rating visual quality is provided below.

Selection of Key Observation Points (KOPs)

KOPs were selected to represent views that would be experienced from sensitive viewpoints. KOPs are single viewpoints that appropriately reflect the impact implementation of the project would have on one or more sensitive receptors. Sensitive receptors near the 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.

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, and viewers of the project site from rural residences along local roads.

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.

The project site is located in a rural area. As described in Section 4.1.2, *Environmental Setting*, scattered rural residences are found surrounding the 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.

Six KOPs were 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*. The KOPs selected for simulation were chosen because they represent views residents, motorists, and recreational users would experience from their adjacent homes and local roadways, respectively, when viewing the project site.

Table 4.1-1: Key Observation Points

KOP	Location	Representative Sensitive Viewers
1	From the intersection of 170th Street W and Astoria Avenue looking northeast toward the project site.	Motorists on 170th Street West as they pass the project site.
2	From the intersection of Rosamond Boulevard and 140th West looking southwest towards the project site.	Motorists on Rosamond Boulevard as they pass the project site.
3	From the intersection of 130th Street West and Willow Avenue looking north towards the project site.	Residents and motorists at 130th Street West and Buckhorn Avenue located near the project site.
4	From the intersection of Gaskell Road and corner of CUP Area 3 looking northwest towards the project site.	Motorists on Gaskell Road and residents located near the project site.
5	From the intersection of 100th Street West and George Avenue looking northwest towards the project site.	Motorists on 100th Street West and residents located near the project site.
6	From the intersection of 90th Street West and Elder Avenue looking southwest toward the project site.	Motorists on 90th Street West and residents located near the project site.

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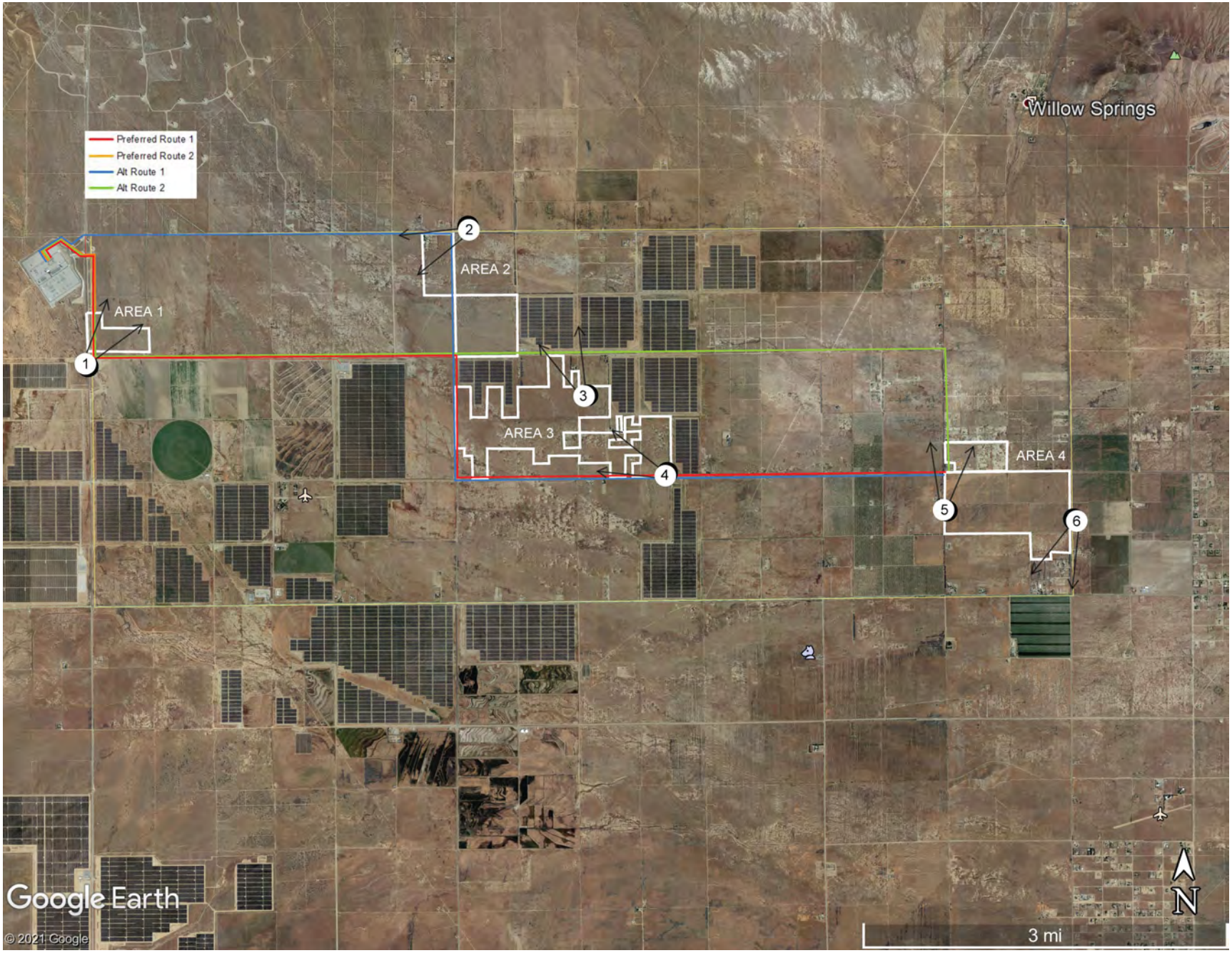

SOURCE: Google Earth, 2021

FIGURE 4.1-1: Key Observation Point (KOP) Locations

Simulation Preparation

Visual simulations of the proposed project from the identified KOPs were prepared to provide a representation of the pre- and post-project visual conditions as well as context for qualitative description of the aesthetic changes that would result from implementation of the proposed project. Photographs were taken during a site visit in September 2021 and simulations were prepared by Kimley-Horn 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

Photography from Key Observation Points	• Photos were taken on a clear sunny day in September 2021. • Canon 5D digital camera with a 35 to 52 mm zoom
Visual simulation assumptions	• Solar modules would be up to 14 feet in height. • Modules on single axis tracking system were used to show the worst-case visual impact. • O&M Building(s) covering approximately 500 square feet (sf), and the communication building approximately 60 (sf) with a maximum height of 12 feet. • 20-acre Battery Energy Storage System (BESS). • Storage enclosures (similar in size to a shipping container) located in the CUP areas. • On-site Meteorological Station(s) and equipment would be approximately 30-feet in height. • Transmission tower with maximum of 200 feet in height that would include communication cables, lines, and circuits. • Collection line structures up to 75 feet in height. • Solar module setbacks from property line ranges from 20-30 feet.
Methods	Following data gathering phase, the process begins with a determination of proposed camera locations and/or station points with the County. Upon review and approval of camera locations by the County, Kimley-Horn coordinated the timing of the site photography and schedules the initial site visit with County staff and/or project planner. This includes identification of reference points with GPS coordinates and specific fields of vision for each view. Concurrently, the modeling team develops an exact computer model of the proposed solar modules to illustrate elevations. Natural and finished pads, including existing and surrounding contextual elements such as streets, terrain, pads, and adjacent buildings (where applicable), were used as a reference. 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 cad provided. During this process, a computer model camera is aligned with the onsite photography to depict the project setting within each view. Lastly, a proposed landscape concept is applied (where applicable) and 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 sites, but would be similar and provide a valid comparison to evaluate project impacts to aesthetics.

Rating Visual and Scenic 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. 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 quantitatively by evaluating the presence or absence of scenic features and the intrusion of features that detract from the scenic features.

According to this method, visual and scenic quality can be 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.

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

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

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

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

- **No Impact:** The project would not have an impact from an identified sensitive viewpoint. In visual impact analysis, there is no impact if the project's potential visual modifications cannot be seen from an identified sensitive viewpoint.

Table 4.1-3: Visual Quality Rating System

Key Factors	Rating Criteria and Score		
Landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops, or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers.	Steep canyons, mesas, buttes, cinder cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional.	Low rolling hills, foothills, or flat valley bottoms; or few or no interesting landscape features.
	If true Score 5	**If true Score 3**	**If true 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.
	If true Score 5	**If true Score 3**	**If true 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.
	If true Score 5	**If true Score 3**	**If true 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.
	If true Score 5	**If true Score 3**	**If true 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.
	If true Score 5	**If true Score 3**	**If true Score 1**
Scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc.	Distinctive, though somewhat similar to others within the region.	Interesting within its setting but fairly common within the region.
	If true Score 5*	**If true Score 3**	**If true 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.
	If true Score 2	**If true Score 0**	**If true Score -4**

Table 4.1-3: Visual Quality Rating System

Key Factors	Rating Criteria and Score

NOTES:

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

SOURCE: BLM 1986

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in 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.

Effects Found Not to Be Significant

The lead agency determined in the Notice of Preparation/Initial Study (NOP/IS), located in Appendix A of this EIR, that the proposed project would not result in significant impacts to some of these environmental issue areas, and that no further analysis would be required in the EIR. Thus, the following issue areas are scoped out of further analysis in this EIR:

a. The project would not be visible from any Officially Designated State or County Scenic Highway. Scenic Highways within Kern County and the project site is not located directly adjacent to any eligible State Scenic Highway. The closest Eligible Scenic Highways are SR-58 (portion east of SR-14), located approximately 23 miles northeast of CUP Area 1 and 18 miles northwest of CUP Area 4 (Caltrans, 2021. Because SR-58 and SR-14 are not officially designated no policies regarding development within Scenic Routes would be applicable. Nonetheless, the project would conform with the KCGP goals and policies for design features to reduce their impacts to scenic resources. The policies and implementation measures in the Kern County General Plan for aesthetic resources would ensure the proposed project does not result in substantial visual conflicts. Therefore, there are no project impacts to scenic resources within a state scenic highway and no further analysis is required.

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 4.5 miles west of the proposed project site in the foothills of the Tehachapi Mountains. The areas surrounding the project site have been heavily modified, with new solar facilities and a large wind facility located between the proposed project and the PCT as discussed in Section 4.1.2, *Environmental Setting*, above. While implementation of the project would add new manmade elements to views from some areas of the PCT, the distance of the project site from the PCT trail 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 likely result in the project producing no noticeable impact to views from the PCT. Therefore, impacts to scenic vistas would be less than significant and no mitigation would be required.

SCE Interconnection Facilities

The SCE property is developed with the Whirlwind power station and the SCE Interconnection Facilities would have minimal potential to change to the appearance of the site. The SCE property is located approximately 12 miles from the PCT at its closest point. Distance and intervening topography would likely result in the SCE Interconnection Facilities producing no noticeable impact to 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 for the project. Impacts would be less than significant for the SCE Interconnection Facilities, and no mitigation is required for the SCE Interconnection Facilities.

Impact 4.1-2: 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 in Section 4.1.2, *Environmental Setting*, existing development in the project vicinity includes rural access roads (paved and unpaved),

scattered rural residences, electrical transmission infrastructure, and wind and solar energy facilities. As the project is located within a nonurbanized area, the analysis below focuses on whether development of the project would substantially change the existing visual character or quality of public views of the site and its surrounding

Construction

Construction activities associated with the project would create temporary changes in views of the CUP Areas. 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 within the CUP Areas and to install the new transmission lines with 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 (with the exception of the residence and residential accessory structures) setting of the project site. Vehicles, equipment, and construction activity would be on site on a temporary basis in nature with peak construction anticipated to last 3 to 12 months and would be limited to active areas of construction as opposed to the entirety of the project site at the same time. The aboveground elements and activities associated with construction would be visible and noticeable from public areas surrounding the project for a relatively short distance (approximately 0.5 miles) due to the relative flatness of the topography, except where views are obstructed by vegetation, and structures.

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, as discussed above, 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-construction visual conditions. As described above, six 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 4.1-2**, *Visual Simulation Methodology and Assumptions*. Impacts associated with operation of the project would vary by viewer location and are discussed below by KOP. The rating system and impacts methodology are discussed in the "Rating Visual Quality" section above.

The solar facility would introduce solar arrays covering most of the project site. Collection lines, an O&M building, storage yards, dirt or gravel access roads, communication towers, and perimeter fence with barbed wire on top) would be visible for an estimated lifespan of over 30 years. These features would be visible to residents, workers at nearby solar facilities, and travelers on surrounding roadways for the life of the project.

The O&M facility would include a building (approximately 50'x100' – 500sf), which would be constructed to provide a base for ongoing operations and maintenance at the project site. The building would house electronic controls and communication systems; provide storage space for tools, maintenance supplies, and spare parts; and provide on-site facilities for the staff.

The aforementioned communication towers would introduce a tall vertical element into the landscape that would most likely be located next to the O&M facility and substation. Roads, driveways, and parking lot 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 7 feet tall (6 feet of chain link with one foot of barbed wire on top). The battery containers and other equipment which would comprise the energy storage systems (ESS) 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, collection and distribution powerlines are proposed to connect the project site to existing substations (built for the North Rosamond and Willow Springs Solar Project).

Solar modules would be made up of individual panels that would use either fixed-tilt or tracker technology. Each module would be up to 13 feet tall and have approximately 18 inches of clearance between the bottom and the ground.

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. Lower values indicate greater impacts, while 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 Table 4.1-4 through 4.4-10 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 170th West and Astoria Avenue looking to the Northeast Towards the Project Site*, shows views from the intersection of 170th West and Astoria Avenue. This KOP reflects views to the project site that would be experienced by motorists along the roadway(s) adjacent to the project site. At KOP 1, the project site is located approximately 100 yards from the roadway. The pre-development views from KOP 1 shows that the landscape is relatively flat and covered with low-lying desert shrubs in the foreground and middle ground. Dark limited mountainous terrain of the Tehachapi Mountains is visible in the background to the north and northwest. Power transmission lines also are situated between the view location and proposed solar arrays. In addition, the background view is characterized by wind energy generation on the northerly side of the solar panels. The windmills partially obscure distance views of the hills. The post-development view from KOP 1 (see **Figure 4.1-2**) would include moderate changes and modifications (i.e., solar arrays) that would be located low in the middle ground landscape. The solar panels and associated elements would be visible from KOP 1, would be in contrast with the natural environment, but would not be a substantial contract with existing utility infrastructure of the power lines or views of windmills in the background. Accordingly, the project would contrast with the existing muted earth tones in the foreground and background but would not result in obstruction of distant view. As discussed in **Table 4.1-4**, *Visual Quality Rating Analysis – KOP 1*, the predevelopment score is 11, and the post-development score is 6. Since the difference in scores would be 4 points, visual impacts from KOP 1 are potentially significant.

Table 4.1-4: Visual Quality Rating Analysis – KOP 1

Sensitive Receptor: Residents located near the project site.
Pre-development and post-development conditions are depicted in **Figure 4.1-2**.

Rated Feature	Pre-development Condition	Post-development Score	Difference in Scores	Impact Significance
Landform	2	1	1	Less than Significant
Explanation:	Relatively flat terrain covered with low-lying desert shrubs with limited mountainous terrain in the background. The foreground and midground have powerlines and wind generation towers that partially block the distant landforms.	The flat topography of the area would not be substantially changed by project development. The solar panels would be visible, but are at a distance and would not block views of distant landforms.		
Detail:	The solar panels would be approximately 100 yards from the roadway away and would be in an area with flat terrain. The solar array would not block views the Tehachapi Mountains. The panels would change but would not represent a substantial contrast with the existing landforms in the environment in the foreground or middle ground.			
Vegetation	3	2	1	Less than Significant
Explanation:	Low, mounded desert shrub vegetation; similar species present in the visible landscape.	Desert shrub vegetation would be removed from the solar sites in the middle ground.		
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 would be noticeable but changes and contract would be minimized by viewing distance from the roadway.			
Water	1	1	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	1	1	Less than Significant
Explanation:	Shades of brown, yellow, and muted green on the valley floor across the foreground and middle ground (associated with soil and vegetation). Grey associated with soil and distant mountains.	Solar arrays would display a dark black horizontal band of panels in the middle ground which would contrast with the earth tones in the foreground and be darker the visible sky.		

Table 4.1-4: Visual Quality Rating Analysis – KOP 1

Sensitive Receptor: Residents located near the project site.
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:	Muted earth tones of brown, green and yellow dominate the foreground and middle ground. The dark solar arrays would be in contrast to the lighter earth tones of soils and vegetation. The colors of the panels would be similar to those of the vertical and horizontal lines of the existing powerlines, power poles, and sky. Background colors would not be substantially altered			
Adjacent Scenery	2	1	1	Less than Significant
Explanation:	Mountains to the north enhance the view. Foreground and midground scenery is minimized by existing powerlines and windfarm	Mountains would remain visible and would not be substantially obstructed by project components. Scenery of the midground and foreground would be changed.		
Detail:	The project would not modify, substantially obstruct, or interrupt views of adjacent scenery. Views of the horizon to the northeast would be blocked but the but midground views would be consistent with existing utility lines, power poles, and windmills.			
Scarcity	1	1	0	No Impact
Explanation:	The available view is broad. There are no unique aspects from this view. Similar views exist throughout the region.	Views would be slightly modified by industrial development in the middle ground.		
Detail:	Existing views offered from 170th Street West are typical of the area and also contain substantial utility infrastructure connecting to the existing substation. Visible features are not particularly unique or unusual. 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 transmission lines, roadway, and windfarm in the background.	Project development would add low-profile solar arrays in the middle ground.		
Detail:	Existing cultural modifications are particularly prominent, and consist of utility infrastructure including vertical power poles and crossing powerlines (diagonal and horizontal). The solar arrays would be added to the middle ground and would result in less-than-significant impacts.			
Totals:	**11**	**6**	**4**	**Potentially Significant**

KOP 1 Existing Views

KOP 1 Simulated Views

FIGURE 4.1-2: KOP 1 Existing and Simulated Views from 170th West and Astoria Avenue looking to the Northeast Towards the Project Site

SOURCE: Kimley-Horn, 2021

KOP 2. Figure 4.1-3, *KOP 2: Existing and Simulated Views from Rosamond Boulevard and 140th Street West Looking Southwest towards the Project Site*, shows views from the intersection of Rosamond Boulevard and 140th Street West looking southwest toward the project site. This KOP reflects views that motorists and local residents travelling along Rosamond Boulevard and 140th Street West would experience as they pass the project site (located adjacent to the intersection). The pre-development views from KOP 2 depicts generally broad and flat terrain covered with mounded grey and brown shrubs and low golden grasses in the foreground. Within the middle ground there are trees that obscure the presence of an existing rural residence. To the north along 140th West Street are powerlines (typical wooden power poles) that extend northerly. In the westerly portion of the view are tan hills that rise from the otherwise flat terrain in the background. Similar to above, the central and easterly views of the hills are partially blocked to fully blocked by the intervening trees and residence. The post-development view from KOP 2 (see **Figure 4.1-3**) depict the solar arrays and show complete obstruction of views of the undeveloped landscape within the project site. Only the tops of few trees adjacent to the residence are visible. The panels also completely obscure distant views and the tops of the panels appear as a horizontal line against the skyline. The panels in this location represent a substantial contract in color and texture of the landscape and vegetation. As discussed in **Table 4.1-5**, *Visual Quality Rating Analysis – KOP 2*, the pre-development score is 13, and the post-development score is also 6. Since the difference in scores would be 5 points, there would be no visual impacts experienced from KOP 2.

Table 4.1-5: Visual Quality Rating Analysis – KOP 2

Sensitive Receptor: Motorists on Rosamond Boulevard as they pass the project site and local residents. 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	2	1	Potentially Significant Impact
Explanation:	Relatively flat terrain in the foreground with minor artificial slopes and mounded areas cleared of vegetation. The middle ground is flat but with a residence(s) and dark hills in a portion of the background.	The foreground would be substantially modified with solar array, but landforms would remain flat. Views of landforms in the midground and background would be blocked. v		
Detail:	The pre-development view is dominated by a slightly modified flat valley terrain in the foreground, residential use in the middle ground and partial views of low lying hills in the background. The solar arrays would be prominent and block existing views of existing landforms and significantly change views of landforms.			
Vegetation	3	1	2	Potentially Significant Impact
Explanation:	Low and mounded desert shrub vegetation covers the foreground and there are numerous non-native trees in the middle ground surrounding the residence.	Vegetation removal would be reduced because of existing modifications, but the panels would completely obscure the landscape vegetation surrounding the residence.		

Table 4.1-5: Visual Quality Rating Analysis – KOP 2

Sensitive Receptor: Motorists on Rosamond Boulevard as they pass the project site and local residents. 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
Detail:	Removal of vegetation in the foreground would be visible but minimized from past removals. Solar arrays installed on the project site would be prominent in views, however, and would impact views of other midground vegetation.			
Water	1	1	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	2	1	1	Potentially Significant Impact
Explanation:	Shades of yellow and minor muted green, with light brown and earth tones are displayed by vegetation and soil and Rosamond Boulevard is dark black and grey asphalt in the foreground. Dark green vegetation characterizes the middle ground and dark brown mountains rise from the valley in a portion of the westerly views.	The dark color of solar arrays would be substantially different than the existing colors in the landscape. The panels would be in contrast to the bare ground that would remain in the foreground. The colors of existing vegetation with the exception of a few landscape trees would be completely removed or blocked.		
Detail:	Post-development views would be dominated by the dark black and blue colors of the new solar arrays that would be the dominant element in the viewshed.			
Adjacent Scenery	2	1	1	Potentially Significant Impact
Explanation:	Views of the desert terrain has been modified from creation of minor slopes, installation of underground infrastructure, and residential uses.	The existing elements in the viewshed would be removed or blocked from view.		
Detail:	Most of the existing viewshed and adjacent scenery would be substantially changed and blocked from view. Although, the changes would be slightly minimized as some visual elements have already been altered.			
Scarcity	2	1	1	Potentially Significant Impact
Explanation:	There are no particularly unique or unusual aspects in the view. Existing elements in the foreground and middle ground (existing residence) have changed the native landscape.	The foreground would be substantially altered with the installation of the solar panels and would almost completely block views of the residential uses in the middle ground.		

Table 4.1-5: Visual Quality Rating Analysis – KOP 2

Sensitive Receptor: Motorists on Rosamond Boulevard as they pass the project site and local residents. 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
Detail:	The view from Rosamond Boulevard is somewhat typical of views available throughout the area. This view shows modifications to landforms and vegetation associated with the roadways, and rural residential uses detract from the remaining natural and undisturbed areas. The solar array would reduce remaining scarcity of views.			
Cultural Modifications	0	-1	-1	No Impact
Explanation:	Cultural modifications include paved roads, underground utilities are indicated by an above ground concrete utility structure and existing rural residence and non-native landscaping.	Project development would add dark solar arrays, regularly spaced and dominant in the environment. Solar arrays would block or replace views of existing cultural modifications.		
Detail:	The viewshed in this area has been modified with the addition of the roadways, utilities, and residential use with non-native landscaping. The introduction of solar arrays would be dominant in the foreground and the solar arrays would be new and intrusive visual elements.			
Totals:	**13**	**6**	**5**	**No Impact**

KOP 2 Existing Views

KOP 2 Simulated Views

FIGURE 4.1-3: KOP 2 Existing and Simulated Views from Rosamond Boulevard and 140th Street West Looking Southwest towards the Project Site

SOURCE: Kimley-Horn, 2021

KOP 3. Figure 4.1-4, *KOP 3: Existing and Simulated Views from 130th Street West and Willow Avenue Looking Northwest Towards the Project Site*, shows views from the interior dirt access road used to reach local rural residences. This KOP reflects views that motorists and local residents using unpaved access roads would experience as they pass the project site (located approximately 20-30 feet from the roadway). The pre-development views from KOP 3 depicts broad and flat terrain covered with mounded grey and brown shrubs and low golden grasses in the foreground, wooden power poles and windfarm windmills in the middle ground, and darker blue grey low-lying hills in the background. Also in the midground within the easterly side of the view frame of the KOP is a tan colored single story residential unit surrounded by landscaped trees rising above the elevation of the roof and partially obscuring the hills in the background. The post-development view from KOP 3 (see **Figure 4.1-4**) depicts the solar arrays within the westerly side of the KOP. The solar panels would completely obstruct views of the foreground, middle ground and background and would interrupt the long view across the valley terrain creating a noticeable color contrast. This would increase the volume of straight, thin, vertical features present in the view. The easterly views within the KOP would not block the residence and associated vegetation as these uses exist northerly of the edge of the solar installation ceases. Views of the distant hills remain visible over the residence and further to the north. As discussed in **Table 4.1-6**, *Visual Quality Rating Analysis – KOP 3*, the pre-development score is 12, and the post-development score is also 6. Since the difference in scores would be 6 points, there would be no visual impacts experienced from KOP 3.

Table 4.1-6: Visual Quality Rating Analysis – KOP 3

Sensitive Receptor: Local motorists and residents located near the project site.
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	1	1	Potentially Significant Impact
Explanation:	Broad and flat terrain with a dirt road in the foreground, the middle ground also is broad and flat and there are hills in the background.	Project development would not modify the northwesterly views in the foreground but would block midground and background views.		
Detail:	The pre- and post-development view is dominated by flat valley terrain in the foreground, modified landforms in the middle ground, and tan and dark hills in the background. Existing development in the middle ground partially block views of the distant hills. The solar array would block foreground views and would block distant and midground views. Views of landforms to the north would not be altered.			
Vegetation	2	1	1	Potentially Significant Impact
Explanation:	Low and mounded desert shrub vegetation covers the foreground and non-native landscape vegetation is visible surrounding the residence.	Vegetation removed from the fore ground would occur but vegetation adjacent to the dirt road would remain, Views of existing vegetation around the residence would not change.		

Table 4.1-6: Visual Quality Rating Analysis – KOP 3

Sensitive Receptor: Local motorists and residents located near the project site.
Pre-development and post-development conditions are depicted in **Figure 4.1-4.**

Rated Feature	Pre-development Condition	Post-development Score	Difference in Scores	Impact Significance
Detail:	Removal of vegetation in the foreground from the solar arrays would be minimized from the 20-30 feet of remaining vegetation adjacent to the roadway. The solar arrays would be result in contrast with existing vegetation, although it would be slightly reduced to existing non-native vegetation surrounding the residence and previous removals along the roadway.			
Water	1	1	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	2	1	1	Potentially Significant Impact.
Explanation:	Shades of yellow, green and brown are display by soil and vegetation, which dominate the foreground as well as tan bare ground in the dirt road. The middle ground contains green non-native landscaped trees and the low grey, black, and tan mountains rise from the valley in the background.	The dark color of solar arrays would be in contrast to the nearby dirt roadway, vegetation, and green non-native vegetation surrounding the residence.		
Detail:	Pre- and post-development views are and would continue to be dominated by earth tones within the vegetation between the solar array and existing dirt road. The dark colors of the solar arrays would strongly contrast with, both the native colors and the colors of the vegetation surrounding the residence.			
Adjacent Scenery	2	1	1	Potentially Significant Impact
Explanation:	Views of the flat desert terrain are broken by the existing residence, non-native vegetation, and existing powerlines and windfarm that partially obscure the hills and mountains to the south.	Hills and mountains within the northwesterly portion of the viewshed would be completely blocked. The residence and vegetation would remain visible.		
Detail:	The project would result in a modifications and would substantially obstruct and interrupt views of adjacent scenery. While, no obstruction would occur of the residence, impact to views of adjacent scenery would result.			

Table 4.1-6: Visual Quality Rating Analysis – KOP 3

Sensitive Receptor: Local motorists and residents located near the project site.
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
Scarcity	2	1	1	No Impact
Explanation:	The eastern extent of the broad view is limited by middle ground residence and non-native landscape. The western extent of the broad distant views is afforded but partially obscured by the existing powerlines and windfarm. The views are not particularly unique or unusual aspects in the view, and similar views are present throughout the region.	The westerly portion of the middle ground would be modified by the introduction of solar arrays and would remove distant views of the existing powerlines, wind farm, and distant mountains. The existing solar and wind creates some similarity to other existing modified views in the area.		
Detail:	The view from the roadway is typical of views available throughout the area that are in proximity to residential uses. The landforms and vegetation are not particularly unique or unusual. Landscape modification resulting from project development would result in changes to the to view scarcity.			
Cultural Modifications	1	0	1	Less than Significant Impact
Explanation:	Cultural modifications include dirt roads, existing residence and non-native landscaping, electrical transmission lines, and wind farm windmills.	Project development would add low-profile and dark solar arrays that would be visible in the viewshed. Views of the residence would remain as the project boundary ceases at this point as viewed from the KOP.		
Detail:	The post-development view would change with installation of the solar arrays being visible starting approximately 20-30 feet west of the existing dirt road within the foreground and would obstruct views of the windmills and power infrastructure in the background. The northly view of the residence and electric infrastructure would not be changed.			
Totals:	**12**	**6**	**6**	**No Impact**

KOP 3 Existing Views

KOP 3 Simulated Views

FIGURE 4.1-4: KOP 3 Existing and Simulated Views from 130th Street West and Willow Avenue Looking northwest towards the Project Site

SOURCE: Kimley-Horn, 2021

KOP 4. Figure 4.1-5, *KOP 4: Existing and Simulated Views from the Intersection of Gaskell Road and the Southeast Corner of CUP Area 3. Looking northwest towards the Project Site*, shows views from the Gaskell Road looking northerly towards the project site. This KOP reflects views to the project site that motorists travelling on Gaskell Road and nearby residents would experience. The pre-development views from KOP 4 depict relatively flat terrain with low shrubs and grasses visible in the foreground and more low shrubs, grass, development and power poles and electrical lines visible in the middle ground. The northerly side of the views in the KOP are characterized by a residential unit surrounded by trees and the northly side is characterized by a residential unit and outbuilding. Distant views of the Tehachapi Mountains are visible. In the middle ground between the residential unit in westerly side of the KOP frame are windfarm windmills. The post-development view from KOP 4 (see **Figure 4.1-5**) would not change the immediate foreground, approximately 20-30 feet north of the Gaskell Roadway, but the middle ground views would be completely obscured by the solar panel installation. Distant view of the mountains would still be available over the top of the solar arrays. This represents a moderate to substantial change in the viewshed both in terms of massing and scale and changes in color and vegetative patterns. As discussed in **Table 4.1-7**, *Visual Quality Rating Analysis – KOP 4*, the pre-development score is 12, and the post-development score is 6. Since the difference in scores would be 6 points, visual impacts from KOP 4 are potentially significant.

Table 4.1-7: Visual Quality Rating Analysis – KOP 4

Sensitive Receptor: Local motorists and residents located near the project site.
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	3	1	2	Potentially Significant Impact
Explanation:	Broad and flat terrain, dirt driveway and an asphalt paved road in the foreground. The middle ground is similar but has two existing residences and the background has low lying hills.	Project development would modify the foreground which would block midground and background views, but the background hills would remain visible over the top of the solar arrays.		
Detail:	The pre- and post-development view is dominated by flat valley terrain in the foreground, modified landforms in the middle ground, and tan and dark hills in the background. Existing development in the middle ground already partially block views of the distant hills. The solar arrays in the foreground would modify the landforms and block distant and midground views of the landscape.			
Vegetation	2	1	1	Potentially Significant Impact.
Explanation:	Low and mounded desert shrub vegetation covers the foreground and non-native landscape vegetation and areas with no vegetation is visible surrounding the residence.	Vegetation removed from the fore ground would occur but vegetation adjacent to the dirt road would remain. Views of the existing vegetation and lack of vegetation around the residences would not change.		

Table 4.1-7: Visual Quality Rating Analysis – KOP 4

Sensitive Receptor: Local motorists and residents located near the project site.
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:	Removal of vegetation in the foreground due to installation of the solar arrays would be minimized due to the 20-30 feet of vegetation adjacent to the roadway being preserved. The solar arrays would be prominent and would contrast with existing vegetation.			
Water	1	1	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	2	1	1	Potentially Significant Impact.
Explanation:	Shades of yellow, subdued green and brown are displayed by the vegetation and soil, which dominates the foreground as well as weathered grey asphalt in the existing road. The middle ground contains minimal green non-native landscaped trees. In the background the low grey, black, and tan mountains rise from the valley floor.	The dark color of solar arrays would be in contrast to the native vegetation and soils in the foreground. The existing residential uses and landscaping would be completely obscured in the middle ground and the panels would be dark in color and somewhat match the darker colors on the distant hills.		
Detail:	Pre- and post-development views are and would maintain the native colors and landscape in the immediate foreground, but the new visual environmental would be dominated by the proposed solar panels located approximately 20-30 feet from the existing paved roadway. The solar array also would be dominant in the middle ground but would, due to color slightly blend with the darker colors of the distant hills in the background.			
Adjacent Scenery	2	1	1	Potentially Significant Impact
Explanation:	Views of the flat desert terrain are minimized and interrupted by the existing residences, non-native vegetation, and three power poles. The wind farm in the distance also partially obscures the distant hills.	The immediate foreground would not be altered, but the solar array would completely block the residential units in the middle ground. Hills in the background would remain visible.		
Detail:	The project would result in a modification and would obstruct and interrupt views middle ground scenery largely consisting of existing residences. The immediate foreground and background of the distant hills would remain visible.			

Table 4.1-7: Visual Quality Rating Analysis – KOP 4

Sensitive Receptor: Local motorists and residents located near the project site.
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
Scarcity	2	1	1	No Impact
Explanation:	The views are not particularly unique or unusual aspects in the view, and similar views within existing roadways, native landscaping, rural residences, windfarm installations are present within the vicinity and region.	The solar array would alter the view of the middle ground by blocking the residential uses and some of the foreground views but distant views would not be blocked.		
Detail:	The view from the roadway is typical of similar views available in the vicinity and region that are in proximity to residential uses. The landforms and vegetation are not particularly unique or unusual. Landscape modification resulting from project development would result in changes to the to view scarcity.			
Cultural Modifications	1	0	1	Less than Significant Impact
Explanation:	Cultural modifications include dirt roads and driveways, existing paved roadway, existing residences and non-native landscaping, electrical transmission lines, and wind farm windmills.	The solar arrays would be dark and visible in the foreground and block views of all residential, accessory structures, and electrical installation in midground views.		
Detail:	The post-development view would change substantially with the solar arrays that would be installed approximately 20-30 feet from the existing roadway. View of the residences in the middle ground and other structures and utilities would be completely blocked.			
Totals:	**12**	**6**	**6**	**No Impact**

KOP 4 Existing Views

KOP 4 Simulated Views

FIGURE 4.1-5: KOP 4 Existing and Simulated Views from the Intersection of Gaskell Road and the Southeast Corner of CUP Area 3. Looking northwest towards the Project Site

SOURCE: Kimley-Horn, 2021

KOP 5. Figure 4.1-6, *KOP 5: Existing and Simulated Views from 100 Street West South of George Avenue Looking Northerly towards the Project Site,* shows views from the 100 Street West looking north towards the project site (located approximately 20-30 feet away). This KOP reflects views to the project site experienced by motorists on 100 Street West and residents located near the project site. The pre-development views from KOP 5 depict 100 Street West continuing in a northerly directly and flanked on either side by rows of midheight vegetation and wooden power poles. This portion of the middleground blocks distant views, but between the rows of vegetation lining 100 Street west and distance views of dark gray and blue mountains are detectable in the background to the north, distant view consist of low-lying hills that are exceeded in height by wooden power poles in the middle ground. The balance of the views consist of relatively flat terrain covered with low and mounded tan and green desert shrubs in the foreground. Several tan hills in the middle-ground are visible, and outbuildings and a large shade structure. The post-development view from KOP 5 (**Figure 4.1-6**) would primarily consist of rows of dark solar modules in the foreground extending form the northerly portion of the frame to the intersection with 100th Street West. View of the middle ground would be completely blocked by the panels and the distance views to the north as well. Views of the hill and mountains in the center and left half of the frame, as well as vegetation lining the roadway would be preserved. As discussed in **Table 4.1-8**, *Visual Quality Rating Analysis – KOP 5*, the pre-development score is 12, and the post-development score is 6. Since the difference would be 6 points, visual impacts from KOP 5 are potentially significant.

Table 4.1-8: Visual Quality Rating Analysis – KOP 5

Sensitive Receptor: Local motorists and residents located near the project site.
Pre-development and post-development conditions are depicted in **Figure 4.1-6**.

Rated Feature	Pre-development Condition	Post-development Score	Difference in Scores	Impact Significance
Landform	3	1	2	Potentially Significant Impact
Explanation:	Broad and flat terrain, dirt driveway and an asphalt paved road in the foreground. The middle ground has similar topography with two existing residences and the background has low lying hills.	The solar array would modify the foreground and block midground views. The background views of the hills would remain visible over the top of the solar arrays.		
Detail:	The pre- and post-development view is dominated by flat valley terrain in the foreground, modified landforms in the middle ground, and tan and dark hills in the background. Existing development in the middle ground partially block views of the distant hills. The solar arrays would substantially alter foreground landforms and block distant and midground views of the landscape.			
Vegetation	2	1	1	Potentially Significant Impact.
Explanation:	Low grass vegetation covers the foreground and non-native landscape vegetation and areas with no vegetation is visible surrounding the residence.	Vegetation in the foreground and middle ground vegetation would be removed and distant vegetation on the hill would be blocked. Views of the existing vegetation adjacent to the roadways would remain.		

Table 4.1-8: Visual Quality Rating Analysis – KOP 5

Sensitive Receptor: Local motorists and residents located near the project site.
Pre-development and post-development conditions are depicted in **Figure 4.1-6**.

Rated Feature	Pre-development Condition	Post-development Score	Difference in Scores	Impact Significance
Detail:	Removal of vegetation in the foreground would occur but effects would be minimized because vegetation adjacent to the roadway would be remain. The solar arrays would be prominent in the foreground of the viewshed and would result in contrast with existing vegetation but would be slightly minimized.			
Water	1	1	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	2	1	1	Potentially Significant Impact.
Explanation:	The foreground is dominated by grasses that are predominantly yellowish in color and this view continues into the middle ground. The foreground and middle ground on the north side of the KOP is grey and green from roadway and vegetation. The background colors are brown hills and dark on the hillsides.	The dark color of solar arrays would be in contrast to the naïve vegetation in the foreground. Most of the middle ground colors would be completely blocked from view with the exception of the grey and green middle ground along the roadway. The dark background would be largely obscured.		
Detail:	Post-development views would result in changes to the native colors in the landscape within the foreground and middle ground and replace the light yellowish color with dark solar arrays located approximately 20-30 feet from the existing paved roadway. The solar array would be the dominant visual element in the middle ground but would, due to color, slightly blend with the darker colors of the distant hills in the background.			
Adjacent Scenery	2	1	1	Potentially Significant Impact
Explanation:	The KOP is characterized by 100 Street West and adjacent non-native vegetation and power poles. The midground is characterized by a low-lying hill and large shade structures. Distant power lines are also visible.	The immediate foreground would not be altered, but the solar array would completely block midground on the east side of 100 Street West. No changes to the roadway or adjacent vegetation would occur.		
Detail:	The project would result in a modification and would obstruct and interrupt views of foreground and midground scenery.			

Table 4.1-8: Visual Quality Rating Analysis – KOP 5

Sensitive Receptor: Local motorists and residents located near the project site.
Pre-development and post-development conditions are depicted in **Figure 4.1-6**.

Rated Feature	Pre-development Condition	Post-development Score	Difference in Scores	Impact Significance
Scarcity	2	1	1	Potentially Significant Impact
Explanation:	The views are not particularly unique or unusual in the vicinity of the project. Views are similar considering the existing roadways, grasses, non-native landscaping along the roadway, utility infrastructure, hills, and distant views.	The solar array would alter the view of the foreground, middle, and background of the easterly portion of the KOP. Changes to the northerly views would not change and the roadway and vegetation would remain.		
Detail:	The view from the roadway is typical of similar views available throughout the area that are in proximity to solar installations and arrays. The landforms and vegetation are not particularly unique or unusual. Landscape modification resulting from project development would result in modest changes to the scarcity of the view.			
Cultural Modifications	1	0	1	Less than Significant Impact
Explanation:	Cultural modifications include paved roads, power lines, and outbuildings.	Project development would add dark solar arrays that would be visible in the foreground and midground block views of all midground views. The solar arrays would contrast with existing environment.		
Detail:	The post-development view would primarily consist of rows of dark solar modules in the foreground extending form the northerly portion of the frame to the intersection with 100th Street West. View of the middle ground would be completely blocked. Views of the hill and mountains in the center and left half of the KOP, as well as vegetation lining the roadway would remain			
Totals:	**12**	**6**	**6**	**Potentially Significant Impact**

KOP 5 Existing Views

KOP 5 Simulated Views

FIGURE 4.1-6: KOP 5 Existing and Simulated Views from 100th Street West South of George Avenue Looking Northerly towards the Project Site

SOURCE: Kimley-Horn, 2021

KOP 6. Figure 4.1-7, *KOP 6: Existing and Simulated Views from 90th Street West and Elder Avenue Looking Southwesterly towards the Project Site*, shows views from the 90th Street West looking north towards the project site (located approximately 40-50 feet away). This KOP reflects views to the project site experienced by motorists on 90th Street West and residents located near the project site. The pre-development views from KOP 5 depict 90th Street West continuing in a northerly directly and flanked on the left side of the roadway with wooden power poles. The views of the foreground largely consist of flat terrain covered with low and mounded tan and green desert shrubs. The middle ground is characterized by rural residential uses and landscaping consisting of green trees. Over the residential uses and consistent throughout the frame are the distance but low ly9ing darker hills or the Tehachapi Mountains. On the right side of the frame appearing at the base of the hills are the white towers of the windfarm. The post-development view from KOP 6 (**Figure 4.1-7**) would primarily consist of rows of dark solar modules in the middle ground complete obscuring the residential area. Immediately adjacent to the roadway the landscaping would remain, but distance views would be replaced by the horizontal and square lines of the panels. The views along the roadway would remain and distant views would still be visible. As discussed in **Table 4.1-9**, *Visual Quality Rating Analysis – KOP 6*, the pre-development score is 12, and the post-development score is 6. Since the difference would be 6 points, visual impacts from KOP 5 are potentially significant.

Table 4.1-9: Visual Quality Rating Analysis – KOP 6

Sensitive Receptor: Local motorists and residents located near the project site.
Pre-development and post-development conditions are depicted in **Figure 4.1-7**.

Rated Feature	Pre-development Condition	Post-development Score	Difference in Scores	Impact Significance
Landform	3	1	2	Potentially Significant Impact
Explanation:	Broad and flat terrain, driveway an asphalt paved road, dirt roads, and distant low-lying hills in the background.	The solar array would modify the foreground within approximately 20-30 feet from the roadway, and block midground and background views.		
Detail:	The pre- and post-development view is dominated by flat valley terrain in the foreground, middle ground, and tan and dark low lying hills in the background. Existing development in the middle ground partially block views of the distant hills. The solar arrays would substantially alter foreground landforms and block distant and midground views of the landscape.			
Vegetation	2	1	1	Potentially Significant Impact.
Explanation:	Low, mostly grassy vegetation covers the foreground and midground, and non-native landscape vegetation is present around the residences in the midground.	Vegetation in the foreground and middle ground vegetation would be removed and views of non-native vegetation would be blocked. Views of the existing vegetation adjacent to the roadways would remain.		

Table 4.1-9: Visual Quality Rating Analysis – KOP 6

Sensitive Receptor: Local motorists and residents located near the project site.
Pre-development and post-development conditions are depicted in **Figure 4.1-7**.

Rated Feature	Pre-development Condition	Post-development Score	Difference in Scores	Impact Significance
Detail:	Removal of vegetation in the foreground would occur but effects would be minimized because vegetation adjacent to the roadway would be remain. The solar arrays would be prominent in the foreground of the viewshed and would result in contrast with existing vegetation but would be slightly minimized.			
Water	1	1	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	1	2	Potentially Significant Impact.
Explanation:	The foreground is dominated by grasses that are predominantly yellowish in color and this view continues into the middle ground. Some areas with tan earth colors also exist. The middle ground and background on this KOP is dark green and grey. These colors are present along the roadways.	The dark color of solar arrays would be in contrast to the naïve earth tones and vegetative colors in the foreground. Most of the middle ground colors would be completely blocked from view with the exception of the grey and green middle ground along the roadway. The dark background would be largely obscured.		
Detail:	Post-development views would result in changes to the native colors in the landscape within the foreground and middle ground and replace the light yellowish color with dark solar arrays located approximately 20-30 feet from the existing paved roadway. The solar array would be the dominant visual element in the foreground and middleground.			
Adjacent Scenery	2	1	1	Potentially Significant Impact
Explanation:	The KOP is characterized by the north south trending 90th Street West and adjacent non-native vegetation and power poles. The midground is flat and largely undeveloped and distant low-lying hills are visible.	The foreground would be changed with installation of the solar array and also would completely block views in the midground on the east side of 90th Street West. No changes to the roadway or adjacent vegetation would occur.		
Detail:	The project would result in a modification and would obstruct and interrupt views of foreground and midground scenery. The low-lying hills would be partially obscured but not blocked.			

Table 4.1-9: Visual Quality Rating Analysis – KOP 6

Sensitive Receptor: Local motorists and residents located near the project site.
Pre-development and post-development conditions are depicted in **Figure 4.1-7**.

Rated Feature	Pre-development Condition	Post-development Score	Difference in Scores	Impact Significance
Scarcity	2	1	1	Potentially Significant Impact
Explanation:	The views are not particularly unique or unusual in the vicinity of the project. Views are similar considering the existing roadways, grasses, non-native landscaping along the roadway, utility infrastructure, hills, and distant views.	The solar array would alter the view of the foreground, middle, and background.		
Detail:	The view from the roadway is typical of views within the vicinity and region in proximity to solar installations and arrays. The landforms and vegetation are not particularly unique or unusual. Landscape modification resulting from project development would result in modest changes to the scarcity of the view.			
Cultural Modifications	1	0	1	Less than Significant Impact
Explanation:	Cultural modifications include paved roads, power lines, residential uses, outbuildings, and non-native vegetation.	Project development would add dark solar arrays that would be visible in the foreground and midground and block views of all midground views.		
Detail:	The post-development view would primarily consist of rows of dark solar modules in the foreground and block views of existing residences and associated uses. Views of the roadway, power poles, and some vegetation would not be blocked.			
Totals:	**12**	**6**	**6**	**Potentially Significant Impact**

KOP 6 Existing Views

KOP 6 Simulated Views

FIGURE 4.1-7: KOP 6 Existing and Simulated Views from 90th Street West and Elder Avenue Looking Southwesterly towards the Project Site.

SOURCE: Kimley-Horn, 2021

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 would reduce the need for grading and visible alteration of landforms.
- The lack of scenic designation of local roads in the immediate project area indicated 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 13 feet in height. Because the solar panels occur in the foreground of most local roadways, they would not block long-distance views and would diminish the overall visual quality.
- The gen-tie route would appear similar to all the existing distribution and transmission power lines traversing the area and would not diminish the overall visual quality.
- 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. Facilities would not operate at night, and no regular nighttime staffing would be required.
- The gen-tie route would appear similar to all the existing distribution and transmission power lines traversing the area and would not diminish the overall visual quality.

Summary

As shown in **Tables 4.1-4** through **4.1-9**, 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 represent a substantial change in the visual environment from most areas. This would be considered an adverse change and potentially significant impacts on existing visual character and scenic quality from public views near the project site. These changes would affect views from but not limited to areas within and surrounding Gaskell Road, Rosamond Boulevard, Willow Avenue, Elder Avenue, George Avenue, 170th Street West, 140th West, 100th Street West, and 90th Street West.

The visual simulations and impact discussion for KOPs 1 through 6 demonstrate how the proposed project would result in significant visual impacts with the expected solar panel heights of approximately 13 feet which would have effects on views of adjacent scenery.

The project sites would be substantially modified from the removal of vegetation and installation of dense groupings of solar arrays. This will typically have the greatest changes on the foreground and middle ground because these views would be very noticeable in the landscape. The dark color of the thousands of solar arrays as viewed from distances, the hills in the background, when visible, could begin to appear similar to other dark tones associated with distant terrain in the landscape. Nonetheless, the visual change would be evident from nearby and adjacent roadways, including, Rosamond Boulevard, Gaskell Road, and numerous north-south trending streets such as 140 Street West and 100th Street West. Thus, even with distance and diminished visibility, the visual change associated with the introduction of the solar arrays within the developable area on currently

undeveloped desert terrain would result in substantial modifications to the viewshed. Further, the introduction of thousands of solar panels, the O&M facilities, the energy storage facilities, and the collection lines supported by up to 75-foot-high structures would result in an increase to the existing footprint of solar and electrical transmission development in the Rosamond area. Although other areas are developed in the vicinity with existing solar and other renewable energy developments, the project would introduce additional manufactured elements where they do not currently exist in the landscape. This would result in significant aesthetic impacts.

Mitigation Measures MM 4.1-1 through MM 4.1-4 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 proposed project area where feasible, allowing for a natural screening of project components. Furthermore, the color treatment of buildings would help these components to better blend in with the natural landscape.

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.

SCE Interconnection Facilities

The SCE property is already developed with an electrical substation. The addition of the SCE Interconnection Facilities would develop improvements and new interconnection-related components such as additional control equipment on property that is already developed with electrical transmission facilities. The SCE Interconnection Facilities would not change the industrial character of the site or degrade the existing visual character or quality of the SCE property

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 four times per year; this can be done in conjunction with regular panel washing and site maintenance activities.

b. The project proponent/operator shall erect signs with contact information for the project proponent/operator's maintenance staff at regular intervals along the site boundary, as required by the Kern County Planning and Natural Resources Department. Maintenance staff shall respond within two weeks to resident requests for additional cleanup of debris. Correspondence with such requests and responses shall be submitted to the Kern County Planning and Natural Resources Department.

c. The project proponent/operator shall implement a regular trash removal and recycling program on an ongoing basis during construction and operation of the project. Barriers to prevent pest/rodent access to food waste receptacles shall be

implemented. Locations of all trash receptacles during operation of the project shall be shown on final plans.

d. Trash and food items shall be contained in closed secured containers at the end of the day and removed at least once per week to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.

MM 4.1-2: The project proponent shall install metal fence slats or similar view-screening materials, as approved by the Kern County Planning and Natural Resources Department, in all on-site perimeter fencing for any portion of the solar site that is adjacent to parcels zoned for residential use, including E (Estate Residential), RS (Residential Suburban Combining), PD (Precise Development Combining), or MH (Mobile Home Combining) 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 4.1-3: 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, collection line poles, array facilities, etc. blend in with the colors found in the natural landscape. All color treatments shall result in matte or nonglossy finishes.

MM 4.1-4: Wherever possible, within the proposed project boundary the natural vegetation shall remain undisturbed unless mowing is necessary for placement of the project components. All natural vegetation adjacent to the proposed project boundary shall remain in place. 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, and (4) 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 the three-year periods, an annual evaluation report shall be submitted to the Kern County Planning and Natural Resources Department for each of the three years. 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.

Level of Significance after Mitigation

With implementation of MM 4.1-1 though MM 4.1-4 impacts would be significant and unavoidable for the project. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs. No mitigation measures are required for the SCE Interconnection Facilities.

Impact 4.1-3: 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) 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 a.m. to 9:00 p.m. Monday through Friday and 8:00 a.m. to 9:00 p.m. on weekends. Construction of the project would generally occur during daytime hours; however, non-daylight hours may be necessary at times to make up for unanticipated schedule delays or to complete critical construction activities. In the event that work is performed between the hours of 9:00 p.m. to 6:00 a.m., 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 4.1-5, 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*, night lighting would be installed for security and maintenance needs at the main access entrances, O&M Building(s), substations (as necessary), and major equipment enclosures. The O&M Building(s) and any substation lighting will be controlled by motion sensors, by a control switch accessible within the site control center or as required by code. Maintenance of the plant may be necessary during nighttime hours. In this event, portable, directional lighting would be utilized for the work areas. The solar field would not require lighting. Lighting would be designed to provide the minimum illumination needed to achieve safety and security objectives. Additionally, lighting would be directed downward and shielded to focus illumination on the desired areas only and to minimize light trespass in accordance with applicable County requirements. Potential operational impacts associated with new sources of lighting at the solar sites would be minimized through compliance with applicable development standards pertaining to lighting, including Chapter 19.81 (Dark Skies Ordinance), as required with

implementation of Mitigation Measure MM 4.1-5, 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 4.1-5 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. Although solar facility glare potential is much lower than is commonly perceived, solar panels have the potential to create some glare. Although the project may produce glare, it is not expected to cause extreme visual discomfort or impairment of vision for residents because the panels are designed to absorb as much sunlight as possible and, therefore, would have minimal reflectivity. Similarly, and also due to their low reflectivity, the panels would not be expected to cause visual impairment for motorists on area roadways. This is because local motorists would pass well under the angle of refraction (i.e., less than 30 degrees). 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. To reduce glare potential, the project would be required to implement Mitigation Measures MM 4.1-5 through MM 4.1-7, which require the use of non-reflective and glare-minimizing materials. With implementation of these mitigation measures, impacts would be less than significant.

Mitigation Measures

MM 4.1-5: Prior to commencement of project operations of the solar facility, the project proponent shall demonstrate to Kern County Planning and Natural Resources Staff that the project site complies with the applicable provisions of the *Dark Skies Ordinance* (Chapter 19.81 of the Kern County Zoning Ordinance), and shall be designed to provide the minimum illumination needed to achieve safety and security objectives. All lighting shall be directed downward and shielded to focus illumination on the desired areas only and avoid light trespass into adjacent areas. Lenses and bulbs shall not be exposed or extend below the shields.

MM 4.1-6: Prior to the issuance of building permits, the project proponent shall demonstrate the solar panels and hardware are designed to minimize glare and spectral highlighting. Emerging technologies shall be used, such as diffusion coatings and nanotechnological innovations, to effectively reduce the refractive index of the solar cells and protective glass. These technological advancements are intended to make the solar panels more efficient with respect to converting incident sunlight into electrical power while also reducing the amount of glare generated by the panels. Specifications of such designs shall be submitted to the Kern County Planning and Natural Resources Department.

MM 4.1-7: Prior to commencement of project operations of the solar facility, the project operator shall demonstrate that all onsite buildings utilized non-reflective materials, as approved by the Kern County Planning and Natural Resources Department.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.1-5 through MM 4.1-7, impacts would be less than significant. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs. No mitigation measures are required for the SCE Interconnection Facilities.

Cumulative Setting Impacts and Mitigation Measures

As shown in **Table 3-4**, *Cumulative Project List*, there are numerous projects in the area including several utility-scale solar and wind energy production facilities. These have already created impacts on the sense of open areas generally associated with the California desert area as well as removing iconic types of vegetation, such as Joshua Trees, that attract people to locate in desert communities and is contrary to various goals of the County to promote tourism in the desert area. The size and scope of already existing development of over 30,000 acres of solar projects are increased by the proposed project, and there are increased by the proposed project and there are cumulative impacts to aesthetics when considered together with the project. Unobstructed views of regional topographical features and undeveloped lands would no longer be available as acreage is developed with solar projects that would contain PV panels and new transmission lines and would be unavailable for any other use for the 20- to 30-year lifespan of these large-scale solar projects.

The project would result in significant and unavoidable impacts related to visual character despite implementation of mitigation. While other projects in the region would also be required to implement various mitigation measures to reduce impacts, the conversion of thousands of acres in a presently rural desert area to solar energy production uses cannot be mitigated to a degree that impacts are no longer significant. 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.

SCE Interconnection Facilities

The SCE property is already developed with an electrical substation. The addition of the SCE Interconnection Facilities would develop improvements and new interconnection-related components such as additional control equipment on property that is already developed with electrical transmission facilities. The SCE Interconnection Facilities would not change the visual character of the substation site, nor increase the amount of lighting on-site nor glare on-site during construction and operation. Cumulative impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.1-1 through MM 4.1-7.

Level of Significance after Mitigation

With implementation of MM 4.1-1 through 4.1-7, cumulative impacts would be significant and unavoidable for the project. Cumulative impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs. No mitigation measures are required for the SCE Interconnection Facilities.

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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 forest resources for the proposed project. It also describes the impacts on agricultural and forest resources that would result from the implementation of the project, and includes mitigation measures that would reduce these impacts, where applicable. This section is based, in part, on information provided in the Kern County Agricultural Crop Report (2019) prepared by the Department of Agriculture and Measurement Standards.

4.2.2 Environmental Setting

Regional Setting

Kern County covers approximately 8,132 square miles (5,204,480 acres) including 1,334 square miles (883,909 acres) of harvested agricultural land (Kern County Department of Agriculture and Measurement Standards 2020). According to the 2019 Kern County Agricultural Crop Report, agriculture in Kern County was worth approximately $7.6 billion in 2019, which is an increase of 2 percent from the 2018 crop value (7.4 billion). The top five commodities for 2019 were almonds, grapes, citrus, milk, and pistachios, which made up more than $5.5 billion (72 percent) of the total value, with the top twenty commodities making up approximately 95 percent of the total value (Department of Agriculture and Measurement Standards, 2019).

Kern County's population is growing, and like many agricultural based jurisdictions, must balance urbanization and the loss of farmland. As shown in **Table 4.2-1**, *2016-2018 Land Use Conversion in Kern County*, the California Department of Conservation (CDOC) found the amount of Important Farmland--which includes the categories of prime farmland, farmland of statewide importance, unique farmland, farmland of local importance—in Kern County decreased by 6,076 acres between 2016 and 2018. The amount of grazing land in Kern County increased by 5,375 acres between 2016 and 2018 (CDOC 2021). Approximately 5,905 net acres were converted from agricultural and other uses to urban/built-up land from 2016 to 2018 (CDOC 2021). (Note: These various farmland designations are defined in Section 4.2.3, Regulatory Setting, below).

The project site is located on the western edge of the Mojave Desert. Although there are many areas zoned for agricultural uses in this area (including the project site), land uses in this part of the County consist primarily of undeveloped native desert vegetation interspersed with scattered residences in the communities of Desert Lake and Boron.

Table 4.2-1 2016-2018 Land Use Conversion in Kern County

Land Use Category	Total Acres 2016	Total Acres 2018	Net Acres 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	+445
Farmland of Local Importance	0	0	--
Important Farmland Subtotal	880,102	874,026	- 6,076
Grazing Land	1,849,266	1,854,641	5,375
Agricultural Land Subtotal	2,729,368	2,728,667	-701
Urban and Built-Up Land	159,179	165,084	5,905
Total Area Inventoried	5,224,310	5,224,315	5

Source: CDOC, 2021.

According to Kern Economic Development Corporation (KEDC), it is estimated that the total population of Kern County will reach approximately 1,213,558 individuals in 2040, growing from 2020's population of approximately 917,553 (Kern County, 2021). The anticipated growth in population will likely increase pressure to convert agricultural land in Kern County to nonagricultural uses. However, it is important to note, the conversion of agricultural land is affected by numerous factors other than population growth and urban development. Actual production is dependent on commodity prices, water prices and supply, labor, the proximity of processing and distribution facilities, and pest management. Factors such as weather, trade agreements, and labor disputes can also affect decisions regarding what crops are grown and which lands go in and out of production. Most conversion of Prime or Farmland of Statewide Importance agricultural lands is occurring within the planned development footprint of Metropolitan Bakersfield. Very little conversion of the most productive agricultural lands has occurred in outlying areas of the County including the Mojave.

Local Setting

Project Site Designation

The project site is located within unincorporated Kern County on approximately 1,292 acres of undeveloped (with the exception of two residences and residential accessory structures), privately owned land and within the administrative boundaries of the Willow Springs Specific Plan. As previously stated in Chapter 3, *Project Description*, the proposed project consists of CUP Areas 1, 2, 3, and 4 which are 70.99 acres, 240.58 acres, 541.16 acres, and 439.26 acres, respectively. The project site is currently designated as follows by the Willow Springs Specific Plan: 2.6 (Erosion Hazard), 2.85

(Noise Management Area), 4.4 (Comprehensive Planning Area), 5.3 (Maximum 10 units/net acre), 5.6 (Minimum 2.5 gross acres/unit) 5.7 (Minimum 5 gross acres/unit), 6.2 (General Commercial), 7.2 (Service Industrial), and 8.1 (Intensive Agriculture). See **Figure 3-4a** – *CUP Area 1 Existing Willow Springs Specific Plan Designations*, **Figure 3-4b** – *CUP Area 2 and 3 - Existing Willow Springs Specific Plan Designations*, **Figure 3-4c** *CUP Area 4 – Existing Willow Springs Specific Plan Designations*. **Figure 3-7a** – *CUP Area 1 Existing Zoning*, **Figure 3-7b** – *CUP Area 2 and 3 - Existing Zoning*, **Figure 3-7c** *CUP Area 4 – Existing Zoning*. Additionally, as shown in **Table 3-2**, *Project Site and Surrounding Land Uses*, of Chapter 3, *Project Description*, the project site is zoned exclusive agricultural, mobile home combining, residential suburban combining, or estate residential, with some floodplain secondary combining districts.

A portion of the project site is located within the boundaries of Agricultural Preserve No. 24 and is primarily vacant and undeveloped (with the exception of some rural residences and residential accessory structures). As depicted in **Figure 4.2-1,** *Farmland Mapping and Monitoring Program Designations*, and according to the California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP) 2018 Important Farmland map for east Kern County, there are no agricultural lands designated as Prime Farmland, Farmland of Statewide Importance or Unique Farmland located within the project site. CUP Areas 1, 2, and 3 are designated as Nonagricultural and Natural Vegetation and CUP Area 4 is designated as Grazing Land , Nonagricultural or Natural Vegetation , and Semi-Agricultural and Rural Commercial Land (DOC, 2018). Therefore, no lands designated as Important Farmland are located within the project site (DOC, 2018).

Williamson Act Contract Lands

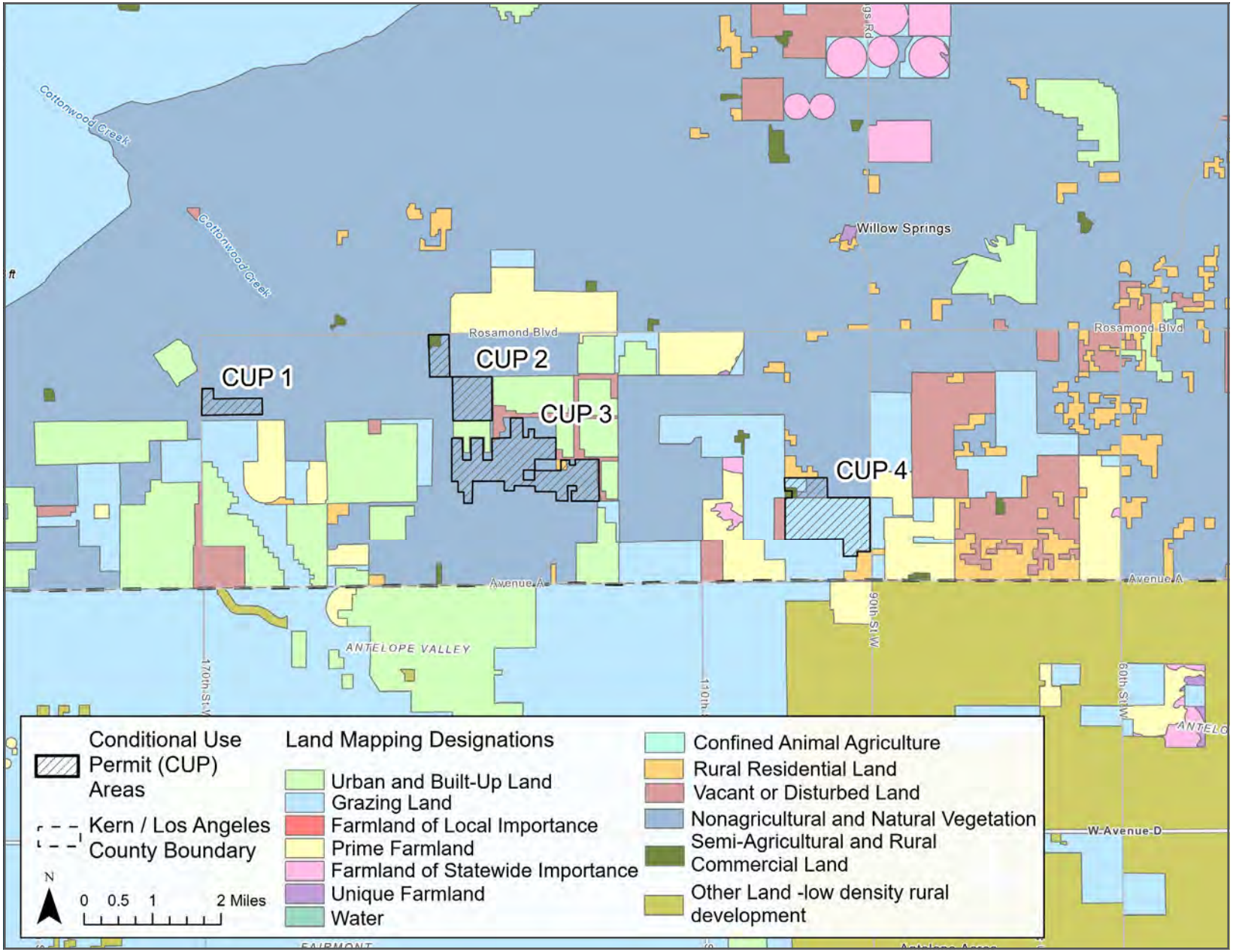
The project site does not contain lands that are subject to Williamson Act contracts, either in active on in nonrenewal status. There are no lands under Williamson Act contracts adjacent to the project site or in the project area.

Forestry Resources

The project site is not situated on forest or timberland. No land in the vicinity of the project site is zoned as forestland or timberland, or for timberland production.

SCE Interconnection Facilities

The SCE property has a similar agricultural history as the project site. It is developed currently with an electrical substation and electrical transmission facilities.



SOURCE: ArcGIS Pro, The Farmland Mapping and Monitoring Program (FMMP), 2018

FIGURE 4.2-1: Farmland Mapping and Monitoring Program Designations

4.2.3 Regulatory Setting

Federal

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

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

In 1981, Congress passed the Agriculture and Food Act (Public Law 97-98) which contained the FPPA, Subtitle I of Title XV, Sections 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 two 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 irreversibly convert farmland (directly or indirectly) to non-agricultural use and are completed by a Federal agency or rely on assistance from a Federal Agency such as the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) (USDA, 2021).

State

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

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

The list below describes the categories mapped by the DOC (DOC California Important Farmland Finder, 2018) through the FMMP. Collectively, lands classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland are referred to as "farmland."

- **Prime Farmland.** Farmland that has the ideal combination of physical and chemical features. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields and long-tern 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 water bodies smaller than 40 acres. Undeveloped and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

California Land Conservation Act (Williamson Act)

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

Participation in the Williamson Act program is dependent on County adoption and implementation of the program and is voluntary for landowners (DOC, 2019). The rules of each agricultural preserve specify the allowed uses. Local governments may identify compatible uses that can be permitted under a use permit, which the County does by way of its Exclusive Agriculture zone. Additionally, 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. Therefore, the proposed project would be compatible with the Kern County Agriculture Preserve No. 24. Further, there are no parcels within the project site that are under any Williamson Act contracts or being used for agriculture.

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. 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, 2019).

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

1. 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;
2. 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
3. The use would not result in the significant removal of adjacent contracted land from agricultural or open-space use.

A proposed use of nonprime land under a Williamson Act contract may be approved even if it fails to comply with (1) and (2) above, as long as the use is approved pursuant to a conditional use permit setting forth several enumerated findings set forth in Government Code section 51238.1(c).

Farmland Security Zone Act

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

Public Resources Code Section 21060.1

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

Local

Kern County General Plan

The Kern County General Plan states that agriculture is vital to the future of Kern County and sets goals to protect important agricultural lands for future use and prevent the conversion of prime agricultural lands to other uses (e.g., industrial or residential). The Kern County General Plan includes four (4) designations for agricultural land:

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

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

- **8.2 Resource Reserve (minimum parcel size is 20 acres gross, except to a Williamson Act Contract/Farmland Security Zone Contract, in which case the minimum parcel size shall be 80 acres gross)** – Lands devoted to areas of mixed natural resource characteristics including rangeland, woodland, and wildlife habitat which occur in an established County water district.

- **8.3 Extensive Agriculture (minimum parcel size 20 acres gross, except lands subject to a Williamson Act contract/Farmland Security Zone contract, in which case the minimum parcel size shall be 80 acres gross)** – Lands devoted to uses involving large amounts of land with relatively low value-per-acre yields such as livestock grazing, dry-land farming, and woodlands.

- **8.5 Resource Management (minimum parcel size 20 acres gross, except lands subject to a Williamson Act contract/Farmland Security Zone contract, in which case the minimum parcel size shall be 80 acres gross)** – Lands consisting primarily of open space containing important resource values, such as wildlife habitat, scenic values, or watershed recharge areas. These areas may be characterized by physical constraints, or may constitute an important watershed recharge area or wildlife habitat or may have value as a buffer between resource areas and urban areas. Other lands with this resource attribute are undeveloped, non-urban areas that do not warrant additional planning within the foreseeable future because of current population (or anticipated increase), marginal physical development, or no subdivision activity.

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

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

Willow Springs Specific Plan

The entire project site (approximately 1,292 acres) occurs within the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in 1992 and amended in 2008 as part of the Land Use, Open Space, and Conservation Element of the Kern County General Plan. Its goals, policies, and standards are compatible with those of the General Plan, but are tailored to the particular needs of the expanded Willow Springs area. The purpose of the Willow Springs Specific Plan is to define the planning requirements of a designated area to ensure orderly development (Kern County, 2008).

The Willow Springs Specific Plan includes the following policies related to agriculture and forest resources:

Resource Element

Goals

Goal 3 Encourage retention of productive agricultural and dormant mineral resources by imposing a restriction on allowing urban type land uses on nearby adjacent lands.

Policies

Policy 1 Provide a method encouraging the preservation of agricultural land

Policy 18 Initial development within the Update area shall, when possible, be directed towards previously impacted areas (i.e., agricultural fields).

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.

As previously mentioned in Chapter 3, *Project Description*, and as described in 4.2.2, *Local Setting*, the Kern County Zoning Ordinance designates the project site for A (Exclusive agricultural), E($2^{1/2}$) Estate $2^{1/2}$ acres, and E(5) Estate 5 acres, and has combining districts of FPS (floodplain secondary combining), and RS (residential suburban combining). The project proponent has requested a change in these zone classifications to A and A FPS. Pursuant to Sections 19.12.020 and 19.12.030 of the Kern County Zoning Ordinance, construction and operation of solar facilities on areas zoned A (Exclusive Agriculture) require approval of a conditional use permit (CUP). Solar facilities are considered to be a compatible use and are permitted on properties zoned for exclusive agricultural use with the approval of a CUP.

Williamson Act Standard Uniform Rules

Kern County has adopted a set of rules that identify compatible land uses within agricultural preserves established under the Williamson Act. The rules restrict uses on such land to agricultural or other compatible uses. Agricultural uses include crop cultivation, grazing commercial wind farms, livestock breeding, dairies, and uses that are incidental to these uses. Other compatible agricultural uses include those associated with public utilities (e.g., gas, electric, communications, water, and other similar public utilities). For purposes of this analysis, the conversion of agricultural land to a solar facility itself would be incompatible with the farming provisions necessary for projects under Williamson Act contracts. Therefore, a proposed solar project on contracted land would be required by Kern 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 proposed project's potential impacts on agriculture and forest resources have been evaluated on a qualitative basis by reviewing the *Kern County Agricultural Crop Report* (2018), the 2018 DOC California Important Farmland Map. 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 CCR 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 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 forest resources if it would:

a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural 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.

Effects Found Not to Be Significant.

The lead agency determined in the Notice of Preparation/Initial Study (NOP/IS), located in Appendix A of this EIR, that the proposed project would not result in significant impacts in some of these environmental issue areas, and that no further analysis would be required in the EIR. Thus, the following issue areas are scoped out of further analysis in this EIR:

a. According to the California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP) 2018 Important Farmland map for east Kern County, there are no agricultural lands designated as Prime Farmland, Farmland of Statewide Importance or Unique Farmland located within the project site. As noted previously, CUP Areas 1, 2, and 3 are designated as Nonagricultural and Natural Vegetation and CUP Area 4 is designated as Grazing Land, Nonagricultural or Natural Vegetation, and Semi-Agricultural and Rural

Commercial Land (DOC 2018). There are no lands designated as Important Farmland located within the project site (DOC, 2018). Therefore, construction and operation of the proposed project would not result in the conversion of designated farmland to a nonagricultural use and there would be no impact. No further analysis in the EIR is required.

c. No lands that would be affected by the proposed project are zoned as forest land or timberland, or are used for timberland production. Therefore, the project would not conflict with the existing zoning for, or cause the rezoning of, forest land, timberland, or timberland zoned for timberland production. Therefore, there would be no impact and further analysis in the EIR is not required.

d. The project site is not situated on forest or timberland and is not located adjacent to any such areas that are currently under production. There is no land in the vicinity of the project site that is zoned as forest land, timberland, or lands zoned for timberland production. Therefore, there would be no impact related to the loss of forest land or conversion of forest land to non-forest use. No further analysis is warranted in the EIR.

f. 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 in response (a) above, the project site is not under a Williamson Act Contract. The project would, therefore, not result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15205(b)(3) Public Resources Code). No impact would occur, and no further evaluation is required in the EIR.

Project Impacts

Impact 4.2-1: The project would conflict with existing zoning for agricultural use or Williamson Act Contract.

A portion of the project site is located within the boundaries of Agricultural Preserve No. 24 and is primarily vacant and undeveloped (with the exception of some rural residences and residential accessory structures). As noted in Chapter 3 *Project Description* Table 3-1: *Project Assessor Parcel Numbers (APNs) – Specific Plan Map Code Designations and Zone Districts – Rosamond South Solar Project* one parcel in CUP Area 2 (APN 359-020-49) and two parcels in CUP Area 3 (APNs 359-331-16 and 359-331-18) are currently in the A zone district. The remaining project parcels are zoned for various residential land use. None of the project site is currently used for agricultural production and none of the project parcels are designated as Important Farmland (DOC, 2018).

The project proposes to rezone the residentially zoned parcels to the A and A/FPS zone district in Zone Maps 231, 232, and 233, as detailed in Table 3-1, *Project Assessor Parcel Numbers (APNs) – Specific Plan Map Code Designations and Zone Districts – Rosamond South Solar Project* in **Chapter 3** *Project Description*. According to the Kern County Zoning Ordinance, a utility-scale solar facility is a permitted use within the A zone district with approval of a CUP.

Lastly, according to available data, none of the parcels included as part of the proposed project or any other property in the immediate vicinity of the project are subject to a Williamson Act Land Use contract. Thus, the project site does not contain lands that are subject to Williamson Act contracts, either in active on in nonrenewal status. There are no lands under Williamson Act contracts adjacent to the project site or in the project area. As such, there would be no impacts to Williamson Act lands.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in work within the existing Whirlwind Substation and would not conflict with existing agricultural zoning or affect land under a Williamson contract.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for project and the SCE interconnection Facilities.

Impact 4.2-2: 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.

As previously mentioned throughout this chapter, the project site is primarily vacant and undeveloped and land that is in a desert environment. Use of any of the CUP areas for agricultural uses is significantly constrained due primarily to the lack of water for irrigation and presence of soils that are not conducive to agricultural production. None of the existing uses support or are used for agricultural production and the project sites do not have a history of agricultural uses.

In addition, at the completion of proposed project's operational term (approximately 30 years), the project proponent may determine that the project site should be decommissioned. The project proponent would work with the County to put an agreement in place that will ensure the decommissioning of the project site after its productive lifetime per Mitigation Measure MM 4.11-1, as discussed in Section 4.11, *Land Use and Planning*. Upon decommissioning of the Facilities, the project site would be returned to a state similar to current conditions. Therefore, for the reasons described above, the use of solar facilities on the project site would not result in permanent changes in the existing environment that, due to location or nature, would result in permanent conversion of farmland to nonagricultural use, and impacts would be less-than-significant.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in work within the existing Whirlwind Substation and would not conflict with existing agricultural zoning or affect land under a Williamson contract.

Mitigation Measures

Implement Mitigation Measure MM 4.11-1.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.11-1 impacts would be less than significant. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs. No mitigation measures are required for the SCE Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for cumulative agricultural and forest impacts is considered the project vicinity within the western Antelope Valley. This geographic scope is selected because of its relatively uniform terrain, soil conditions, climate, habitat value, low population and development density relative to areas east of SR 14, and the region's common groundwater basin and water supply considerations. As shown in **Table 3-4**, *Cumulative Projects List*, of Chapter 3, *Project Description*, there are 16 proposed or approved cumulative projects, and these projects include numerous other utility-scale solar production facilities as well as development projects that are considered for this analysis.

As previously discussed, construction and operation of the proposed project would develop a solar facility on land zoned for agricultural uses, however, the land does not currently support agricultural uses, is limited for its potential use for agricultural production, and the project will not result in the conversion of existing agricultural land or land designated as Prime Farmland, Farmland of Statewide Importance or Unique Farmland to nonagricultural uses. As such, cumulative impacts would be less than significant in this regard.

In addition, similar to the proposed project, other energy projects in Kern County are required to implement a mitigation measure similar to Mitigation Measure MM 4.11-1, as described in Section 4.11, *Land Use and Planning*, which requires the project proponent to work with the County to put an agreement in place that will ensure the decommissioning of the project site after its productive lifetime. This mitigation measure would ensure that the land would be largely unaltered from its natural state and native vegetation would return over time, and the site would be available for future agricultural use, and thus would further reduce impacts to less-than-significant levels. Therefore, the proposed project would have a less than significant, direct and indirect, incremental contribution related to changes in the existing environment that, because of their location or nature, would result in conversion of Farmland to nonagricultural use. Therefore, the proposed project's contribution to cumulative impacts related to agriculture in Kern County would be less than cumulatively considerable.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in work within the existing Whirlwind Substation and would not result in the conversion of farmland to nonagricultural use or forest to non-forest use and would not conflict with existing agricultural zoning or affect land under a Williamson Act contract.

Mitigation Measures

Implement Mitigation Measure MM 4.11-1.

Level of Significance

With implementation of Mitigation Measure 4.11-1, cumulative impacts would be less than significant. The SCE Interconnection Facilities would not affect farmland or forestland. Cumulative impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs. No mitigation measures are required for the SCE Interconnection Facilities.

Section 4.3
Air Quality

4.3.1 Introduction

This section of the EIR describes the affected environment and regulatory setting of the project and evaluates the short- and long-term air quality impacts associated with development of the site. Further, this analysis describes the affected environment and regulatory setting for air quality. Where necessary, mitigation measures are included to avoid or lessen the impacts of the proposed project.

Information in this section is based primarily on the Air Quality Impact Analysis located in Appendix B of this EIR (Trinity Consultants, August 2021). The report was prepared in accordance with the Kern County Planning Department's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* (Kern County, 2006) and Eastern Kern Air Pollution Control District's (EKAPCD) *Guidelines for Implementation of the California Environmental Quality Act* (CEQA) (EKAPCD, 2021).

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 Mojave Desert Air Basin (MDAB) and is under the jurisdiction of EKAPCD. The MDAB includes the eastern half of Kern County, the northern part of Los Angeles County, most of San Bernardino County except for the southwest corner, and the eastern edge of Riverside County. It is separated from the South Coast Air Basin, to its 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 affects ambient air quality.

The project is located within the Antelope Valley, approximately 11 miles west of the City of Rosamond, in the southeast potion of unincorporated Kern County. The Antelope Valley is within the western portion of the Mojave Desert and is bounded by the Tehachapi Mountains to the northwest and the San Gabriel Mountains to the southwest. Land uses in the project area include undeveloped desert, fallow and active agriculture, low-density residences, and energy development (e.g., solar and wind). The Mojave Desert is bordered on the southwest by the San Bernardino Mountains, separated from the San Gabriel Mountains by the Cajon Pass (4,200 feet above mean

sea level [amsl]). A lesser valley lies between the San Bernardino Mountains and the Little San Bernardino Mountains (the Morongo Valley). The Palo Verde Valley portion of the Mojave Desert lies in the low desert, at the eastern end of a series of valleys (notably the Coachella Valley) whose primary channel is the San Gorgonio Pass (2,300 feet amsl) between San Bernardino and San Jacinto Mountains.

The MDAB is characterized by hot summers, cold winters, large diurnal ranges in temperature, low relative humidity, and irregular rainfall. The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest, due to the proximity of the MDAB to the Pacific Ocean and the blocking nature of the Sierra Nevada Mountains to the north. Air masses pushed onshore in southern California by differential heating are channeled through the MDAB. The MDAB is separated from the southern California coastal and central California valley regions by mountains (highest elevation approximately 10,000 feet amsl), the passes of which form the main channels for these air masses.

During the summer, the MDAB is generally influenced by a Pacific Subtropical High cell that sits off the coast to the west, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist and unstable air masses from the south. Average temperatures recorded in the Fairmont area, located approximately 7 miles to the south of the project site, are shown in **Table 4.3-1,** *Fairmont, California Weather Data*.

Table 4.3-1: Fairmont, California Weather Data

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Avg. Max Temp (F)	53.3	56.0	60.2	65.9	73.7	82.6	90.8	90.9	85.4	74.6	62.5	54.4	70.9
Avg. Min Temp (F)	35.8	38.0	40.8	45.2	51.8	60.0	67.5	66.8	61.2	52.1	42.8	36.8	49.9
Avg. Precipitation (in.)	3.43	3.52	2.42	1.13	0.36	0.06	0.05	0.12	0.27	0.49	1.40	2.51	15.76
Average Snowfall (in.)	3.1	1.6	0.8	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	2.5	8.2

Source: Western Regional Climate Center, 2021.
Percent of possible observations for period of record"
Maximum Temperature: 99.7% Minimum temperature: 96.2%. Precipitation: 100%, Snowfall 99.8%.

Sensitive Receptors

Sensitive receptors are considered to be more sensitive to air pollutants. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. Residences, schools, hospitals, convalescent homes, and parks are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with associated greater exposure

to ambient air quality. Recreational uses are also considered sensitive due to greater exposure to ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system.

The project consists of four non-contiguous solar array facilities, including CUP Area 1, CUP Area 2, CUP Area 3, and CUP Area 4 that would combine to generate a total of approximately 165 megawatts (MW) of renewable electrical energy and up to 245 MW of energy storage. The proposed project would occupy a total of approximately 1,292 acres of private lands. Additionally, new transmission lines would be extended to the existing Teddy and Whirlwind substations to transfer the electricity. As these properties are non-contiguous, they have differing sensitive receptors. Existing development in the project vicinity includes rural access roads, scattered rural residences, undeveloped land, agricultural uses, and wind and solar energy projects. Residences are located at varying distances in all directions from all four locations. There are no known non-residential sensitive receptors located within 2 miles of the project site. The closest residential sensitive receptors for each property include the following:

- **CUP Area 1:** The closest sensitive receptor is approximately 0.75 miles to the north across Rosamond Boulevard, approximately 0.25 miles west of 160th West Street. The second closest sensitive receptor is approximately one mile south of southeastern corner of the area at the northeast corner of Gaskell Road and 160th Street West.
- **CUP Area 2:** The closest sensitive receptor to CUP Area 2 is located approximately 0.12 miles north across Rosamond Boulevard and approximately 0.25 miles west of 140th Street West. There is an existing residence in the northwest corner of CUP Area 2, but the residence will be vacated prior to implementation of the project in this area.
- **CUP Area 3**: There are four sensitive receptors immediately adjacent to or within 0.25 miles of CUP Area 3. Two residential units are located adjacent to the southern right-of-way of Holiday Avenue, one of which abuts 130th Street West, and the other is approximate 0.2 miles to the east. The other residential units are located within the southerly and central portions of CUP Area 3 and their property boundaries would intersect with the project site. In addition, there are two residences abutting the southern right of way of Gaskell Road and these units would be approximately 0.10 miles south of the solar array.
- **CUP Area 4:** Two residences adjacent to the northern CUP Area off 100th Street West, a residence adjacent to the western boundary of CUP Area 4 off 100th Street West, a residence approximately 0.10 miles south of the southwestern corner of CUP Area 4, and approximate six residences between Avenue A to the south, and Elder Avenue to the north, and immediately accessed with 84th Street West, Spur Ranch Road, of 90th Street West. In addition, approximately two existing rural residential units within the northern portion of CUP Area 4 north of Buckhorn Avenue.

Ambient Air Quality Standards

National and State Standards

Regulation of air pollution is achieved through both federal and State ambient air quality standards and permitted emission limits for individual sources of air pollutants. As required by the federal

Clean Air Act (CAA), the United States Environmental Protection Agency (EPA) has identified criteria pollutants and has established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone (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, EPA has set "primary" and "secondary" ambient standards for each of the criteria pollutants. Primary thresholds were set to protect human health, particularly sensitive receptors such as children, the elderly, and individuals suffering from chronic lung conditions such as asthma and emphysema. Secondary standards were set to protect the natural environment and prevent further deterioration of animals, crops, vegetation, and buildings.

Regional and Local Standards

NAAQS establish the level for an air pollutant above which detrimental effects to public health or welfare may result. NAAQS are defined as the maximum acceptable concentrations that, depending on the pollutant, may not be equaled or exceeded more than once per year or in some cases as a percentile of observations. California has generally adopted more stringent ambient air quality standards for the criteria air pollutants (i.e., California Ambient Air Quality Standards [CAAQS]).

Table 4.3-2, *National and State Criteria Pollutant Standards and Eastern Kern Air Pollution Control District Attainment Status*, presents both sets of ambient air quality standards (i.e., national and State) as well as attainment status for each of these standards within the EKAPCD jurisdiction. If a pollutant concentration in an area is lower than the established standard, the area is classified as being in "attainment" for that pollutant. If the pollutant concentration meets or exceeds the standard (depending on the specific standard for the individual pollutants), the area is classified as a "nonattainment" area. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated "unclassified."

Table 4.3-2: National and State Criteria Pollutant Standards and Eastern Kern Air Pollution Control District 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	—	Non-Attainment (Marginal)[b]
	8-hour	0.070 ppm		0.070 ppm[a]	
Particulate Matter (PM_{10})	AAM	20 µg/m^3	Non-Attainment	–	Unclassified/ 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	

Table 4.3-2: National and State Criteria Pollutant Standards and Eastern Kern Air Pollution Control District Attainment Status

		California Standards		National Standards	
Pollutant	**Averaging Time**	**Concentration**	**Attainment Status**	**Primary**	**Attainment Status**
Nitrogen Dioxide (NO_2)	AAM	0.030 ppm	Attainment	0.053 ppm	Unclassified
	1-hour	0.18 ppm		100 ppb[d]	
Sulfur Dioxide (SO_2)	24-hour	0.04 ppm	Attainment	0.14 ppm	Unclassified
	3-hour	–		0.5 ppm	
	1-hour	0.25 ppm		75 ppb	
Lead	30-day Average	1.5 µg/m^3	Attainment	—	Unclassified/ Attainment
	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)	Attainment		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/kilometer-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		

a. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm
b. In 1989, CARB converted both the general statewide 10-mile visibility standards and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: CARB 2016
Terracon, 2021.

As shown in **Table 4.3-2**, *National and State Criteria Pollutant Standards and Eastern Kern Air Pollution Control District Attainment Status*, the EKAPCD is currently classified as non-attainment for the one-hour State ozone standard as well as non-attainment for the national and State eight-hour ozone standards. Additionally, the EKAPCD is classified as non-attainment for the State 24-hour PM_{10} standard. The EKAPCD is currently in attainment and/or unclassified status for all other ambient air quality standards. California has also established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles; 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.

Local Air Quality

To assess localized CO impacts, the significance thresholds are based on the state CO standards, shown previously in **Table 4.3-2**, *National and State Criteria Pollutant Standards and Eastern Kern Air Pollution Control District 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 (APCDs) and air quality management districts to monitor ambient pollutant levels. The SLAMS network in Kern County consists of eight stations that monitor various pollutant concentrations. The locations of these stations were chosen to meet monitoring objectives, which, for the SLAMS network, call for stations that monitor the highest pollutant concentrations, representative concentrations in areas of high population density, the impact of major pollution emissions sources, and general background concentration levels.

The EKAPCD is responsible for monitoring air quality in the Kern County portion of the MDAB to determine whether pollutant concentrations meet State and national air quality standards. The nearest air monitoring station to the project site is the Mojave air monitoring station, located approximately 17 miles northeast of the central area of project site. The Mojave monitoring station monitors ambient concentrations of ozone, lead, SO_2, PM_{10} and $PM_{2.5}$. CO and NO_2 data was obtained from the Bakersfield Municipal Airport monitoring station as that is the closest station that monitors for these pollutants. Ambient monitoring data obtained for 2016 through 2018 is summarized, on the following page in **Table 4.3-3**, *Air Quality Data Summary (2016–2018).*

Criteria Air Pollutants

The following is a general description of the physical and health effects from the governmentally regulated air pollutants shown in **Table 4.3-2**, *National and State Criteria Pollutant Standards and Eastern Kern Air Pollution Control District Attainment Status.* The values in the table and analysis in this section used data collected in the last three years for the CARB monitoring stations that are located in the closest proximity to the proposed project. The background concentrations for O3, particulate matter of 10 microns (PM10), particulate matter of less than 2.5 microns (PM2.5), CO, NO2, and H2S as of 2018 and for Pb as of 2017. Information is provided for the Mojave – 923 Poole Street (approximately 20 miles to the northwest), Lancaster – 43301 Division Street (approximately 18 miles to the southwest), and Bakersfield – 5558 California Avenue (approximately 53 miles to the northwest) [for Pb (lead)] monitoring stations for 2017 through 2019. No data is available for SO2, Vinyl Chloride, or other toxic air contaminants in the MDAB.

Table 4.3-3: Air Quality Data Summary (2016–2018)

	Monitoring Year			Days Exceeding Standard		
Pollutant	**2017**	**2018**	**2019**	**2017**	**2018**	**2019**
Ozone (O_3)[a]						
O_3 (1-hour average CAAQS (0.09 ppm)						
Lancaster – 43301 Division Street	0.109	0.125	0.96	10	5	1
Mojave – 923 Poole Street	0.097	.111	0.085	1	8	0
O3 – 8-hour CAAQS (0.07 ppm)						
Lancaster – 43301 Division Street	0.087	0.105	0.082	43	49	14
Mojave – 923 Poole Street	0.086	0.095	0.078	37	56	10
O3 – 8-hour NAAQS (0.070 ppm)						
Lancaster – 43301 Division Street	0.087	0.104	0.081	43	48	13
Mojave – 923 Poole Street	0.085	0.094	0.077	35	53	10
PM10 – 24-hour CAAQS (50 µg/m3)						
Lancaster – 43301 Division Street	N/A	N/A	N/A	N/A	N/A	N/A
Mojave – 923 Poole Street	85.7	86.5	240.8	10	19	15
PM10 – 24-hour NAAQS (150 µg/m3)						
Lancaster – 43301 Division Street	82.4	89.3	165.1	0	0	2
Mojave – 923 Poole Street	93.4	93.1	248.7	0	0	2
PM2.5 - 24-hour NAAQS (35 µg/m3)						
Lancaster – 43301 Division Street	26.6	40.4	13.6	0	1	0
Mojave – 923 Poole Street	26.9	39.0	19.8	0	2	0
CO - 8-Hour CAAQS & NAAQS (9.0 ppm)						
No Data Collected	*	*	*	*	*	*
NO2 - 1-Hour CAAQS (0.18 ppm)						
Lancaster – 43301 Division Street	0.046	0.047	0.049	0	0	0
Mojave – 923 Poole Street	0.057	0.051	0.056	0	0	0
NO2 - 1-Hour NAAQS (0.10 ppm)						
Lancaster – 43301 Division Street	0.046	0.047	0.049	0	0	0
Mojave – 923 Poole Street	0.057	0.051	0.056	0	0	0
SO2 – 24-hour Concentration - CAAQS (0.04 ppm) & NAAQS (0.14 ppm)						
No data Collected						
Pb - Maximum 30-Day Concentration CAAQS (1500 ng/m3)						
Bakersfield – 5558 California Ave[1]	12.6	9.3	*	*	*	*

NOTES:

ppm = parts per million by volume, $\mu g/m^3$ = micrograms per cubic meter, NA = not available

* - There was insufficient (or no) data available to determine the value.

1 – This monitoring station is not in the MDAB, however, it is the closest monitoring station to the project site that monitors lead.

Sources: CARB, 2020, Trinity Consultants 2020.

Ozone (O_3)

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 reactive organic gases (ROG), oxides of nitrogen (NO_X), and sunlight to form. ROG and NO_X are emitted from various sources throughout Kern County. 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.

O3 is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the atmosphere but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving precursor organic compounds (POC) and nitrogen oxides (NO_X). POC and NO_X are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours.

Ozone is a regional air pollutant because it is not emitted directly by sources but is formed downwind of sources of POC and NO_X under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with summertime temperature inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, like ozone. Exposure to elevated ozone concentrations can cause eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases, such as asthma, bronchitis, and emphysema.

Health Effects

While ozone in the upper atmosphere protects the earth from UV-B, high concentrations of ground-level ozone can adversely affect the human respiratory system. Many respiratory ailments, as well as cardiovascular diseases, are aggravated by exposure to high ozone levels.

Ozone is a powerful oxidant—it can be compared to household bleach, which can kill living cells (such as germs or human skin cells) upon contact. Ozone can damage the respiratory tract, causing inflammation and irritation, and it can induce symptoms such as coughing, chest tightness, shortness of breath, and worsening of asthmatic symptoms. Ozone in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. Exposure to levels of

ozone above the current ambient air quality standard leads to lung inflammation, lung tissue damage, and a reduction in the amount of air inhaled into the lungs. Health effects include potential increased susceptibility to respiratory infections and reduced ability to exercise. Health effects are more severe in people with asthma and other respiratory ailments. People who work or play outdoors are at a greater risk for harmful health effects from ozone. Children and adolescents are also at greater risk because they are more likely than adults to spend time engaged in vigorous activities. Research indicates that children under 12 years of age spend nearly twice as much time outdoors daily than adults. Teenagers spend at least twice as much time as adults in active sports and outdoor activities. Also, children inhale more air per pound of body weight than adults, and they breathe more rapidly than adults. Children are less likely than adults to notice their own symptoms and avoid harmful exposures. Elevated ozone concentrations also reduce crop and timber yields, damage native plants, and damage materials such as rubber, paints, fabric, and plastics (CARB and American Lung Association of California, 2007).

Reactive Organic Gases (ROGs) and Volatile Organic Compounds (VOCs)

Hydrocarbons are organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases including ROGs and volatile organic compounds (VOCs), which include all hydrocarbons except those exempted by CARB. Therefore, ROGs are a set of organic gases based on State rules and regulations. VOCs are similar to ROGs in that they include all organic gases except those exempted by Federal law. Both VOCs and ROGs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. Combustion engine exhaust, oil refineries, and oil-fueled power plants are the primary sources of hydrocarbons. Another source of hydrocarbons is evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

Health Effects

The primary health effects of hydrocarbons result from the formation of ozone and its related health effects (see ozone health effects discussion above). High levels of hydrocarbons in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. There are no separate federal or California ambient air quality standards for ROG. Carcinogenic forms of ROG are considered toxic air contaminants (TACs). An example is benzene, which is a carcinogen. The health effects of individual ROGs are described under the "Toxic Air Contaminants" heading below.

Carbon Monoxide (CO)

Carbon monoxide (CO) is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. CO is an odorless, colorless, poisonous gas that is highly reactive. CO is a byproduct of motor vehicle exhaust, which contributes more than 66 percent of all CO emissions nationwide. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. These emissions can result in high concentrations of CO, particularly in local areas with heavy traffic congestion. Other sources of CO emissions include industrial processes and fuel combustion in sources such as boilers and incinerators. Despite an overall downward trend in concentrations and emissions of CO, some metropolitan areas still experience high levels of CO. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground level temperature inversions (typically from the evening through early morning).

These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

Health Effects

When inhaled, CO enters the bloodstream and binds more readily to hemoglobin, the oxygen-carrying protein in blood, than oxygen, thereby reducing the oxygen-carrying capacity of blood and reducing oxygen delivery to organs and tissues. The health threat from CO is most serious for those who suffer from cardiovascular disease. Healthy individuals are also affected but only at higher levels of exposure. Exposure to CO can cause chest pain in heart patients, headaches, and reduced mental alertness. At high concentrations, CO can cause heart difficulties in people with chronic diseases and can impair mental abilities. Exposure to elevated CO levels is associated with visual impairment, reduced work capacity, reduced manual dexterity, poor learning ability, difficulty performing complex tasks, and, with prolonged enclosed exposure, death.

The adverse health effects associated with exposure to ambient and indoor concentrations of CO are related to the concentration of carboxyhemoglobin in the blood. Exposure to elevated concentrations of CO 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 of young, healthy men; reduced birth weight; sudden infant death syndrome; and increased daily mortality rate (Fierro et al., 2001).

Oxides of Nitrogen (NO_X)

Oxides of nitrogen (NO_X) are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone, and reacts in the atmosphere to form acid rain. NO_X is emitted from solvents and combustion processes in which fuel is burned at high temperatures, principally motor vehicle exhaust and stationary sources such as electric utilities and industrial boilers. In terms of NO_X emissions, the two principal species of NO_X are nitric oxide (NO) and nitrogen dioxide (NO_2), with the vast majority (95 percent) of the NO_X emissions being comprised of NO. NO is converted to NO_2 by several processes, the two most important of these are: (1) the reaction of NO with ozone; and (2) the photochemical reaction of NO with hydrocarbons. A brownish gas, NO_X is a strong oxidizing agent that reacts in the air to form corrosive nitric acid as well as toxic organic nitrates.

Health Effects

NO_X is an ozone precursor that combines with ROG to form ozone. See the ozone section above for a discussion of the health effects of ozone. Direct inhalation of NO_X can cause a wide range of health effects. Health effects of NO_X include irritation of the lungs, lung damage, and lowered resistance to respiratory infections such as influenza. Short-term exposures (e.g., less than 3 hours) to low levels of NO_2 may lead to changes in airway responsiveness and lung function in individuals with pre-existing respiratory illnesses. These exposures may also increase respiratory illnesses in children. Long-term exposures to NO_2 may lead to increased susceptibility to respiratory infection and may cause irreversible lung damage. Other health effects associated with NO_2 are an increase in the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may lead to eye and mucus membrane aggravation, along with pulmonary dysfunction. Clinical studies of human subjects suggest that NO_2 exposure to levels near the current standard may worsen the effect of

allergens in allergic asthmatics, especially in children. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes as well as hospital admissions for respiratory conditions.

NO_X contributes to a wide range of environmental effects both directly and indirectly when combined with other precursors in acid rain and ozone. NO_X can cause fading of textile dyes and additives, deterioration of cotton and nylon, and corrosion of metals due to the production of particulate nitrates. Airborne NO_X can also impair visibility. Increased nitrogen inputs to terrestrial and wetland systems can lead to changes in plant species composition and diversity. Similarly, direct nitrogen inputs to aquatic ecosystems such as those found in estuarine and coastal waters can lead to eutrophication (a condition that promotes excessive algae growth, which can lead to a severe depletion of dissolved oxygen and increased levels of toxins harmful to aquatic life). Nitrogen, alone or in acid rain, also can acidify soils and surface waters. Acidification of soils causes the loss of essential plant nutrients and increased levels of soluble aluminum, which is toxic to plants. Acidification of surface waters creates conditions of low pH and levels of aluminum that are toxic to fish and other aquatic organisms. NO_X also contributes to visibility impairment (California Air Pollution Control Officers Association [CAPCOA], 2019).

Sulfur Dioxide (SO_2)

Sulfates are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to sulfur dioxide (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, the levels have been reduced significantly.

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 particulate matter that is 2.5 microns or less ($PM_{2.5}$), which is a significant health concern and a main contributor to poor visibility (see also the discussion of health effects of particulate matter).

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 eight hours;
- Visible injury to many other plant types of intermediate sensitivity at exposures of 0.30 ppm for eight hours; and
- Positive benefits from low levels in a very few species growing on sulfur-deficient soils.

Increases in 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 $PM_{2.5}$)

Particulate matter (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 U.S., there are sources of PM_{10} 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 $PM_{2.5}$ begin as the body reacts to these foreign particles. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis, and respiratory illnesses in children. Recent mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. 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 effect of PM_{10}. Of greatest concern are recent studies that link PM_{10} exposure to the premature death of people who already have heart and lung disease, especially the elderly. Acidic PM_{10} can also damage manmade materials and is a major cause of reduced visibility in many parts of the United States. Non-health related effects include reduced visibility and soiling of buildings.

Premature deaths linked to particulate matter are now at levels comparable to deaths from traffic accidents and secondhand smoke. One of the most dangerous pollutants, fine particulate matter (e.g., from diesel exhaust) not only bypasses the body's defense mechanisms and becomes embedded in the deepest recesses of the lung but also can disrupt cellular processes. Population-based studies in hundreds of cities in the United States and around the world have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks. Long-term studies of children's health conducted in California have demonstrated that particulate pollution may significantly reduce lung function growth in children (CARB and American Lung Association of California, 2007).

A recent study provides evidence that exposure to particulate air pollution is associated with lung cancer. This study found that residents who live in an area that is severely affected by particulate air pollution are at risk of developing lung cancer at a rate comparable to nonsmokers exposed to secondhand smoke. This study also found approximately 16 percent excess risk of dying from lung cancer due to fine particulate air pollution (Air & Waste Management, 2006).

Another study shows that individuals with existing cardiac disease can be in a potentially life-threatening situation when exposed to high levels of fine air pollution. Fine particles can penetrate the lungs and cause the heart to beat irregularly, or can cause inflammation, which could lead to a heart attack (Peters et al., 2001).

Attaining the California particulate matter standards would annually prevent about 6,500 premature deaths, or 3 percent of all deaths. These premature deaths shorten lives by an average of 14 years. This is roughly equivalent to the same number of deaths (4,200 to 7,400) linked to secondhand smoke in 2000. In comparison, motor vehicle crashes caused 3,200 deaths, and 2,000 deaths resulted from homicide. Attaining the California particulate matter and ozone standards would annually prevent 4,000 hospital admissions for respiratory disease, 3,000 hospital admissions for cardiovascular disease, and 2,000 asthma-related emergency room visits. Exposure to diesel particulate matter (DPM) causes about 250 excess cancer cases per year in California (Kern County, 2006).

Sulfates

Sulfates (SO_4^{2-}) are particulate product that comes from the combustion of sulfur-containing fossil fuels. When sulfur monoxide or SO_2 is exposed to oxygen, it precipitates out into sulfates (SO_3 or SO_4). Sulfates are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California because of regional meteorological features.

Health Effects

CARB's sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in oxygen intake, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. When acidic pollutants and particulates are also present, SO_2 tends to have an even more toxic effect. In addition to particulates, SO_3 and SO_4 are also precursors to acid rain. SO_X and NO_X are the leading precursors to acid rain. Acid rain can lead to corrosion of man-made structures and cause acidification of water bodies. Sulfates are particularly effective in degrading visibility and, because they are usually acidic, can harm ecosystems and damage materials and property (CARB, 2021).

Lead

Lead is a metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, so it essentially persists forever. Historically, lead was used to increase the octane rating in automobile fuel. However, because gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels and that use has been mostly phased out, the ambient concentrations of lead have dropped dramatically. EKAPCD no longer monitors ambient levels of atmospheric lead in the MDAB.

Health Effects

Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. It accumulates in the blood, bones, and soft tissues and can adversely affect the kidneys, liver, nervous system, and other organs. Excessive exposure to lead may cause neurological impairments such as seizures, mental retardation, and behavioral disorders. Even at low doses, lead exposure is associated with damage to the nervous systems of fetuses and young children, resulting in learning deficits and lowered IQ. Recent studies also show that lead may be a factor in high blood pressure and subsequent heart disease. Lead can also be deposited on the leaves of plants, presenting a hazard to grazing animals and humans through ingestion (EPA, 2021 and OEHHA, 2001).

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 six 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. Adults can suffer from:

- Difficulties during pregnancy;
- Other reproductive problems (in both men and women);
- High blood pressure;
- Digestive problems;
- Nerve disorders;
- Memory and concentration problems; and
- Muscle and joint pain.

Since the 1980s, lead has been phased out in gasoline, reduced in drinking water, reduced in industrial air pollution, and banned or limited in consumer products.

Other Pollutants

Hydrogen Sulfide

Hydrogen sulfide (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 lead to 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. Occupational Safety and Health Administrations (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 (0.00011–0.00033 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 (EPA, 2000):

- Acute exposure of humans to high levels of vinyl chloride via inhalation in humans has resulted in effects on the central nervous system, such as dizziness, drowsiness, headaches, and giddiness.
- Vinyl chloride is reported to be slightly irritating to the eyes and respiratory tract in humans. Acute exposure to extremely high levels of vinyl chloride has caused loss of consciousness; irritation to the lungs and kidneys; inhibition of blood clotting in humans; and cardiac arrhythmias in animals.
- Tests involving acute exposure of mice to vinyl chloride have shown high acute toxicity from inhalation exposure to the substance.

Long-term exposure to vinyl chloride concentrations has been linked with the following chronic health effects (EPA, 2000):

- Liver damage may result in humans from chronic exposure to vinyl chloride, through both inhalation and oral exposure.
- A small percentage of individuals occupationally exposed to high levels of vinyl chloride in air have developed a set of symptoms termed "vinyl chloride disease," which is characterized by Raynaud's phenomenon (fingers blanch and numbness and discomfort are experienced upon exposure to the cold), changes in the bones at the end of the fingers, joint and muscle pain, and scleroderma-like skin changes (thickening of the skin, decreased elasticity, and slight edema).
- Central nervous system effects (including dizziness, drowsiness, fatigue, headache, visual and/or hearing disturbances, memory loss, and sleep disturbances) as well as peripheral nervous system symptoms (peripheral neuropathy, tingling, numbness, weakness, and pain in fingers) have also been reported in workers exposed to vinyl chloride.

Several reproductive/developmental health effects from vinyl chloride exposure have been identified (EPA, 2000):

- Several case reports suggest that male sexual performance may be affected by vinyl chloride. However, these studies are limited by lack of quantitative exposure information and possible co- occurring exposure to other chemicals.
- Several epidemiological studies have reported an association between vinyl chloride exposure in pregnant women and an increased incidence of birth defects, while other studies have not reported similar findings.
- Epidemiological studies have suggested an association between men occupationally exposed to vinyl chloride and miscarriages during their wives' pregnancies, although other studies have not supported these findings.
- Long-term exposure to vinyl chloride has also been identified as a cancer risk. Inhaled vinyl chloride has been shown to increase the risk of a rare form of liver cancer (angiosarcoma of the liver) in humans. Animal studies have shown that vinyl chloride, via inhalation, increases the incidence of angiosarcoma of the liver and cancer of the liver.

Visibility Reducing Particles

Visibility-reducing particles is a measure of visibility. CARB does not yet have a measurement method that is accurate or precise enough to designate areas in the State as being in attainment or nonattainment. Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. Except for Lake County (which is designated to be in attainment), California's attainment status with respect to visibility-reducing particles is currently designated as unclassified.

Toxic Air Contaminants (TAC)

Toxic air contaminants (TACs), as known under the California Clean Air Act of 1988 (CCAA), are 10 pollutants have been identified through ambient air quality data as posing the most substantial health risk in California. Direct exposure to these pollutants has been shown to cause cancer, birth

defects, damage to brain and nervous system and respiratory disorders. CARB provides TAC emission inventories for only the larger air basins.

Sources include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners and motor vehicle exhaust. TACs do not have ambient air quality standards. Since no safe levels of TACs can be determined, there are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. The requirements of the Air Toxic "Hot Spots" Information and Assessment Act apply to facilities that use, produce, or emit toxic chemicals. Facilities that are subject to the toxic emission inventory requirements of the Act must prepare and submit toxic emission inventory plans and reports to CARB and periodically update those reports. While TACs do result in potential health risks for those exposed, the project would not emit TACs with the exception of diesel particulate matter, which, therefore, is the only TAC described further in this analysis.

The EKAPCD's Guideline provide thresholds for toxic air contaminants under CEQA. **Table 4.3-4** – *Measures of Significance – Toxic Air Contaminants*, below shows these values.

Table 4.3-4: Measures of Significance – Toxic Air Contaminants

Agency	Level	Description
Significance Thresholds Adopted for the Evaluation of Impacts under CEQA		
EKAPCD	**Carcinogens**	Maximally exposed individual risk equals or exceeds 10 in one millions
	Non-Carcinogens	Acute: Hazard Index equals or exceeds 1.0 for the maximally exposed individual
		Chronic: Hazard index equals or exceeds 1.0 for the maximally exposed individual
Source: EKAPCD 1996		

Diesel Particulate Matter

DPM is emitted from both mobile and stationary sources and include over 40 substances listed by the EPA as hazardous air pollutants (HAPs), and/or by CARB as TACs. 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.

Diesel exhaust and many individual substances contained in it (including arsenic, benzene, formaldehyde, and nickel) have the potential to contribute to mutations in cells that can lead to cancer. Long-term exposure to diesel exhaust particles poses the highest cancer risk of any TAC evaluated by the California Office of Environmental Health Hazard Assessment (OEHHA). CARB estimates that approximately 70 percent of the cancer risk that the average Californian faces from breathing TACs stems from diesel exhaust particles.

In its comprehensive assessment of diesel exhaust, OEHHA analyzed more than 30 studies of people who worked around diesel equipment, including truck drivers, railroad workers, and equipment operators. The studies showed these workers were more likely to develop lung cancer than workers who were not exposed to diesel emissions. These studies provide strong evidence that long-term occupational exposure to diesel exhaust increases the risk of lung cancer. Using information from OEHHA's assessment, CARB estimates that diesel-particle levels measured in California's air in 2000 could cause 540 "excess" cancers (beyond what would occur if there were no diesel particles in the air) in a population of one million people over a 70-year lifetime. Other researchers and scientific organizations, including the National Institute for Occupational Safety and Health, have calculated similar cancer risks from diesel exhaust as those calculated by OEHHA and CARB.

Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks (OEHHA, 2001).

Airborne Fungus (*Coccidioides immitis*)

Coccidioidomycosis, often referred to as San Joaquin Valley Fever or Valley Fever, is one of the most studied and oldest known fungal infections. Valley Fever most commonly affects people who live in hot dry areas with alkaline soil and varies with the season. This disease, which affects both humans and animals, is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis* (CI). CI spores are found in the top few inches of soil and the existence of the fungus in most soil areas is temporary. The cocci fungus lives as a saprophyte in dry, alkaline soil. When weather and moisture conditions are favorable, the fungus "blooms" and forms many tiny spores that lie dormant in the soil until they are stirred up by wind, vehicles, excavation, or other ground-moving activities and become airborne. Agricultural workers, construction workers, and other people who work outdoors and who are exposed to wind and dust are more likely to contract Valley Fever. Children and adults whose hobbies or sports activities expose them to wind and dust are also more likely to contract Valley Fever. After the fungal spores have settled in the lungs, they change into a multicellular structure called a spherule. Fungal growth in the lungs occurs as the spherule grows and bursts, releasing endospores, which then develop into more spherules.

Approximately 60 percent of Valley Fever cases are mild and display flu-like symptoms or no symptoms at all. Of those who are exposed and seek medical treatment, the most common symptoms include fatigue, cough, loss of appetite, rash, headache, and joint aches. In some cases, painful red bumps may develop on the skin. One important fact to mention is that these symptoms are not unique to Valley Fever and may be caused by other illnesses as well. Identifying and confirming this disease require specific laboratory tests such as: (1) microscopic identification of the fungal spherules in infected tissue, sputum or body fluid sample; (2) growing a culture of CI from a tissue specimen, sputum, or body fluid; (3) detection of antibodies (serological tests specifically for Valley Fever) against the fungus in blood serum or other body fluids; and (4) administering the Valley Fever Skin Test (called coccidioidin or spherulin), which indicate prior exposure to the fungus (Valley Fever Center for Excellence, 2022). It should be noted that the

incident rate for Valley Fever in Kern County in the project site area and within the MDAB is significantly less (at approximately 50 cases per 100,000 population) than the incident rate in Kern County within the San Joaquin Valley Air Basin, where the highest incidence rate within California occurs (at approximately 321 cases per 100,000 population) (California Department of Public Health, 2018, Kern County Public Health Services Department, 2019).

Valley Fever is not contagious and, therefore, cannot be passed on from person to person. Most of those who are infected would recover without treatment within six months and would have a life-long immunity to the fungal spores. In severe cases, especially in those patients with rapid and extensive primary illness, those who are at risk for dissemination of disease, and those who have disseminated disease, antifungal drug therapy is used. The type of medication used and the duration of drug therapy are determined by the severity of disease and response to the therapy. The medications used include ketoconazole, itraconazole and fluconazole in chronic, mild-to-moderate disease, and amphotericin B, given intravenously or inserted into the spinal fluid, for rapidly progressive disease. Although these treatments are often helpful, evidence of disease may persist and years of treatment may be required (Valley Fever Center for Excellence, 2019).

Table 4.3-5, *Range of Complications of Valley Fever Cases*, presents the range of Valley Fever complications based on information from the Valley Fever Center for Excellence.

Table 4.3-5: Range of Complications of Valley Fever Cases

Infection Classification	Percent of Total Diagnosed Cases
No Complications	50–60 percent
Acute Pneumonia	40–50 percent
Chronic Progressive Pneumonia	5 percent
Pulmonary Nodules and Cavities	5–10 percent
Disseminated	1–5 percent

SOURCE: Valley Fever Center for Excellence, 2019.

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 Department of Conservation Division of Mines and Geology, the project site is not located in an area where naturally occurring asbestos is likely to be present (California Department of Conservation, 2000).

Coronavirus Disease 2019

Coronavirus Disease 2019 (COVID-19) is a new disease, caused by a novel (or new) human coronavirus that has not previously been seen in humans. The first known case of COVID-19 was confirmed in the United States on January 20, 2020 (Holshue, et al, 2020). There are many types of human coronaviruses, including some that commonly cause mild upper-respiratory tract illnesses. COVID-19 is a respiratory illness that can spread from person to person. According to the Center for Disease Control (CDC), older adults and people who have severe underlying medical conditions like heart or lung disease or diabetes seem to be at higher risk for developing more serious complications from COVID-19 illness. Symptoms may appear 2 to 14 days after the exposure to the virus and may include, but are not limited to: fever or chills, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting, and diarrhea (CDC, 2021a). According to the CDC, COVID-19 is believed to spread between people who are in close contact with one another (within about 6 feet) through respiratory droplets produced when an infected person coughs, sneezes, or talks (CDC, 2021b). COVID-19 research and causality is still in the beginning stages. A nationwide study by Harvard University found a linkage between long term exposure to PM2.5 (averaged from 2000 to 2016) as air pollution and statistically significant increased risk of COVID-19 death in the United States (Harvard, 2020).

4.3.3 Regulatory Setting

In California, air quality is regulated by several agencies, including EPA, CARB, and local air districts such as the EKAPCD. Each of these agencies develops rules and/or regulations to attain the goals or directives imposed upon them through legislation. Although EPA regulations may not be superseded, some State and local regulations may be more stringent than federal regulations. The project site is located within the MDAB, which is under the jurisdiction of the EKAPCD.

Federal

U.S. Environmental Protection Agency

The principal air quality regulatory mechanism on the federal level is the CAA and in particular, the 1990 amendments to the CAA, and the NAAQS that it establishes. These standards identify levels of air quality for "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants include ozone, CO, NO_2 (which is a form of NO_X), SO_2 (which is a form of SO_X), PM_{10}, $PM_{2.5}$, and lead. EPA also has regulatory and enforcement jurisdiction over emission sources beyond State waters (outer continental shelf), and those that are under the exclusive authority of the federal government, such as aircraft, locomotives, and interstate trucking. EPA's primary role at the State level is to oversee the State air quality programs. EPA sets federal vehicle and stationary source emission standards and oversees approval of all State

Implementation Plans (SIP), as well as providing research and guidance in air pollution programs. The SIP is a State level document that identifies all air pollution control programs within California that are designed to meet the NAAQS.

Corporate Average Fuel Standards

Established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and United States Environmental Protection Agency (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, 2021).

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).

Current Fuel standards are set to the year 2035 with a CAFÉ standard of 57.6 mpg for passenger cars and 40.4 mpg for light trucks (NHTSA, 2021). In August, of 2021, The U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced today that it will soon propose robust new fuel economy standards. The reconsideration of the fuel economy standards set in 2020 is in direct response to President Biden's Executive Order 13990 and the Biden-Harris Administration's commitment to promote and protect public health and the environment (NHSTA, 2021).

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 state implementation plan (SIP). Its primary responsibility lies in ensuring implementation of the 1989 amendments to the CCAA, responding to the federal CAA requirements and regulating emissions from motor vehicles sold in California. CARB also sets fuel specifications to further reduce vehicular emissions.

The amendments to the CCAA establish the CAAQS, and a legal mandate to achieve these standards by the earliest practical date. These standards apply to the same criteria pollutants as the federal CAA, and also include sulfates, visibility reducing particulates, hydrogen sulfide and vinyl chloride (there are currently no NAAQS for these latter pollutants). They are also generally more stringent than the national standards in most cases, although recently promulgated NAAQS for 1-hour NO_2 and SO_2 can in some instances be more stringent than the respective CAAQS.

CARB is also responsible for regulations pertaining to TACs. The Air Toxics "Hot Spots" Information and Assessment Act (Assembly Bill [AB] 2588, 1987, Connelly) was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. AB 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release into their local air basin. Each APCD and air quality management districts (AQMDs) in the State ranks the data into high, intermediate and low priority categories. When considering the ranking, the potency, toxicity, quantity, volume and proximity of the facility to receptors are given consideration by an air district.

CARB also has on- and off-road engine emission-reduction programs that would indirectly affect the project's emissions through the phasing in of cleaner on- and off-road engines. Additionally, CARB has a Portable Equipment Registration Program that allows owners or operators of portable engines and associated equipment to register their units under a statewide program to operate their equipment which must meet specified program emission requirements, throughout California without having to obtain individual permits from local air districts. Since the project is not proposing to install any applicable stationary sources, the AB 2588 program would not apply to the project.

In 2007, CARB enacted a regulation for the reduction of DPM and criteria pollutant emissions from in-use off-road diesel-fueled vehicles (13 CCR Article 4.8, Chapter 9, Section 2449). This regulation provides target emission rates for particulate matter and NO_X emissions for owners of fleets of diesel-fueled off-road vehicles. It applies to equipment fleets of three specific sizes, and the target emission rates are reduced over time with full implementation by 2023 for large and medium fleets and 2028 for small fleets.

Title V and Extreme Designation

Title V of the CAA, as amended in 1990, creates an operating permit program for certain defined sources. In general, owner/operators of defined industrial or commercial sources that emit more than 25 tons per year (tpy) of NO_X and ROG must process a Title V permit. In "Extreme Designation" areas, the definition of a major source which requires Title V permitting, changes from 25 tpy to 10 tpy. This change results in more businesses having to comply with Title V permitting requirements under the Extreme nonattainment designation.

Title V does not impose any new air pollution standards, require installation of any new controls on the affected facilities, or require reductions in emissions. Title V does enhance public and EPA participation in the permitting process and requires additional record keeping and reporting by businesses, which results in significant administrative requirements.

California Renewables Portfolio Standard Program

Established in 2002 under SB 1078 and accelerated by SB 107 [2006] and SB 2 [2011], California's Renewable Portfolio Standard (RPS) obligates investor-owned utilities, energy service providers, and community choice aggregators to procure 33 percent of their electricity from renewable energy sources by 2020. In 2015, SB 350 further increased the Renewables Portfolio Standard to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027. The California Public Utilities Commission (CPUC) and the California Energy Commission are jointly responsible for implementing the program. SCE is on track to meeting these obligations,

and currently has contracts to generate 41.4 percent of its electricity from renewable resources by the year 2020 (California Public Utilities Commission, 2020). While not assumed in the analysis below, the legislature has increased the existing RPS requirements; more specifically, Senate Bill 100 adopted in 2018 requires a 50 percent renewable resource target by December 31, 2026, and 60 percent by December 31, 2030.

California Air Toxics "Hot Spots" Information and Assessment Act (AB 2588)

Enacted in 1981, AB 2588 is a state-wide program that requires stationary sources that exceed recommended Office of Environmental Health Hazards Assessment (OEHHA) levels to reduce risks to acceptable levels.

Diesel Risk Reduction Plan

CARB identified particulate emissions from diesel-fueled engines (diesel PM) as toxic air contaminants in August 1998. Following its identification and pursuant to the Toxic Air Contaminant Identification and Control Act (AB 1807, Tanner 1983), CARB determined the need and degree to further control diesel PM. With the participation of local air districts, industry, and interested public, CARB prepared a risk management guidance document and a risk reduction plan to inform the regulatory process and achieve further diesel PM emission reductions. In 2007, CARB enacted a regulation for the reduction of DPM and criteria pollutant emissions from in-use off-road diesel-fueled vehicles (13 California Code of Regulations Article 4.8, Chapter 9, Section 2449). This regulation provides target emission rates for particulate matter and NOX 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.

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 EPA 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. As discussed below, the *EKCAPCD 2017 Ozone Attainment Plan* informs the District's portion of the SIP.

Local

Kern County General Plan

The goals, policies, and implementation measures in the Kern County General Plan (Kern County, 2009) applicable to air quality as related to the project are provided below. The Kern County

General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the proposed project. Therefore, they are not listed below.

Chapter 1. Land Use, 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 EPA certified low emission natural gas fireplaces.
7. Environmental Protection Agency certified, low emission natural gas fireplaces.
8. Provide bicycle lockers and shower facilities on site
9. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86).
10. The use and development of park and ride facilities in outlying areas.
11. Other strategies that may be recommended by the local Air Pollution Control Districts.

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

Goals

Goal 1: Encourage safe and orderly commercial solar development

Policies

Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.

Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

Policy 4: The County should encourage solar development in the desert and valley regions previously disturbed, and discourage development of energy projects on undisturbed land supporting State or federally protected plant and wildlife species.

Willow Springs Specific Plan

The project site is located within the Willow Springs Specific Plan (KCPD, 2008). The Willow Springs Specific Plan was adopted in 1992 (most recently revised on April 1, 2008) and includes policies and implementation measures to ensure compatibility of land uses and minimize air quality impacts. The following summarizes the policies and implementations measures from the Willow Springs Specific Plan that are applicable to the project.

Land Use Element

Goals

Goal 1: The Willow Springs Specific Plan will regulate developments to ensure compatible uses of land consistent with both short- and long-term planning objectives of this Specific Plan area.

Policies

Policy 2: Encourage only those industries that do not significantly increase air pollution levels.

Policy 8: New and/or existing developments shall comply with the Kern County Zoning Ordinance and this Specific Plan. Where conflicts appear, the more restrictive requirements shall prevail.

Policy 10: Require that construction sites be provided with a soil retardant measure approved by the County of Kern (Department of Planning and Development Services and the Environmental Health Services Department) to reduce fugitive dust or blowing sand.

Policy 11: Retain vegetation until actual construction begins.

Implementation Measures

Measure 6: All discretionary permits will be required to be consistent with the Kern County Zoning Ordinance and the Willow Springs Specific Plan. Where conflicts appear, the more restrictive requirement shall prevail.

Measure 8: Every effort shall be made by the developer to control dust during construction activities by sprinkling the site with water or other soil retardants. Additionally, vegetative cover on the site shall be retained until actual construction begins.

Industrial

Mitigation and Implementation Measures

2 Review new industrial projects with respect to air quality constraints.

Air Quality

Goal

Goal 1: Imposition of appropriate mitigation measures to reduce where practical to do so, the effect short-term and long-term projects have on the areas which involve grading activities, erosion controls, revegetation of disturbed sites, and provisions to introduce into the plan are a competitive job market to reduce travel times.

Policy

Policy 1: Compliance with the Mitigation/Implementation Measures and enactment of an approved Air Quality Attainment Plan.

Implementation Measures

Measure 1: To mitigate potential dust generation impacts, the Willow Springs Specific Plan Update project shall comply with applicable County regulations (to the satisfaction of the Kern County Air Pollution Control District), which require specific dust control measures.

Measure 2: During construction, all grading activities shall be ceased during periods of high winds (i.e., greater than 30 mph). To assure compliance with this measure, grading activities are subject to periodic inspections by County staff.

Measure 3: Construction equipment shall be fitted with the most modern emission control devices and be kept in proper tune. Motors out of proper tune can result in emissions that vastly exceed recommended standards.

Measure 4: The project applicants shall, to the extent feasible, implement applicable control measures contained in the Attainment Plan in effect at the time of adoption of this Specific Plan, by the Air Pollution Control District in 1991. (See Environmental Impact Report Air Quality for additional recommended mitigation measures, page 162.).

Measure 7: All phases of the Willow Springs Specific Plan Update project shall comply with applicable rules and regulations of the Kern County Air Pollution Control District.

Kern County Best Management Practices for Dust Management

In 2013, solar developers and planners from Los Angeles and Kern Counties began a series of meetings to discuss the best practices for protecting air quality and minimizing construction impacts from solar projects. The process incorporated feedback from the Mojave Air and Space Port, members of the Mojave Chamber of Commerce, Rosamond Municipal Advisory Council, and numerous other community leaders. Subsequent to these meetings, Kern County has developed a new approach to best control fugitive dust emissions and improve air quality in the high desert. The County's approach recognizes that effective dust control management must be site-specific and cannot be "one-size-fits-all" because standard methods do not adequately meet the challenges of such a unique environment as the Mojave Desert region. An effective strategy has to be based on soil conditions, topography, adjacent land uses, and wind direction.

Conditions imposed on the new solar projects in Kern County are more extensive and rigorous than ever before. These include:

- Development of a Site Specific Dust Control Plan that considers ongoing community stakeholder input, to the extent feasible and practicable.
- Use of Global Positioning System (GPS) or lasers to level posts, generally avoiding grading except when elevation changes exceed design requirements.
- When grading is unavoidable, it is to be phased and done with the application of approved chemical dust palliatives (chemical substances applied to a road surface to reduce airborne dust) that stabilize the earth.
- Use of dust suppression measures during road surface preparation activities, including grading and compaction.
- Final road surfaces must be stabilized to achieve a measurable threshold friction velocity (TFV – the wind speed at which erosion starts) equal to or greater than 100 centimeters per second.
- If ground is cleared, plant roots must be left in place where possible.
- Expanded onsite watering processes.
- Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved (i.e., without asphalt) surface at the construction site.
- All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least 2 feet of freeboard.
- Sending mailings to residents within 1,000 feet of a project site.

Kern County is also carefully monitoring all solar construction activities to ensure that all mitigation measures are followed and are adequate to minimize dust-related health concerns.

Eastern Kern Air Pollution Control District

The EKAPCD has primary responsibility for regulating stationary sources of air pollution situated within its jurisdictional boundaries. To this end, the EKAPCD implements air quality programs required by State and federal mandates, enforces rules and regulations based on air pollution laws, and educates businesses and residents about their role in protecting air quality. The EKAPCD is also responsible for managing and permitting existing, new, and modified sources of air emissions within the Mojave Desert portion of Kern County and also established the following rules and regulations to ensure compliance with local, State, and federal air quality regulations:

Rule 201

Rule 201 establishes permitting requirements for stationary sources. Although the proposed project does not involve traditional stationary sources, on March 12, 2015 the EKAPCD adopted rules requiring commercial solar facilities to obtain Authority to Construct and Permit to Operate approval under Rule 201 to address fugitive dust emissions. Under Rule 201, these projects would be required to submit a Fugitive Dust Emissions Control Plan in accordance with Rule 402. In addition, the District is requiring a Fugitive Dust Emissions Monitoring Plan with a recommendation for each facility to install upwind and downwind particulate matter air monitoring, utilization of an Alternative Air Monitoring Strategy, or joining into the EKAPCD regional fugitive

dust monitoring network. The monitoring will be used to demonstrate compliance with the District Rules and Regulations (EKAPCD, 1996).

Rule 210.1

Rule 210.1 establishes stationary source offset levels for new and modified stationary sources of air pollutants. Under this rule, the EKAPCD has established required offsets for when the emissions from a source exceed the following trigger levels:

- PM_{10} – 15 tons/year
- SO_X (as SO_2) – 27 tons/year
- VOCs – 25 tons/year
- NO_X (as NO_2) – 25 tons/year

Rule 401

Rule 401 states that a person shall not discharge into the atmosphere, from any single source of emissions whatsoever, any air contaminant from any single emissions source for a period or periods aggregating more than 3 minutes in any one hour which is:

- As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
- Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Subsection A [of the Rules].

Rule 402

Rule 402 of the EKAPCD's rules and regulations addresses significant man-made dust sources from active operations. An active operation is defined as "Activity capable of generating fugitive dust, including any open storage pile, earth-moving activity, construction/demolition activity, disturbed surface area, and non-emergency movement of motor vehicles on unpaved roadways and any parking lot served by an unpaved road subject to this Rule." Rule 402 applies to specified bulk storage, earthmoving, construction and demolition, and man-made conditions resulting in wind erosion, and includes the following requirements:

- A person shall not cause or allow emissions of fugitive dust from any active operation to remain visible in the atmosphere beyond the property line of the emission source.
- A person shall utilize one or more Reasonably Available Control Measures (RACM) or Bulk Material Control Measures (BMCM) to minimize fugitive dust emissions from each source type that is part of any active operation, including unpaved roadways.
- No person shall conduct a large operation without filing for and obtaining an approved fugitive dust emission control plan. Large operation is defined as "Any construction activity on any site involving 10 or more contiguous acres of disturbed surface area, or any earthmoving activity exceeding a daily volume of 10,000 cubic yards, or relocating more than 2,500 cubic yards per day of bulk materials at least three days per year."
- EKAPCD may require onsite PM_{10} monitoring for any large operation that causes downwind PM_{10} ambient concentrations to increase more than 50 micrograms per cubic meter above

upwind concentrations as determined by utilizing high-volume particulate matter samplers, or other EPA-approved equivalent method(s).

Rule 404.1

Rule 404.1 pertains to Particulate Matter Concentrations – Desert Basin and states:

- A person shall not discharge into the atmosphere from any single source operation, the construction or modification of which commenced after the adoption of this Rule, particulate matter in excess of 0.1 grains per cubic foot of gas at standard conditions.

Rule 419

Rule 419 states that a person shall not discharge from any source whatsoever such quantities of contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or that endanger the comfort, repose, health, or safety of such persons or the public or that cause or have a natural tendency to cause injury or damage to business or property.

Rule 423

Rule 423 adopts the EPA's National Emissions Standards for HAPs by reference, which grants EKAPCD the ability to ensure that all sources of hazardous air pollution would comply with applicable standards, criteria, and requirements set forth in Title 40, Chapter 1, Parts 61 and 63, of the Code of Federal Regulations that are in effect as of October 10, 2017.

2017 Ozone Attainment Plan

In 2008, 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 (Federal Register, 2020). USEPA reclassified EKAPCD (except for the Indian Wells Valley planning area) as "serious" nonattainment on August 6, 2018 (Federal Register, 2021).

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. 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).

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 on population projections in conjunction with current general plan designations and estimated vehicle miles as well as the current Regional Transportation Plan (RTP) and the Federal transportation plan for Kern County. These results are compared to pollutant budgets for each basin approved by EPA in the 1999 base year. Kern County is contained within two air basins: San Joaquin Valley Air Basin (SJVAB) and the MDAB.

Each air basin has its own plans and pollutant budgets. Kern COG makes conformity findings for each air basin. Kern County recently prepared a draft 8-hour ozone air quality conformity analysis to analyze Kern County's federally approved Federal Transportation Improvement Program (FTIP) and the 2018 RTP. The conformity findings conclude that all air quality conformity requirements have been met (Kern COG, 2021a, 2021b).

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 considering 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 Report prepared for the project (located in Appendix B of this EIR), which was prepared in accordance with Kern County Planning Department's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* documents.

Air Quality Plan Consistency

As a component of the cumulative impact analysis, the County Air Quality Assessment guidance (Kern County, 2006) states that the following should be included in the consistency determination for existing air quality plans:

- Discuss project in relation to Kern COG conformity and traffic analysis zones (TAZs)
- Quantify the emissions from similar projects in the Ozone Attainment Plan for the applicable basin. Discuss the Ozone Attainment Plan for the applicable air district, development, and relation to regional basin, Triennial Plan, and SIP

Pollutant Emissions

The 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). Construction and operational emissions were estimated using project specific data and schedules within the models. Refer to Appendix B of this EIR for details on equipment fleet, hours of operation, vehicle miles traveled and other assumptions used.

Construction Emissions

Based on information provided by the project applicant, construction assumptions for the project have been quantified using conservative assumptions of a reasonably worst-case air quality scenario. Construction emissions have been quantified for each individual facility using an Excel spreadsheet populated by the project proponent and then combined to assess emissions for the project as a whole. The Excel spreadsheet model has been deemed acceptable by the EKAPCD. The emissions calculations used CARB off-road emissions factors for equipment exhaust, CARB EMission FACtor (EMFAC) 2017 emission factors for on-road vehicle exhaust, and EPA AP-42 emissions factors for earthwork and trenching fugitive dust emissions.

Construction emissions consist of vehicle and equipment exhaust and fugitive dust. Construction of the proposed project is anticipated to take 12 months. Construction is defined within this analysis as activities requiring the use of heavy off-road equipment, and lasting up to mechanical completion. Air emissions calculations were performed for both before and after the incorporation of mitigation measures MM 4.3-1 and MM 4.3-2 incorporated to reduce dust emissions. These mitigation measures include those typically required by Kern County for NO_X (compliance with applicable CARB and EKAPCD rules) and PM_{10} (watering program for dust control). See the Air Quality Impact Analysis (Appendix B) for a complete list of construction assumptions, including equipment, and vehicles. Details regarding the methods and activity assumptions by source type are provided below.

Off-Road Equipment. For the purpose of this project, off-road equipment is defined as equipment powered by an EPA defined non-road engine. The off-road equipment exhaust emissions were calculated with emission factors from the California Emissions Estimator Model (CalEEMod). The analysis with these CalEEMod emission factors provided the total peak emissions that would occur if all pieces of equipment were used on the same day. This is a conservative estimate and, therefore,

represents a worst-case scenario. It is not likely that all equipment would be working at the same time, and, therefore, emissions would be lower than this worst-case scenario.

On-Road Vehicles and Trucks. EMFAC2017 emissions factors were applied to the estimated vehicle miles traveled for the project. Construction of the project would generate emissions associated with the transport of machinery and supplies to and from the site, emissions from trucks transporting materials and water to and from the site, and emissions associated with worker trips. Additionally, the analysis includes emissions from delivering the construction materials and PV modules (panels) from the Port of Long Beach to the project site (a distance of approximately 100 miles).

Fugitive Dust Emissions. The following potential sources of fugitive dust were considered in the analysis:

- Site grading and other construction activities during the construction phases to prepare for installation of various project facilities were calculated with AP-42 factors;
- Vehicles and equipment driving on paved roads (both on- and off-site) during construction and operations were calculated with EMFAC2017 factors; and
- Vehicles and equipment driving on the unpaved, on-site, roads during operations were calculated with AP-42 factors.

Operational Emissions

Operational emissions associated with the proposed project were also calculated using EMFAC2017 and CalEEMod, version 2016.3.2. Although version 2020.4.0 of CalEEMod has been published, no material differences in modeling results between the 2016 version used for the project analysis is expected. The critical feature of the updated modeling relative to the proposed project is the use of EMFAC2017 in the 2020 CalEEMod. As noted above, the air quality modeling used EMFAC2017 rather than EMFAC2014 which is the default for CalEEMod 2016. As such, no significant differences in results for the proposed project are anticipated between the two model versions.

Long-term emissions result from operational mobile sources from new employees, cleaning of the solar panels, Energy Storage System (ESS) facilities and emergency backup generators. All assumptions and calculations are provided in Appendix B of this EIR.

Vehicle Emissions. Once placed into service, the project would be operated by approximately two full-time equivalent (FTE) personnel employees. The employees would monitor and report the performance of the project and coordinate to have contractors conduct preventative and corrective maintenance. It should be noted that preventative maintenance kits and certain critical spares would be typically stored onsite, while all other components would be readily available from a remote warehouse facility. As such, vehicle trips associated with project operation and maintenance would be minimal.

BESS Facilities. The project may have up to four BESS facilities, one at each separate solar facility. The BESS systems would be connected to the power grid, and could be charged by the project and/or charged by energy from the electrical grid. For the modeling purposes, air emissions were conservatively assumed to be only 50 percent dependent on the renewable energy produced by the individual solar facilities. The BESS facilities would not have any additional mobile trips,

solid waste, or water usage attributed to them. The BESS operation emissions were calculated using CalEEMod.

Emergency Backup Generator Emissions. The project may have up to four emergency backup generators, one for each separate solar facility. Backup generators would either be diesel or battery powered; for air emission modeling purposes it is assumed the backup generators would be diesel powered. These emergency backup generators would follow compliance with EKAPCD and CARB rules and regulations. It is assumed that these two emergency backup generators would be 100 horsepower. It is assumed the generators would each run for 12 hours per year. The operational emissions of these emergency generators were calculated using CalEEMod.

Decommissioning Emissions

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 (approximately 12 months) as construction. Therefore, decommissioning is assumed to be the same as the predicted construction emissions. Mitigation measures related to the decommissioning of utility sized solar facilities are included as a requirement of all proposed solar projects in Kern County, not just this proposed project, in order to establish safeguards to ensure the maintenance of the health, safety, and welfare of the citizens of the County.

Health Risk Assessment

The approach to estimating cancer risk from long-term inhalation exposure to carcinogens requires calculating a range of potential doses and multiplying by cancer potency factors in units of inverse dose to obtain a range of cancer risks. For cancer risk, the risk for each age group is calculated using the appropriate breathing rates, age sensitivity factors, exposure duration, and cancer risks calculated for individual age groups are summed to estimate cancer risk based on assumed exposure durations. The California Office of Environmental Health Hazard Assessment (OEHHA) recommends a 30-year exposure duration (residency time) for residential locations (OEHHA, 2015). Note that PM_{10} exhaust emissions are used as a surrogate for DPM based on guidance from the OEHHA.

EPA's AERMOD atmospheric dispersion model was used to simulate physical conditions and predict pollutant concentrations near the construction work areas. AERMOD is EPA's recommended air dispersion model for near-field modeling from vented and non-vented sources. The model uses hourly meteorological observations and emission rates to determine hourly average concentrations from which other averaging periods (e.g., 24-hour, annual averages) are determined. The Hotspots Analysis and Reporting Program Version 2 (HARP2) Air Dispersion & Risk Tool (ADMRT) version 19121 was employed to calculate the health risks at nearby sensitive receptors.

Cancer risk is quantified based on the OEHHA methodology, the residential inhalation cancer risk from the annual average DPM concentrations is calculated by multiplying the daily inhalation or

oral dose, by a cancer potency factor, the age sensitivity factor (ASF), the frequency of time spent at home (for residents only), and the exposure duration divided by averaging time, to yield the excess cancer risk. It is important to note that exposure duration is based on a one-year construction period. Cancer risk must be separately calculated for specified age groups, because of age differences in sensitivity to carcinogens and age differences in intake rates (per kg body weight). Separate risk estimates for these age groups provide a health-protective estimate of cancer risk by accounting for greater susceptibility in early life, including both age-related sensitivity and amount of exposure.

Non-cancer chronic impacts are calculated by dividing the annual average concentration by the Reference Exposure level (REL) for that substance. The REL is defined as the concentration at which no adverse non-cancer health effects are anticipated. Based off OEHHA guidance, the current REL for DPM is 5 $\mu g/m^3$.

Ambient Air Quality Analysis

The Kern County *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* (Kern County, 2006) require 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 using AERMOD.[1] In addition, as unmitigated NO_X emissions for the project exceed regulatory thresholds, NO_2 was included in the AAQA. 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. Dispersion modeling assumptions and results are provided in Appendix B of this EIR.

CO Hotspot

Heavy traffic congestion can contribute to high levels of CO. Individuals exposed to these CO "hot-spots" may have a greater likelihood of developing adverse health effects. The potential for the proposed project to result in localized CO impacts at intersections resulting from addition of its traffic volumes is assessed based on Kern County's suggested criteria, which recommends performing a localized CO impact analysis for intersections operating at or below level of service (LOS) E.

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 generates 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.

[1] Since operational activities would be minimal, consisting of minor daily trip increases and maintenance activities, ambient air quality modeling was not performed.

Coccidioides immitis Exposure

While there are no specific thresholds for the evaluation of potential *Coccidioides immitis* (Valley Fever) exposure, the potential for workers or area residents contracting Valley Fever 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 (CDPH, 2018) .

Asbestos

There are no quantitative thresholds related to receptor exposure to asbestos. However, EKAPCD Rule 423 (National Emission Standards for Hazardous Air Pollutants and Source Categories) requires all projects to comply with the provisions of Title 40, Chapter I, Parts 61 and 63, of the Code of Federal Regulations.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist includes items taken from previous versions of Appendix G of the CEQA *Guidelines*. However, Appendix G was updated in 2018, resulting in minor changes to the checklist items. The analysis herein is based on the updated CEQA *Guidelines*, which differ slightly from the Kern County CEQA Implementation Document and Kern County Environmental Checklist.

The current CEQA *Guidelines* state that a project could potentially have a significant adverse effect to air quality if it would:

a. Conflict with or obstruct implementation of the applicable air quality plan;

b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard. Specifically, if implementation of the project would exceed any of the following adopted thresholds:

Eastern Kern Air Pollution Control District:

a. Operational and Area Sources:
   - 25 tons per year for ROG
   - 25 tons per year for NO_X
   - 15 tons per year for PM_{10}.

b. Stationary Sources – determined by District Rules
   - Severe nonattainment: 25 tons per year
   - Extreme nonattainment: 10 tons per year

c. Expose sensitive receptors to substantial pollutant concentrations;
   - Cancer Risk: Emit carcinogenic or toxic contaminants that equal or exceed the maximally exposed individual cancer risk of 10 in one million.

- Non-Cancer Risk: Emit toxic contaminants that equal or exceed the maximum hazard quotient of 1 in one million for the maximally exposed individual.

d. Result in other emissions (such as those leading to odors) adversely 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) that is approved by CARB and EPA.

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 including Kern County General Plan Implementation Measures F, G, H and J, and EKAPCD's rules and regulation, such as Rules 201, 210.1, 401, 402, 404.1, 419, 423, 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 (Destination 2030 Regional Transportation Plan and Federal Transportation Improvement Program) 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, O3 and PM_{10}). 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."

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 two 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.

Construction

As noted in **Table 4.3-6**, *Short-Term (Construction) Project Emissions*, temporary unmitigated emissions during construction would not exceed the thresholds adopted by Kern County for ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. Mitigation is not required to reduce construction emissions to below EKAPCD thresholds, but would be implemented to ensure emissions remain below

thresholds. Mitigation Measures MM 4.3-1 and MM 4.3-2 would be included and would reduce fugitive dust emissions by implementing exhaust reduction measures and a Fugitive Dust Control Plan, respectively. Exhaust reduction measures would be applied to proposed project and would include equipment maintenance, idling restrictions, and compliance with CARB and EKAPCD rules. As depicted in **Table 4.3-6**, *Short-Term (Construction) Project Emissions*, are shown and are the same as what would occur with the mitigation measures incorporated and would be below significance thresholds. The project includes *all reasonably available and feasible air quality control measures* to reduce emissions of criteria pollutants. The proposed project would not conflict with implementation of the air quality management plan.

Operation

In general, a project would not interfere with the applicable air quality plan if it is consistent with growth assumptions used to form the applicable air quality plan. The proposed project is within the Willow Springs Specific Plan area as shown in the Kern County General Plan, and thus forms the basis for the growth assumptions in the air quality plans. The project includes operation of a solar array within four CUP Areas, that have land use designations indicating industrial (light and service), agricultural, and residential. Although the proposed project would be different than some of the uses under the existing land use designations, the proposed project would not introduce a land use that would induce population or housing growth. Emissions from the proposed project would be less than if the area were developed to the allowable destinies and the proposed project would not result in a substantial increase in vehicle miles traveled and associated criteria pollutant emissions. When compared against the current zoning of the project site that would allow for the development of similar uses the outcome would be the same and the solar facility would result in fewer operational emissions from mobile and area sources.

It is noted that operational emissions associated with the project would be those generated from mobile sources traveling to and from the project area, panel washing and maintenance, and operation of the BESS systems. Nonetheless, as shown below in **Table 4.3-7**, *Project Operational Emissions*, the proposed project's long-term operational emissions would be well below EKAPCD's applicable significance thresholds.

Table 4.3-6: Short-Term (Construction) Project Emissions

	Pollutant (tons/year)					
Emissions Source	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Unmitigated Emissions						
2022	0.92	6.74	7.53	0.02	3.66	0.84
2023	0.90	6.33	7.89	0.02	3.07	0.70
Maximum Annual Emissions	**0.92**	**6.74**	**7.89**	**0.02**	**3.66**	**0.84**
Mitigated Emissions						
2022	0.92	6.74	7.53	0.02	1.72	0.60
2023	0.90	6.33	7.89	0.02	1.76	0.57
Maximum Annual Emissions	**0.92**	**6.74**	**7.89**	**0.02**	**1.76**	**0.60**
EKAPCD Threshold	25	25	N/A	27	15	N/A
Is Threshold Exceeded after Mitigation?	No	No	N/A	No	No	N/A

SOURCE: Trinity Consultants, 2021

Table 4.3-7: Project Operational Emissions

	Pollutant (tons/year)					
Emissions Source	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Unmitigated Emissions						
Solar Facility Operational Emissions	0.030	0.008	0.004	0.000	1.684	0.169
Mitigated Emissions						
Solar Facility Operational Emissions	0.030	0.008	0.004	0.000	0.368	0.07
EKAPCD Threshold	25	25	N/A	27	15	15
Is Threshold Exceeded After Mitigation?	No	No	No	No	No	No

SOURCE: Trinity Consultants, 2021

The solar power generation system of the proposed project could 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 solar facility could further aid in reducing air pollutant emissions and increase the potential for attainment of the Ozone AQAP/SIP. However, because it is unknown if the projected electrical generation would replace current generation within the Basin, outside the Basin, or simply accommodate future supply forecast needs, the potential emissions that could be displaced by the project are not factored into the long-term operational emissions analysis. Nonetheless, the project would not conflict with the EKAPCD's Ozone AQAP. Because project operational emissions would also not exceed the EKAPCD 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 proposed project is anticipated to operate for 30 to 35 years, after which the land would be converted to other uses. At such time as the facility is decommissioned, equipment operation and site restoration activities would result in impacts to air quality. Short-term decommissioning emissions are anticipated to be less than short-term construction emissions due to labor being less intensive, materials being recycled or discarded locally without additional transport, and equipment in future years having significantly lower emissions than current equipment.

All future decommissioning activities would occur in accordance with applicable land use regulations that would be in effect at that time and if the Power Purchase Agreement (PPA) is not extended, or the proposed project otherwise ceases operation. This aspect of the proposed project would be require development of 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. Thus, short-term decommissioning emissions will be less than significant if short-term construction emissions are less than significant, and no further evaluation is necessary.

As the estimated construction, operational, and decommissioning emissions from the proposed project would be less than significant, no specific mitigation measures would be required. However, to ensure that the proposed project is in compliance with all applicable EKAPCD rules and regulations and emissions are further reduced, the applicant would be required to implement and comply with a number of measures by regulation and would result in further emission reductions through their inclusion in project construction and long-term design. These measures would be required for decommissioning activities.

Given the fact that much of the construction equipment necessary to construct the project would also be required to decommission the site, it is reasonable to assume that decommissioning activities would be similar in nature to activities associated with construction of the project. As shown in **Table 4.3-4**, *Short-Term (Construction) Emissions*, neither the unmitigated or mitigated construction emissions would exceed the EKAPCD thresholds. Therefore, decommissioning of the project would not obstruct implementation of an air quality plan and impacts would be less than significant.

Consistency with Applicable Air Quality Management plans and Ozone Attainment Plan

The project would comply with all applicable EKAPCD rules and regulations that are consistent with the applicable air quality attainment and management plans. The EKAPD has adopted a SIP that addresses PM_{10}, ozone, and the ozone precursors NO_X and ROG. The SIP specifies that regional air quality standards for ozone and PM_{10} concentrations can be met through additional source controls and through trip reduction strategies. The applicable rules and regulations from the SIP are listed above in the regulatory setting. The SIP also establishes emissions budgets for transportation and stationary sources. Through compliance with the adopted rules and regulations, and consistency with the local land use plans, the project would comply with the applicable Clean Air Plans for the EKAPCD. The project would also be consistent with the applicable ozone attainment plan for the MDAB.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy is not anticipated conflict with any applicable air quality management plan. SCE's best management practices and APMs 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

Mitigation Measures

MM 4.3-1: Implement Diesel Emission Reduction Measures during Construction, Operation and Decommissioning. To control NOX and PM emissions during construction, the project proponent/operator and/or its contractor(s) shall implement the following measures during construction of the project, subject to verification by the County:

a. Off-road equipment engines over 25 horsepower shall be equipped with EPA Tier 3 or higher engines, unless Tier 3 construction equipment is not locally available.

b. All equipment shall be maintained in accordance with the manufacturer's specifications.

c. Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 5 minutes.

d. Notification shall be provided to trucks and vehicles in loading or unloading queues that their engines shall be turned off when not in use for more than 5 minutes.

e. Electric equipment shall be used to the extent feasible in lieu of diesel or gasoline-powered equipment.

f. 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.

g. On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines.

h. Existing electric power sources shall be used to the extent feasible. This measure would minimize the use of higher polluting gas or diesel generators.

i. The hours of operation of heavy-duty equipment and/or the quantity of equipment in use shall be limited to the extent feasible.

MM 4.3-2: Implement Fugitive Dust Control Plan during Construction, Operations and Decommissioning. To control fugitive PM emissions during construction, prior to the issuance of grading or building permits and any earthwork activities, the project proponent shall prepare a comprehensive Fugitive Dust Control Plan for review by the Kern County Planning and Natural Resources Department. The plan shall include all EKAPCD-recommended measures, including but not limited to, the following:

a. All soil being actively excavated or graded shall be sufficiently watered to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soils areas. Watering shall take place a minimum of three times daily where soil is being actively disturbed, unless dust is otherwise controlled by rainfall or use of a dust suppressant.

b. All clearing, grading, earth moving, and excavation activities should cease during the following:

    1. Periods of winds greater than 20 miles per hour (averaged over one hour), if disturbed materials is easily windblown,

    2. When dust plumes of 20% or greater opacity impact, or

    3. During periods of high winds (i.e., greater than 30 mph)

c. Vehicle speed for all on site (i.e., within the project boundary) construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. Signs identifying construction vehicle speed limits shall be posted along onsite roadways, at the site entrance/exit, and along unpaved site access roads.

d. Vehicle speeds on all offsite unpaved project-site access roads (i.e., outside the project boundary) construction vehicles shall not exceed 25 mph. Signs identifying vehicle speed limits shall be posted along unpaved site access roads and at the site entrance/exit.

e. All onsite unpaved roads and offsite unpaved public project-site access road(s) shall be effectively stabilized of dust emissions using water or EKAPCD-approved dust suppressants/palliatives during construction, sufficient to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. If water is used, watering shall occur a minimum of three times daily, sufficient to keep soil moist along actively used roadways. During the dry season, unpaved road surfaces and vehicle parking/staging areas shall be watered immediately prior to periods of high use (e.g., worker commute periods, truck convoys). Reclaimed (non-potable) water shall be used to the extent available and feasible.

f. The amount of the disturbed area (e.g., grading, excavation) shall be reduced and/or phased where possible.

g. All disturbed areas shall be sufficiently watered or stabilized by EKAPCD-approved methods to prevent excessive dust. On dry days, watering shall occur a minimum of three times daily on actively disturbed areas. Watering frequency shall be increased whenever wind speeds exceed 15 mph or, as necessary, to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. Reclaimed (non-potable) water shall be used to the extent available and feasible.

h. All clearing, grading, earth moving, and excavation activities shall cease during periods when dust plumes of 20 percent or greater opacity affect public roads or nearby occupied structures.

i. All disturbed areas anticipated to be inactive for periods of 30 days or more shall be treated to minimize wind-blown dust emissions. Treatment may include, but is not limited to, the application of an EKAPCD-approved chemical dust suppressant, gravel, hydro-mulch, revegetation/seeding, or wood chips.

j. All active and inactive disturbed surface areas shall be stabilized, where feasible.

k. Equipment and vehicle access to disturbed areas shall be limited to only those vehicles necessary to complete the construction activities.

l. Where feasible, permanent dust control measures shall be implemented as soon as possible following completion of any soil-disturbing activities.

m. Stockpiles of dirt or other fine loose material shall be stabilized by watering or other appropriate methods sufficient to reduce visible dust emissions to a limit of 20 percent opacity. If necessary and where feasible, three-sided barriers shall be constructed around storage piles and/or piles shall be covered by use of tarps, hydro-mulch, woodchips, or other materials sufficient to minimize wind-blown dust.

n. Water shall be applied prior to and during the demolition of onsite structures sufficient to minimize wind-blown dust.

o. Where acceptable to the fire department and feasible, weed control shall be accomplished by mowing instead of disking, thereby leaving the ground undisturbed and with a mulch covering.

p. All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least six inches of freeboard (minimum vertical distance between top of the load and top of the trailer) in accordance with California Vehicle Code Section 23114.

q. Gravel pads, grizzly strips, or other material track-out control methods approved for use by EKAPCD shall be installed where vehicles enter or exit unpaved roads onto paved roadways.

r. Haul trucks and off-road equipment leaving the site shall be washed with water or high-pressure air, or rocks/grates at the project entry points shall be used, when necessary, to remove soil deposits and minimize the track-out/deposition of soil onto nearby paved roadways.

s. During construction paved road surfaces adjacent to the site access road(s), including adjoining paved aprons, shall be cleaned, as necessary, to remove visible accumulations of track-out material. If dry sweepers are used, the area shall be sprayed with water prior to sweeping to minimize the entrainment of dust. Reclaimed water shall be used to the extent available.

t. Portable equipment, 50 horsepower or greater, used during construction activities (e.g., portable generators) shall require California statewide portable equipment registration (issued by CARB) or an EKAPCD permit.

u. The Fugitive Dust Control Plan shall identify a designated person or persons to monitor the fugitive dust emissions and enhance the implementation of the

measures, as necessary, to minimize the transport of dust off site and to ensure compliance with identified fugitive dust control measures. Contact information for a hotline shall be posted on site should any complaints or concerns be received during working hours and holidays and weekend periods when work may not be in progress. The names and telephone numbers of such persons shall be provided to the EKAPCD Compliance Division prior to the start of any grading or earthwork.

v. Signs shall be posted at the project site entrance and written notifications shall be provided a minimum of 30 days prior to initiation of project construction to residential land uses located within 1,000 feet of the project site. The signs and written notifications shall include the following information: (a) Project Name; (b) Anticipated Construction Schedule(s); and (c) Telephone Number(s) for designated construction activity monitor(s) or, if established, a complaint hotline.

w. The designated construction monitor shall document and immediately notify EKAPCD of any air quality complaints received. If necessary, the project operator and/or contractor will coordinate with EKAPCD to identify any additional feasible measures and/or strategies to be implemented to address public complaints.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 impacts would be less than significant. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Impact 4.3-2: Construction and operation of the project would expose sensitive receptors to substantial pollutant concentrations.

Sensitive receptors are particularly sensitive to air pollution because they are persons that 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 detailed in the sensitive receptors discussion under Section 4.3.2, the closest sensitive receptors are located adjacent to the project site in CUP Areas 3 and 4. Implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 would ensure that all readily available and feasible air quality control measures would be implemented to reduce emissions associated with construction.

Toxic Air Contaminants (TACs)

Projects are considered for potential health risks wherein a new or modified source of TACs is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to TACs.

The primary TAC of concern for this project would be DPM emitted within the project site from the construction, operation, and decommissioning phases of the proposed project. The proposed project would construct photovoltaic solar generation facilities and is not anticipated to generate any additional sources of toxic air contaminates with the exception of increased DPM from construction, operational, and decommissioning activities. Construction of the facilities would generate short-term DPM air quality impacts. 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.

The carcinogenic risk and the health hazard index (HI) for chronic non-cancer risk at the point of maximum impact (PMI) do not exceed the significance levels of ten in one million (10 x 10-6) and 1.0, respectively for the proposed project. The PMIs, are identified by receptor location and risk, and are provided in **Table 4-3.8** – *Potential Maximum Impacts Predicted by HARP*, based on the EPA's AMS/EPA Regulatory Model AERMOD were uploaded to the Air Dispersion Modeling and Risk Assessment Tool (ADMRT) program in the Hotspots Analysis and Reporting Program, and found the following cancer risk and associated chronic hazard index.

Table 4-3.8 Potential Maximum Impacts Predicted by HARP

	Cancer Risk	Chronic Hazard Index
Construction	2.77E-06	3.67R-03
Operational	4.67E-11	1.16E-08
Total	2.77E-06	3.67E-03
Threshold (Risk per million)	10	1
Threshold Exceeded?	No	No
Receptor #	8	8
UTM Easting (m)	375337.91	375337.91
UTM Northing (m)	3855921.20	3855921.20

The hazard index for the potential acute non-cancer risk was not calculated since there is no acute risk associated with DPM emission; therefore, the proposed project is considered less than significance.

Ambient Air Quality Analysis

An ambient air quality analysis, when required, determines if a proposed project has the potential to cause a violation of the ambient air quality standards or a substantial contribution to an existing or projected air quality standard. The project's potential increase to any criteria pollutants is negligible and would not cause an exceedance of any ambient air quality thresholds; see Table 4.3-6. Long-term (operational) emissions from the proposed project would be caused by operational mobile sources from periodic cleaning of the solar panels as well as by the trips to the project site by the full-time staff (2 FTE) for the project and area source emissions from the on-site building. The emissions from these activities would be negligible and would not exceed any ambient air quality thresholds, see **Table 4.3-7**, *Project Operational Emissions* Therefore, the project's contribution to potential violations of ambient air quality standards would be less-than-significant.

Project Heath Effects of Criteria Air Pollutants

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 not intended to be indicative of human health impacts that a project may have, but 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 levels to protect human health.

As shown in **Table 4.3-2**, 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.

Criteria Air Pollutants

Sierra Club vs. County of Fresno (December 24, 2018)

In *Sierra Club V. County of Fresno* (S219783) (*Sierra Club*) the Supreme Court held that CEQA requires environmental impact reports to either (i) make a "reasonable effort" to substantively connect the estimated amount of a given air pollutant a project will produce and the health effects associated with that pollutant, or (ii) explain why such an analysis is infeasible (6 Cal.5th at 1165-66). However, the Court also clarified that 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 not possible because there is no feasible or established scientific method to perform such analysis. This conclusion is supported by both the SJVAPCD and the SCAQMD who have determined that this type of analysis is speculative and infeasible and there are no unique issues for the SJVAPCD that would make this analysis invalid.

Writing as amicus curiae in *Sierra Club*, the SJVAPCD explained that "[t]he health impact of a particular criteria pollutant is analyzed on a regional and not a facility level based on how close the area is to complying with (attaining) the (National Ambient Air Quality Standards [NAAQS]). Accordingly, while the type of individual facility/health impact analysis that the Court of Appeal has required is a customary practice for TACs, it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task" (SJVAPCD, 2015).

Instead, the SJVAPCD explained that it assesses a project's potential to exceed NAAQS by evaluating the project's compliance with district thresholds of significance, which are measured in mass emissions (SJVAPCD, 2015). As explained by SJVAPCD, its thresholds are based on factual, scientific data and have been set at a level that ensures that NAAQS will not be exceeded, taking into consideration all cumulative emission sources (SJVAPCD, 2015). The SJVAPCD explained that attempting to connect criteria pollutant emissions to localized health impacts will "not yield reliable information because currently available modeling tools are not well suited for this task" (SJVAPCD, 2015). Available models are only equipped to model the impact of all emissions sources on an air basin-wide or regional basis, not on a project-level basis, and "[r]unning the photochemical grid model used for predicting ozone attainment with emissions solely from one project would thus not be likely to yield valid information given the relative scale involved" (SJVAPCD, 2015).

This inability to "accurately ascertain local increases in concentration" of mass emissions and then to further link emissions with health effects is particularly true for O_3 and its precursors NO_X and 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 O_3 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 SJVAPCD also explained that the disconnect between the tonnage of precursor pollutants and the concentration of O_3 or particulate matter formed in a particular area is especially important to understand in considering potential health effects because it is the concentration, not the tonnage, that causes health effects (SJVAPCD, 2015). The SJVAPCD explained that even if a model were developed that could accurately assess local increases in concentrations of pollutants like O_3 and particulates, it would still be "impossible, using today's models, to correlate that increase in concentration to a specific health impact" (SJVAPCD, 2015). The SJVAPCD stated that even a project with criteria pollutant emissions above its CEQA thresholds does not necessarily cause localized human health impacts as, even with relatively high levels of emissions, the SJVAPCD

cannot determine "whether and to what extent emissions from an individual project directly impact human health in a particular area" (SJVAPCD, 2015). The SJVAPCD explained that this is particularly true for development projects like the project, where most of the criteria pollutants derive from mobile and area sources and not stationary sources. The SCAQMD also, as amicus curiae in *Sierra Club*, made similar points, reiterating that "an agency should not be required to perform analyses that do not produce reliable or meaningful results" (SCAQMD, 2015). SCAQMD agrees that it is very difficult to quantify health impacts with regard to 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). With regard to particulate matter, the SCAQMD noted that while the CARB has created a methodology to predict expected mortality from large amount of $PM_{2.5}$, the primary author of the methodology has reported that it "may yield unreliable results due to various uncertainties" and CARB staff has been directed by its Governing Board to reassess and improve it, which factor "also counsels against setting any hard-and-fast rule" about conducting this type of analysis (SCAQMD, 2015). The amicus briefs filed by SJVAPCD and SCAQMD in *Sierra Club* are attached as part of Appendix C of this EIR.

Further, the project's operational emissions are not anticipated to contribute to an exceedance of the NAAQS or the CAAQS in the vicinity. As such, it can be reasonable inferred that the project's NOX and subsequent NO2 construction emissions would not exceed the EKAPCD thresholds with implementation of mitigation measures, and would not impede attainment of the NAAQS or the CAAQS; which are standards put in place to protect the public health and environment.

Regarding health effects of criteria air pollutants, the project's potential to result in regional health effects associated with ROG, NO_X, PM_{10} and $PM_{2.5}$ on specific vulnerable populations cannot be calculated given existing scientific constraints. A scientific method to calculate the exact number of individuals in a vulnerable population that will get sick has not been developed and therefore, it is assumed localized health effects associated with NOX, PM10, and PM2.5 emissions from project implementation could occur. The project proposes the construction and operation of a large-scale utility solar project that would require dust-generating construction activities such as pile-driving, mowing, and grading, over a large area. Due to the open nature of the project site, blowing dust could occur and result in the dispersal of criteria air pollutants such as PM2.5 and potentially contribute to the transmission of respiratory diseases like COVID-19.

Since COVID-19 is understood to spread as result of close, person-to-person contact, especially within poorly ventilated indoor spaces, the likelihood of emissions from the proposed project directly increasing the spread of COVID-19 is remote. However, a nationwide study by Harvard University found a linkage between long term exposure to PM2.5 as air pollution and statistically significant increased risk of COVID-19 death in the United States (Harvard, 2020). Though construction dust suppression measures would be implemented as a requirement of Mitigation Measure MM 4.3-2, exposure to dust during construction could still occur which could increase the severity of the disease project employees and nearby residents to COVID-19 should they contract it. However, the vaccines for COVID-19 drastically reduce the likelihood of hospitalization, much less death, as a result of contracting COVID-19. In spite of a readily available COVID-19 vaccine supply in the United States, the COVID-19 pandemic is on-going as a result of low vaccination rates and mask compliance by unvaccinated individuals. People of color may also have a higher risk of getting sick or dying from COVID-19 (California Department of Public Health 2020) and may live in areas already burdened by air pollution (NRDC 2014). On-site workers and residents

near project activities potentially could be exposed to increased levels of $PM_{2.5}$ from project activities due to the emissions of $PM_{2.5}$ from the project.

Therefore, in addition to implementation of Mitigation Measure MM 4.3 2, the project would implement Mitigation Measure MM 4.3-3, which requires implementation of a COVID-19 Health and Safety Plan in accordance with the Kern County Public Health Services Department and Kern County Health Officer mandates.

Therefore, implementation of Mitigation Measures MM 4.3-2 and MM 4.3-4 would be required to reduce the project's regional and localized health effects associated with criteria air pollutants and COVID-19; however, the exact reduction from implementation of these mitigation measures cannot be quantified given existing scientific constraints. As such, the impacts are conservatively considered to be significant and unavoidable.

CO Hotspots

A CO "hotspot" can occur when vehicles are idling at highly congested intersections. CO hotspots can adversely affect nearby sensitive receptors. The Kern County Planning Department's, Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports (2006) states that CO hotspots must be analyzed when one of the following conditions occur: (a) a project increases traffic at an intersection or roadway that operates at a Level of Service (LOS) E or worse; (b) a project involves adding signalization and/or channelization to an intersection; or (c) sensitive receptors such as residences, schools, hospitals, etc., are located in the vicinity of the affected intersection or signalization.

The proposed project is not located in the vicinity of an intersection operating at level of service (LOS) E or worse. The project would have trip generation associated with construction worker vehicles and vendor trucks. As construction is only expected to last 12 months, it would be considered temporary and would not result in a long-term source of CO emissions. Also, the project would result in a minimal traffic trip increase during project operations for the two FTE employees traveling to and from the project site. These trips would be nominal and not capable of decreasing the LOS of any intersection in the project vicinity. As identified in Section 4.15, *Transportation and Traffic*, of this EIR, the project would not result in intersections operating at or below LOS E. Therefore, the project would not have CO hotspot–related impacts, and would not contribute a significant level of CO such that localized air quality and human health would be substantially degraded. Therefore, impacts would be less than significant and a CO hotspot analysis is not required.

Valley Fever

During the proposed ground disturbing activities associated with the project, the potential exists that such activities could disturb dust particles and, if present, *Coccidioides immitis* (CI) spores, which could then be released into the air and potentially be inhaled by on-site workers and nearby sensitive receptors; exposure to these spores can cause an illness in some individuals known as Valley Fever. CEQA does not require the analysis of project impacts on project workers; 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 4.3-2 through MM 4.3-4

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 4.3-3 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 4.3-4 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 through MM 4.3-4, 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.

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.

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. However, according to information provided by the Department of Conservation Division of Mines and Geology, the project site is not located in an area where naturally occurring asbestos is likely to be present (MBI, 2020a). Therefore, impacts associated with exposure of construction workers and nearby sensitive receptors to asbestos would be less than significant.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy is not anticipated to expose sensitive receptors to substantial pollutant concentrations. SCE's best management practices and APMs 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

Mitigation Measures

Implement Mitigation Measures MM 4.3-1, MM 4.3-2, and:

MM 4.3-3: At the time of project implementation, a COVID-19 Health and Safety Plan should be prepared in accordance with the Kern County Public Health Services Department and Kern County Health Officer mandates. A copy of the COVID-19 Health and Safety Plan shall be submitted to the Kern County Planning and Natural Resources Department for review and approval.

MM 4.3-4: Minimize Exposure to Potential Airborne Valley Fever–Containing Dust. 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 within 5 days of the training session.

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 NIOSH-approved respiratory protection to affected workers. If respiratory protection is deemed necessary, employers must develop and implement a respiratory protection program in accordance with Cal/OSHA's Respiratory Protection standard (8 CCR 5144).

MM 4.3-5: 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

Toxic Air Contaminants Except Covid-19

With Implementation of Mitigation Measures MM 4.3-1, MM 4.3-2, MM 4.3-4 and MM 4.3-5 impacts would be less than significant. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

COVID-19

Even with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-5, the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM2.5 along with indirect linkages of criteria pollutants and COVID-19 on vulnerable populations could result in significant and unavoidable project-level impacts. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Impact 4.3-3: Construction and Operation of the project would Result in Other Emissions (such as those leading to odors) Adversely Affecting a Substantial Number of People.

Land uses typically producing objectionable odors include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project does not include any uses that would be associated with objectionable odors. Odors would come predominantly from construction equipment, which would cease immediately after construction is complete. Furthermore, the project would be required to comply with California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. This would further reduce the detectable odors from heavy-duty equipment exhaust. Additionally, the project would follow every EKAPCD rule and regulation to keep odors down. Given the large project area and strong prevailing winds at the project site, these odors would be dispersed and would not create significant objectionable odors. As discussed, construction- related odors would be short-term and cease upon project completion. Sparse residences are located in the vicinity of the project site; therefore, short term fueling odors during construction would not impact a substantial number of people. As such, the

proposed project is not expected to result in adverse emissions affecting a substantial number of people.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation and would have not result in emissions adversely affecting a substantial number of people

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project and for the SCE Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

The Kern County's Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports (Kern County 2006) require 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 six-mile radius for regional impacts and a one-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.

Impact 4.3-4: Construction and operation of the project would result in a cumulatively considerable net increase of any criteria pollutant for which the projects' region is nonattainment under applicable federal or State ambient air quality standards.

The project is located within the Kern County portion of the MDAB, which is an area that is designated as non-attainment for federal and State ozone standards as well as State PM_{10} standards, and is under the jurisdiction of the EKAPCD. The District's nonattainment status is a result of past and present development within the MDAB and attainment of ambient air quality standards can be jeopardized by increasing emissions-generating activities in the region. No single project would be sufficient in size, by itself, to result in nonattainment of the regional air quality standards. Instead, a project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development within the Basin.

Thus, the EKAPCD's approach for assessing cumulative impacts is based on the forecasts of attainment and ambient air quality standards in accordance with requirements of the federal and State clean air acts. With respect to determining the significance of a project's contribution to regional emissions, Kern County, in its *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* document, states that projects that produce emissions that exceed the

adopted thresholds of the EKAPCD for ROG, NO_X, and PM_{10} shall be considered significant for a project level and/or cumulatively for impacts to air quality.

Thus, based on Kern County's guidance, if an individual project results in air emissions of ROG, NO_X, and PM_{10} that exceed the EKAPCD's thresholds for project-specific impacts, then it would also result in a cumulatively considerable net increase of these pollutants for which the project region is in non-attainment under an applicable federal or State ambient air quality standard. The proposed project would not result in a cumulatively considerable net increase in operations-related criteria pollutant emissions, as discussed below.

Localized Impacts

As noted in Chapter 3- *Project Description* Table 3.3 *Cumulative Project List*, there are a total of 15 projects within a six-mile radius of the project site. Several of the cumulative projects are renewable energy projects, for which the primary source of criteria pollutant emissions would be generated during their respective construction phases.

During operation, the only likely sources of emissions for renewable facilities would be limited to vehicular emissions associated with routine employee vehicle trips for maintenance and monitoring activities, the BESS facilities, and emergency backup generators. Additionally, employee trips may also be made for the washing of solar PV panels, which may only occur seasonally throughout the year. As such, the concurrent operation of all related projects along with the project is not anticipated to exceed EKAPCD CEQA thresholds.

As details regarding the various cumulative projects were not readily available, emissions estimates were not calculated. The cumulative projects are already approved or pending approval . It is assumed that these projects are in conformance with the regional AQAP and/or the Kern County General Plan. Additionally, the proposed Project would generate less-than-significant impacts to criteria air pollutants, and the project's incremental contribution to cumulative air quality impacts would not be cumulatively considerable.

Operation of the project would result in an overall net reduction of emissions by providing electricity that would displace energy produced from fossil fuels. Operation of the project does not exceed the project-level regulatory thresholds and, therefore, would not contribute to a long-term cumulative increase in criteria pollutants. The project's incremental contribution to operational impacts would not be cumulatively considerable.

With respect to short-term localized construction emissions, given that the MDAB is currently designated as nonattainment for both O_3 and PM_{10}, the addition of these pollutants resulting from cumulative construction and decommissioning emissions could contribute to these existing air quality violations. Assuming on a worst-case basis that the construction schedules for all cumulative projects would overlap with each other and with the proposed project, the localized effect could result in cumulatively significant construction emissions. But because the Project's construction emissions are less than the EKAPCD CEQA thresholds, the project would not make a cumulatively considerable contribution to significant cumulative impacts at a basin-wide level.

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 marginal traffic increases and congestion and would no substantially contribute or combine with existing conditions to cause a CO "Hotspot". No vehicular traffic other than sporadic maintenance, panel washing trucks, and two full time employees are planned for and due to the location of the site, potentially impacted intersections and roadway segments are anticipated to operate at a LOS of C or better during project operations. Additionally, as the majority of the other project and land uses in the vicinity consists of solar plants, undeveloped land, and rural residential uses, existing traffic are 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.

California Air Resources Board Air Basin Emissions

To evaluate the contribution of the project's operational emissions relative to the cumulative air quality conditions in Kern County and the MDAB, the project's specific emissions are compared to the 2025 projected emissions of the MDAB and Kern County portion of the MDAB. **Table 4.3-9**, *Emissions Inventory –MDAB 2025 Projection*, and **Table 4.3-10**, *Emissions Inventory MDAB-Kern County Portion 2025 Estimate Projection*, provide the projected 2025 emissions for the MDAB and Kern County, respectively. **Table 4.3-11**, *Proposed Project, Kern County Portion of the MDAB, and the MDAB*, provides the emissions comparison of the project with Kern County and the MDAB.

Table 4.3-9: Emissions Inventory –MDAB 2025 Projection

	Emissions (tons per year)					
	ROG	**NO_X**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Total Emissions	20,914.5	46,282.0	65,736.5	5,037.0	56,429.0	15,439.5
Total Stationary Source Emissions	7,957.0	30,477.5	12,300.5	4,708.5	24,236.0	7,993.5
Percent Stationary Sources	38.05%	65.85%	18.71%	93.48%	42.95%	51.77%
Total Area-Wide Source Emissions	6,095.5	730.0	9,088.5	36.5	29,674.5	5,657.5
Percent Area-Wide Sources	29.14%	1.58%	13.83%	0.72%	52.59%	36.64%
Total Mobile Source Emissions	6,898.5	15,111.0	44,311.0	292.0	2,518.5	1,825.0
Percent Mobile Sources	32.98%	32.65%	67.41%	5.80%	4.46%	11.82%

SOURCE: CARB 2020b.
Note: total may not add due to rounding.

Table 4.3-10: Emissions Inventory MDAB– Kern County Portion 2025 Estimate Projection

	Emissions (tons per year)					
	ROG	**NO_X**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Total Emissions	3,540.5	10,840.5	19,016.5	3,358.0	5,986.0	2,847.0
Total Stationary Source Emissions	511.0	8,103.0	4,307.0	3,212.0	1,277.5	803.0
Percent Stationary Sources	14.43%	74.75%	22.65%	95.65%	21.34%	28.21%
Total Area-Wide Source Emissions	985.5	219.0	4,051.5	0.0	3,540.5	949.0
Percent Area-Wide Sources	27.84%	2.02%	21.31%	0.00%	59.15%	33.33%
Total Mobile Source Emissions	2,044.0	2,518.5	10,658.0	109.5	1,168.0	1,095.0
Percent Mobile Sources	57.73%	23.23%	56.05%	3.26%	19.51%	38.46%

SOURCE: CARB 2020b.
Note: total may not add due to rounding.

Table 4.3-11: 2025 Emissions Projections – Proposed Project, Kern County, and MDAB.

	Emissions (tons per year)		
	ROG	**NO_X**	**PM_{10}**
2025 Emissions			
Proposed Project	0.03	0.01	0.37
Kern County	3,541	10,841	5,986
MDAB	20,915	46,282	56,429
Proposed Project's percent of Kern County	0.001%	0.000%	0.006%
Proposed Project's percent of MDAB	0.000%	0.000%	0.001%
Kern County Percent of MDAB	16.93%	23.42%	10.61%

SOURCE: Trinity Consultants, 2021.

Compared to Kern County and MDAB emissions in 2025, operational emissions associated with the project would be negligible. In addition, the power produced by the project could serve to reduce air pollutant emissions within the MDAB to the extent that the power is used to offset power production from fossil fueled power plants within (or contributory to) the MDAB, and also by providing power to allow the displacement of fossil-fueled engines (such as agricultural pumps) with electrical power units. Thus, the project's incremental contribution from project operations to the MDAB Emissions Inventory would not be cumulatively considerable. In addition, the project is consistent with planned buildout previously accounted for by the 2025 County emission projections. Therefore, the proposed project wouldn't produce any additional cumulatively considerable emissions.

The proposed project would not result in cumulatively considerable impacts related to incremental contribution to the MDAB Emissions Inventory. However, to ensure that project would be in compliance with all applicable EKAPCD rules and regulations and emissions are further reduced, the applicant would be required to implement and comply with a number of measures by regulation and would result in further emission reductions through their inclusion in project construction and long-term design. These measures are described above under Impact 4.3-1.

Cumulative Impacts Summary

The cumulative projects are typically listed only as geographical reference to demonstrate the construction activity within a six-mile radius of the proposed Project. The number and sizes of these projects are of no particular significance since the cumulative considerable thresholds established by Kern County are based on project specific thresholds which are inherently cumulative in nature. The cumulative projects are already approved or pending approval. It is assumed that these projects are in conformance with the regional AQAP and/or the Kern County General Plan.

As discussed in Section 4.3.4, the construction emissions generated by the project individually would not exceed EKAPCD thresholds. With regard to project level construction emissions, Mitigation Measures MM 4.3-1 through MM 4.3-4 would reduce impacts related to NOx and PM_{10} from diesel emissions, reduce dust generation, and address potential Valley Fever risk by implementing fugitive dust control measures, establishing a public complaint protocol for excessive

dust generation, and requiring Valley Fever-related training for construction workers. However, assuming on a worst-case basis that the construction schedules for all cumulative projects would overlap with each other and with the proposed project, cumulative impacts during construction could remain significant and unavoidable related to NO_x and PM_{10} emissions.

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, the proposed project would also not make a cumulatively considerable contribution to a significant cumulative HAPs impact. The proposed project would generate less-than-significant impacts to criteria air pollutants, and because the criteria air pollutant analysis is inherently cumulative, the project's incremental contribution to cumulative air quality impacts would not be cumulatively considerable.

Traffic increases and added congestion caused by a project can combine to cause a CO "Hotspot". No vehicular traffic other than sporadic maintenance, panel washing trucks, and two full time employees are expected and due to the location of the site, potentially impacted intersections and roadway segments are anticipated to operate at a LOS of C or better during project operations. Therefore, CO "Hotspot" Modeling was not conducted for this project and no concentrated excessive CO emissions would be caused once the proposed project is completed

Operation of the project would result in an overall net reduction of emissions by providing electricity that would displace energy produced from fossil fuels. Operation of the project does not exceed the project-level regulatory thresholds and, therefore, would not contribute to a long-term cumulative increase in criteria pollutants. The project's incremental contribution to operational impacts would not be cumulatively considerable.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy is not anticipated to result in or contribute to 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. SCE's best management practices and APMs 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.

Mitigation Measures

Implement Mitigation Measures MM 4.3-1 through MM 4.3-5.

Level of Significance after Mitigation

Cumulative impacts would be significant and unavoidable for NOx and PM_{10} emissions assuming on a worst-case basis that the construction schedules for all cumulative projects would overlap with each other and with the proposed project. With Implementation of Mitigation Measures MM 4.3-1 through MM4.3-5 cumulative operational impacts would be less than significant.

The uncertainty of the project's regional and localized health impacts on vulnerable populations associated with criteria air pollutants, such as $PM_{2.5}$, along with indirect linkages of criteria pollutants and COVID-19 could result in significant and unavoidable cumulative level impacts.

Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

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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 is based on a review of relevant literature, field reconnaissance surveys, and focused biological surveys as well as the *Biological Analysis Report* , the *Rosamond South Project, Kern County Analysis of Impacts to Swainson's Hawk Nesting and Foraging Habitat Report* and the *Western Joshua Tree (Yucca brevifolia) Woodlands Analysis for the Rosamond South Solar Project,* which are all located in Appendix C-1 of this EIR, and the *Aquatic Resources Delineation Report* (QK, 2021b) prepared for this project located in Appendix C-2 of this EIR.

The purpose of the BAR was to identify sensitive biological resources within the project site and determine how the resources may be impacted by construction, operation, and future decommissioning of the project. The biological study area (BSA) includes resources within the boundaries of the project site and within a 250-foot buffer, and 0.5 mile survey buffer for Swainson's hawk. The BAR also recommends avoidance, minimization, and mitigation measures to reduce potential impacts to a less than significant impact.

Prior to conducting any on-site surveys, QK performed a literature review and database analysis. The literature review included information available in peer-reviewed journals, standard reference materials, and relevant databases, including the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW, 2021a), CDFW Biogeographic Information and Observation System (BIOS; CDFW 2021c); CDFW's California Wildlife Habitat Relationships (CWHR) System; California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS, 2021), Calflora (Calflora 2021), U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) System (USFWS, 2021a), USFWS Critical Habitat Mapper (USFWS 2021b), USFWS National Wetlands Inventory (NWI; USFWS 2021c), United States Geological Survey (USGS) National Hydrography Dataset (NHD; USGS 2021), Federal Emergency Management Agency (FEMA) flood zone maps (FEMA, 2021), U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) Web Soils Survey (NRCS, 2021a), NRCS Lists of Hydric Soils (NRCS, 2021b), eBird Explore is an online database of avian species observations (ebird 2021), VertNet is a biological and natural history publishers data base resource (VertNet, 2021), Current and historical aerial imagery from Google Earth (Google LLC 2021).

Biological Field Survey

A reconnaissance level survey of the majority of the BSA was conducted in mid- to late- March 2020, mid- May 2020, and late January and early February 2021 by QK Biologists. The survey

consisted of walking meandering pedestrian transects spaced 50-100 feet apart throughout the entire project site and a 250-buffer, where feasible. Some portions of the buffer were on private property and where access was not permitted, areas were visually surveyed. Surveys were conducted between March 20, 2020 and February 2, 2021 over eight days.

Focused Floristic Surveys

The project is within the known distributional range of numerous special status plants and provides habitat that could support some of these species. Six floristic surveys in 2020 and 2021 were conducted for the four CUP Areas and along the gen-tie lines. Surveys were conducted to coincide with the variable blooming periods of special-status plant species within potential to occur in the BSA. Floristic surveys were conducted at the following times:

- Early spring 2020 from March 31 through April 13 on six different days;
- Late spring 2020 from May 8 through May 19 on seven different days;
- Summer 2020 from June 1, 2, 3, and 4th;
- Early spring 2021 from March 24 through April 1 on six different days,
- Late spring 2021 on May 10, 11, 12, and 13th; and
- Summer 2021 from June 1 through June 9 on five different days.

Delineation of Waters

Prior to conducting field investigations, a review of the National Wetlands Inventory (NWI) was completed to determine the historic occurrence of known wetlands on the project. NWI is updated yearly and was supplemented by the site-specific surveys. In addition, the National Hydrology Dataset (NHD) was referenced to evaluate the historical occurrence of blueline drainages within the project. The database query indicated the presence of several aquatic resources in CUP Areas 2 and 3, which were delineated in the field and included in the Aquatic Resources Delineation Report (QK 2021). Aquatic resources were assessed using methodologies and diagnostic characteristics presented in the 1987 Army Corps of Engineers Wetland Delineation Manual, the most recent version of the Arid West Supplement (Version 2.0), the Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, and Methods to Describe and Delineate Episodic Stream Processes on Arid-Landscapes for Permitting Utility-Scale Solar Power Plants: With the MESA Field Guide (USACE 2008a).

4.4.2 Environmental Setting

Regional Setting

The project site is located in southeastern Kern County and is approximately 11 miles west of the unincorporated community of Rosamond within the jurisdiction of the Willow Springs Specific Plan. The project site is located within is in the eastern high desert region of unincorporated Kern County and, more specifically, within the western extent of the Mojave Desert. The Mojave Desert covers more than 40,000 square miles in California, Arizona, Nevada, and Utah. The western Mojave Desert is generally bounded by the Tehachapi Mountain to the northwest, the San Gabriel Mountains to the southwest, and the Great Basin to the east.

Climate

The climate of the project site is characterized by a typical desert climate, with hot, dry, windy summers and mild, relatively dry winters. Average high temperatures range from 57° in December to 97° in July, and it is not uncommon for temperatures to exceed 100°F during the summer. Average low temperatures range from 29° in December to 66°F in July. Precipitation events are variable from year to year, with an average of 7.38 inches of rain falling mainly between December and March, although the region is known to experience sudden thunderstorms in 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). Vegetative structure is characterized by short-statured and widely spaced shrubs, and arborescent shrubs resulting from a competition for soil water resources (QK, 2021a).

Three vegetation types contribute to 75 percent of the land cover in the Mojave Desert region (Davis et al., 1998): Mojave creosote bush scrub (16,398 square miles), Mojave mixed woody scrub (including Joshua tree woodland, 3,646 square miles), and desert saltbush scrub (1,510 square miles). Other vegetation types occurring within the Mojave Desert region and Antelope Valley include desert and valley sink scrub, Mojave Desert wash scrub, and Mojave mixed steppe (Holland, 1986). Disturbed or non-native vegetation types within the region include California annual grasslands, agricultural lands, and developed areas.

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). Portions of the Mojave Desert and Antelope Valley that were at one time cleared for agriculture 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 reptiles, birds and mammals. Reptile species commonly occurring in the desert portion of Kern County include the side-blotched lizard (*Uta stansburiana*), western whiptail (*Aspidoscelis tigris*), desert spiny lizard (*Sceloporus magister*), gopher snake (*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 beechyi*), and bat species including California myotis (*Myotis californicus*), western small-footed myotis (*Myotis ciliolabrum*) and western pipistrelle (*Pipistrellus hesperus*).

Sensitive Natural Communities

Sensitive natural communities are designated by the CDFW, or occasionally in local policies and regulations, and 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. The CDFW tracks communities it believes to be of conservation concern through the CNDDB, and plant alliances or associations with a state rank of S1 through S3 are considered to be sensitive communities by the State. Sensitive natural communities that occur in the regional vicinity of the project include; Southern Riparian Scrub, Southern Willow Scrub, Valley Needlegrass Grassland and Wildflower Field.

Surface Hydrology and Jurisdictional Waters

Within the arid and semi-arid western United States, limited precipitation restricts wetland and riparian resources to 1 to 5 percent of the land surface, a relatively low proportion compared to other systems globally. The proportion of wetland resources is even lower (<1 percent) in extremely arid areas such as the Mojave Desert (USACE, 2008).

The project site is located in the Antelope Valley, an isolated basin that comprises approximately 1,580 square miles of alluvial valley in the western Mojave Desert. The western Mojave Desert is largely composed of a variety of non-marine sedimentary, pyroclastic, and volcanic rocks, and some marine sediments along the San Andreas fault zone. The project site is located on a broad alluvial slope called a bajada, and is comprised of a network of alluvial fans, active channels, dormant channels, abandoned channels, braided streams, interfluves, and floodplains that emanate from the Tehachapi range. Alluvial fans are gently sloping fan-shaped landforms that form where steep, confined mountain streams flow out onto a piedmont plain. They often resemble extended fans when viewed on maps or aerial photographs, but their morphology can be irregular forms bounded laterally by adjacent fans, bedrock outcrops, and relict fan surfaces, among other possibilities (House, 2005). Stream channels are generally subject to flow path uncertainty due to rapid diversion of one channel to another in response to blockages and changes in sediment accumulation from previous flow events (CDFG, 2010). This region of the Mojave Desert is characterized by low precipitation, which rarely allows for surface runoff in the highly porous soils and colluvium. Parent material from mountain sources is generally only mobilized to lower fan areas during localized major storm events. Streams in this region are generally ephemeral to intermittent, and only flow in response to rain events. Because of the high infiltration rates of the sediments, consistent stream flow usually only occurs after periods of steady rain, typically during a wet winter. Heavy floods produce visually definable channels in streambeds, and localized flood events can produce overbank flow transporting sediment and debris onto the floodplain.

The project site is located within the Antelope Valley Hydrologic Unit, a closed basin situated within the western Mojave Desert, with a system of Rosamond, Buckhorn, and Rogers dry lakes as the central watershed terminus. Rosamond, Buckhorn, and Rogers Lakes and their tributaries function as an isolated intrastate watershed system and are non-jurisdictional waters of the United States (QK, 2021a).

The Antelope Valley Hydrologic Unit is located within the South Lahontan Hydrologic Region which is bound to the north by the drainage divide between Mono Lake and East Walker River, to the west and south by the Sierra Nevada, 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 underground. Along with the arid climate, this accounts for the presence of many dry lakebeds or playas in the region.

The Lahontan Basin has no outlet to other watersheds and is internally drained. The USACE has determined that isolated waters within the South Lahontan Hydrologic Region are not considered "waters of the United States" and, therefore, are not be subject to regulation under the federal Clean Water Act (CWA).

Wildlife Movement Corridors

Wildlife migration corridors are areas that connect suitable habitat in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features (e.g., canyon drainages, ridgelines, or areas with vegetation cover) provide corridors for wildlife travel. Wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high-population areas; and facilitate genetic diversity. Disturbance to wildlife corridors, particularly as a result of human disturbance and development, can cause harm to migrating species, cause species to exceed local population thresholds, and/or prevent healthy gene flow between populations.

Based on a review of existing scientific documentation pertaining to habitat linkages in the project region (i.e., at a landscape-scale), the predominant movement paths include the Tehachapi Connection and the Sierra Madre-Castaic Connection (QK, 2021a). The Tehachapi Connection links the Sierra Nevada and Sierra Madre Mountains. This connection includes much of Tejon Ranch and runs along the northwestern edge of the Antelope Valley from Quail Lake to Red Rock Canyon State Park. Similarly, the Sierra Madre-Castaic Connection links the Castaic Range, located south of the project site, to points west in Los Padres National Forest. Combined, these two connections serve as the primary linkage for most terrestrial wildlife moving from Angeles National Forest and the Sierra Nevada rather than across the floor of the Antelope Valley. Both of these primary linkages are located more than eight miles to the northwest and 20 miles to the southwest of the project site, and are not expected to be impacted by project development.

The primary goal of the California Desert Connectivity Project is to identify areas where maintenance or restoration of ecological connectivity is essential for conserving the unique biological diversity of California's deserts, and to inform land management, land acquisition, habitat restoration, and stewardship in connectivity zones. The California Desert Connectivity Project has identified 23 "crucial linkages", each defined by a pair of landscape blocks that should remain connected (QK, 2021a). Designated crucial linkages do not include the project site or surrounding areas; however, a linkage planning area is proposed approximately 20 miles (24 km) to the east of the project site, connecting the San Gabriel Mountains with Edwards Air Force Base. In addition, neither the California Essential Habitat Connectivity Project, nor any of South Coast Wildlands' (a non-profit organization that advocates habitat connectivity) Missing Linkages studies a (identify the project site or areas immediately surrounding the project site as essential connectivity areas (QK, 2021a).

Local Setting

The project site and surrounding land are relatively flat and exhibit little topographic relief. The project site gently slopes from the northwest to the southeast with an elevation that ranges between

2,440 and 2,750 feet above mean sea level. Soils consist of Hesperia loam, Hesperia fine sandy loam, Hesperia loamy fine sand, Rosamond loam, Rosamond fine sandy loam, Rosamond loamy fine sand, Rosamond silty clay loam, Sunrise loam, and Cajon loamy sand and are generally loose to very dense sand with variable amounts of silt and clay. The project site consists mostly of annual grassland and native desert scrub vegetation communities. Existing developments adjacent to or in close proximity of the project site include renewable energy facilities, namely the Antelope Valley Solar Project, the Rosamond Central Solar Project, and the proposed Raceway Solar Project, renewable energy supporting infrastructures, rural access roads, paved roads, and scattered rural residences.

Plant Communities

Based on descriptions and the habitat classification system in the California Wildlife Habitat Relationships (CWHR), six habitat types were present within the BSA. These included Annual Grassland, Desert Scrub, Alkali Desert Scrub, Barren, Urban, and Deciduous Orchard. The most prevalent habitat type on the project site was Annual Grassland, which covers approximately 69 percent of the project footprint and by Desert Scrub that covers approximately 30 percent of the project footprint. The six vegetation communities and land cover types were identified within the project site during the biological surveys conducted in 2020 and 2021. These habitat types are detailed along with their respective acreages in **Table 4.4-1**, CWHR *Vegetation Community and Land Cover Types on the Project Site*. No sensitive vegetation communities were present on the project footprint.

Annual Grassland

Annual Grassland habitat is composed primarily of annual plant species and many wildlife species use annual grassland habitat for foraging. These grasses also will occur as understory plants in some woodland and shrubland habitats. Structure on the project site is dependent largely on weather patterns with the potential for large quantities of dead organic material to accumulate in summer months. Introduced annual grasses are generally the dominant plant species, but perennial grasses may also be present in this habitat. Annual Grassland habitat was found on much of the BSA, especially on CUP Areas 3 and 4. Shown in ***Figure 4.4-1:****Vegetation Communities in CUP Area 1,* ***Figure 4.4-2****: Vegetation Communities in CUP Areas 2 and 3,* and ***Figure 4.4-3:*** *Vegetation Communities in CUP Area 4.* Annual Grassland was also present along the Holiday Avenue and Gaskell Road gen-tie routes. This habitat was not present on CUP Area 1 or along the Rosamond Boulevard gen-tie route. Non-native *Bromus* species were common; native grass species were rarely observed. Fiddleneck species (*Amsinckia tesselata* and *A. intermedia*) often competed for dominance with the non-native grasses. In some areas of the BSA, native shrubs such as rubber rabbitbrush (*Ericameria nauseosa*), creosote, and Joshua tree (*Yucca brevifolia*) were scattered within the Annual Grassland habitat

Animal species commonly occurring within annual grasslands within the project site and vicinity include western fence lizard (*Sceloporus occidentalis*), western rattlesnake (*Crotalus oreganus*), California ground squirrel (*Spermophilus beecheyi*), coyote (*Canis latrans*), turkey vulture (*Cathartes aura*), burrowing owl (*Athene cunicularia*), and horned lark (*Eremophila alpestris*).

Table 4.4-1: CWHR Vegetation Community and Land Cover Types on the Project Site

									Total		
	CUP Area 1		CUP Area 2		CUP Area 3		CUP Area 4		Total Project Footprint		BSA	
Habitat Type	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**
Annual Grassland	0.0	0.0	70.07	29.11%	380.92	71.2%	445.41	100%	**896.40**	**69.37**	**1,618.07**	**57.13**
Desert Scrub	71.03	100%	160.70	66.78	152.62	28.52%	0.0	0.0	**384.35**	**29.74**	**742.77**	**26.22**
Alkali Desert Scrub	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**	**87.53**	**3.09**
Barren	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**	**238.77**	**8.43**
Urban	0.0	0.0	9.87	0.0	1.41	0.26%	0.0	0.0	**11.28**	**0.87**	**118.29**	**4.17**
Deciduous Orchard	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**	**26.62**	**0.93**
Total	**71.03**	**--**	**240.64**	**--**	**534.95**	**--**	**445.41**	**--**	**1,292.03**	**100**	**2,832.05**	**100%**

SOURCE: WSA, 2021

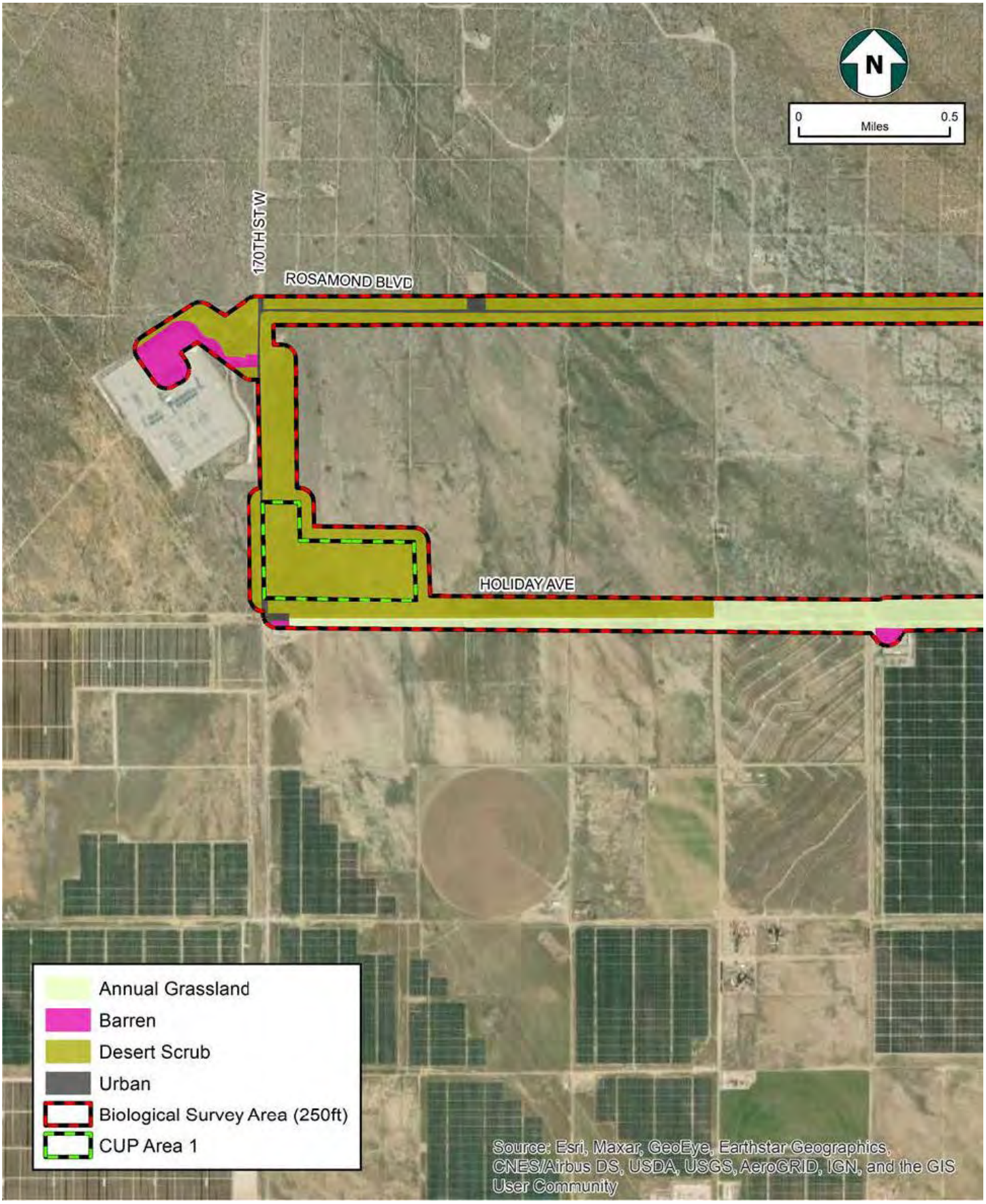

FIGURE 4.4-1: Vegetation Communities in CUP Area 1

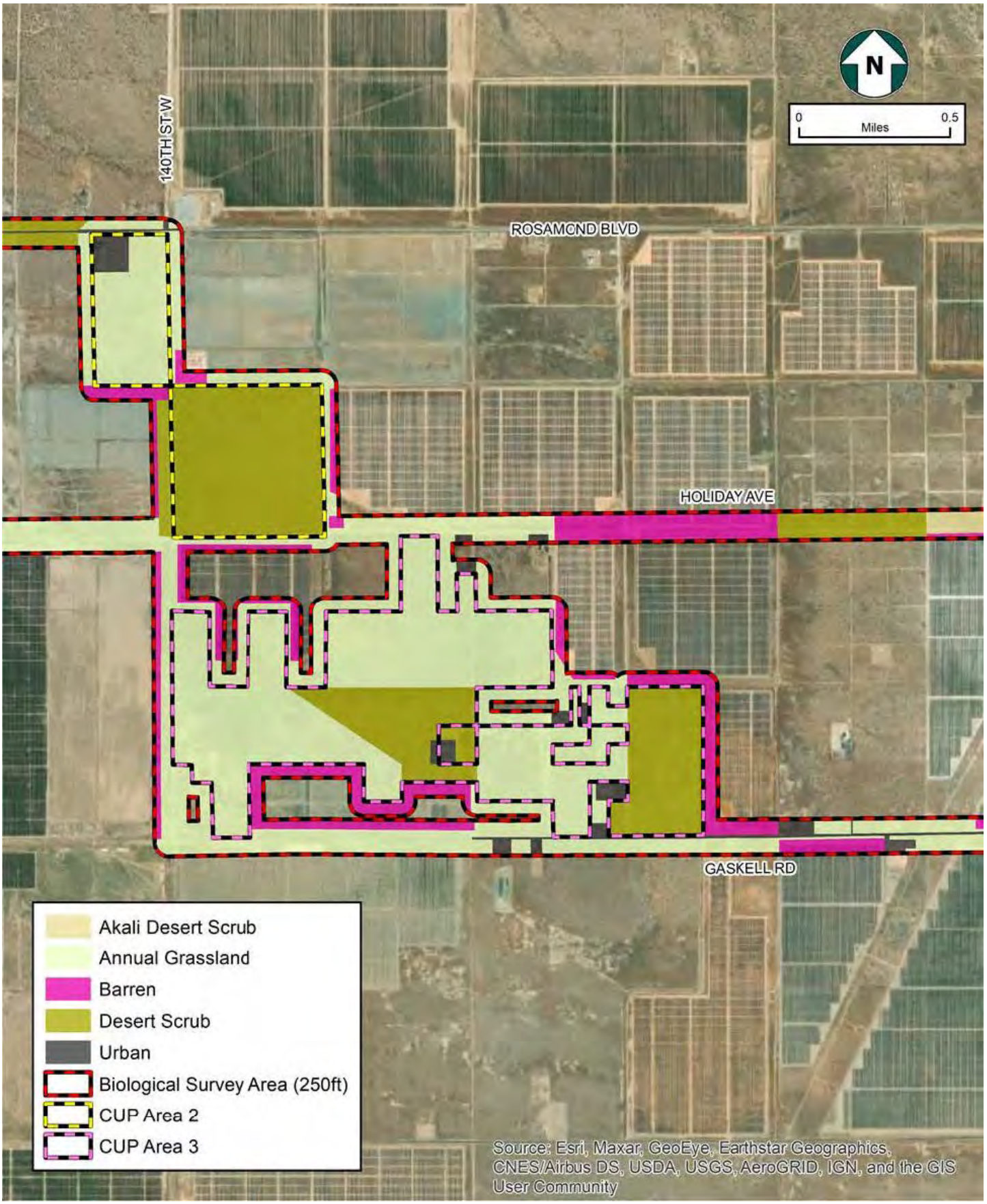

FIGURE 4.4-2: Vegetation Communities in CUP Areas 2 and 3

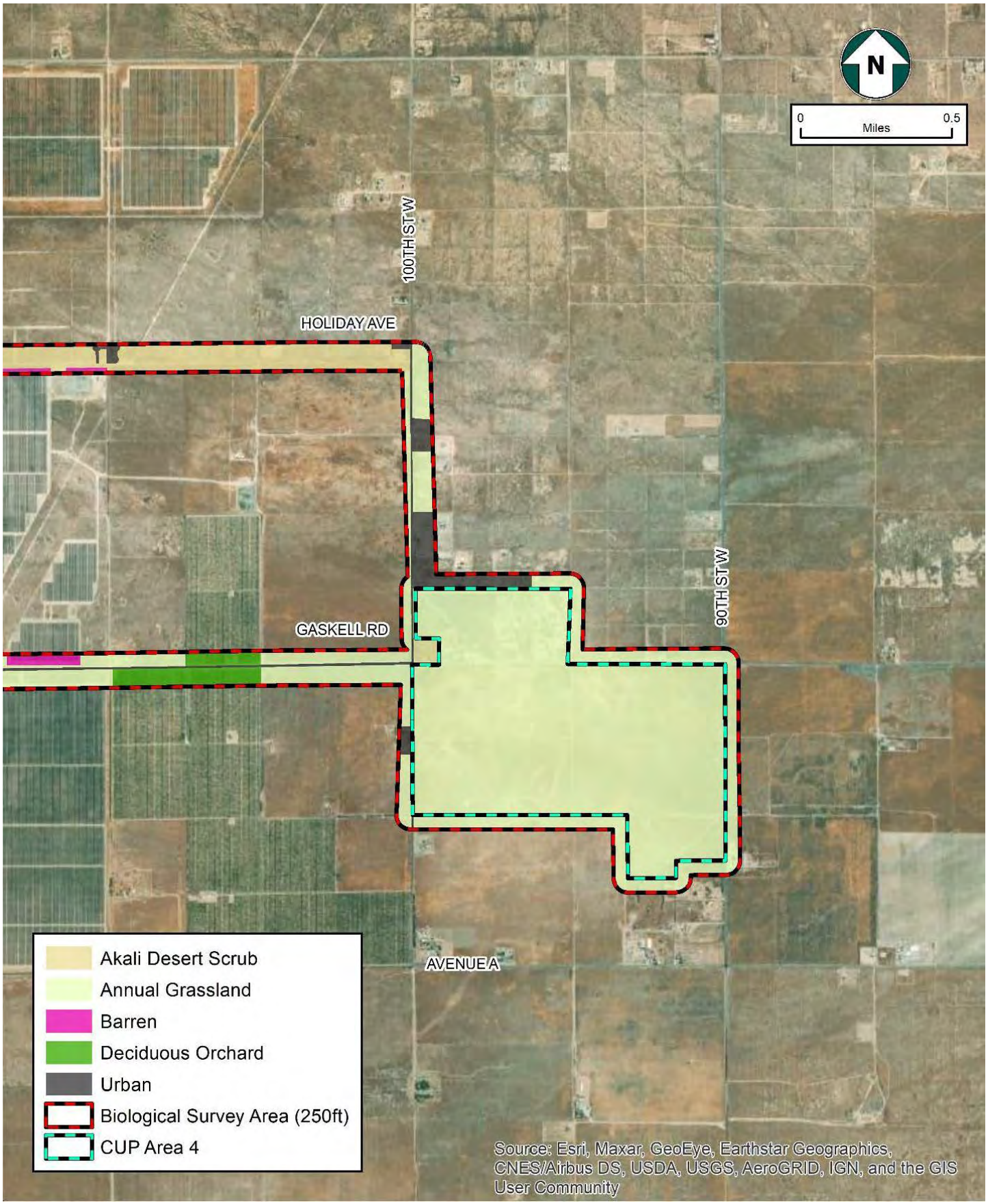

FIGURE 4.4-3: Vegetation Communities in CUP Area 4

Desert Scrub

In the western Mojave region, desert scrub habitat is dominated by shrubs and typically consists of open, scattered assemblages of deciduous microphyll shrubs rarely exceeding 10 feet. Desert Scrub habitat is found on much of the BSA, particularly in CUP Areas 1 through 3 and along proposed gen-tie routes (**Figures 4.4-**1 through **4.4-3**). No Desert Scrub habitat was present on CUP Area 4. Desert Scrub habitat was present along portions of the Holiday Avenue and Rosamond Boulevard gen-tie routes. Creosote bush is often a dominant species owing primarily to its tall stature, rather than density. Other plant species occurring in this habitat include acacia (*Acacia* sp.), bladderpod (*Peritoma* sp.), brittlebush (*Encelia* sp.), cholla (*Cylindropuntia* sp.), and rubber rabbitbrush. In addition, numerous perennial shrub species were present in this habitat type including creosote, rubber rabbitbrush, cholla (*Cylindropunta* sp.), Anderson thornbush (*Lycium andersonii*), Ephedra (*Ephedra nevadensis*), California buckwheat (*Eriogonum fasciculatum*), and winterfat (*Krascheninnikovia lanata*). Joshua trees were also scattered throughout. Common understory species were fiddleneck, wildflowers like goldfields (*Lasthenia californica*) and blazing star (*Mentzelia veatcheana*), rattlesnake sandmat (*Euphorbia albomarginata*), non-native mustards (*Brassica* sp.)and grasses, and some native grasses.

Standing water in the winter and the growth of herbs in spring provide foraging areas and food for wildlife species typically including Couch's spadefoot toad (*Scaphiopus couchii*), desert tortoise (*Gopherus agassizii*), a variety of lizards and snakes including the desert iguana (*Dipsosaurus dorsalis*) and common kingsnake (*Lampropeltis getula*), black-throated sparrow (*Amphispiza bilineata*), various pocket mice and kangaroo rats (family Heteromyidae), desert kit fox (*Vulpes macrotis arsipus*), coyote, and bobcat (*Lynx rufus*).

Alkali Desert Scrub

This habitat includes assemblages that can be subdivided into two phases: xerophytic (plants that are adapted for environments with little water) and halophytic (plants that are adapted for high salinity environments). Species composition in this habitat differ based on the two types of phases. Primary perennial plant species of the xerophytic phase include various species of shrubby saltbushes, especially allscale saltbush (*Atriplex polycarpa*), desert holly (*Atriplex hymenelytra*), fourwing saltbush (*A. canescens*), Nuttall's saltbush (*A. nuttalli*), and other species tolerant of alkali conditions. Primary perennial shrub and subshrub species of the halophytic phase include greasewood (*Sarcobatus* sp.), alkali goldenbush (*Isocoma acradenia*), and rubber rabbitbrush. Common wildlife species that inhabit Alkali Scrub habitats in the Mojave desert are the white-tailed antelope squirrel (*Ammospermophilus leucurus*), zebra-tailed lizard (*Callisaurus draconoides*), long-nosed leopard lizard (*Gambelia wislizenii*), black-tailed jackrabbit (*Lepus californicus*), coyote, and desert kit fox. Alkali Scrub vegetation occurs in California throughout the Mojave Desert, portions of the Colorado Desert, portions of northeastern California within the Great Basin, and in the southern San Joaquin Valley.

Alkali Desert Scrub occurs along the eastern end of the Holiday Avenue gen-tie route, a limited portion of the Gaskell Road gen-tie route, and within a remnant patch of Annual Grassland habitat on CUP Area 4 (**Figures 4.4-1** through **4.4-3**). Alkali Desert Scrub habitat was not present on CUP Areas 1, 2, or 3. Saltbush species occurred at a high density in this habitat (allscale saltbush and spiny saltbush [*A. confertifolia*]), with other scattered shrub species such as rubber rabbitbrush and

Cooper's goldenbush (*Ericameria cooperi*). Understory species consisted mainly of non-native grasses, Amsinckia species, and red-stemmed filaree (*Erodium cicutarium*).

Barren

This is a non-vegetated habitat type and is defined by the absence of vegetation. Any habitat with <2 percent total vegetation cover by herbaceous, desert, or non-wildland species and <10 percent cover by tree or shrub species is defined as barren. Barren habitat may be found in combination with many different habitats and this makes the structure of the non-vegetated substrate becomes a critical component of the habitat. The physical settings for permanently barren habitat represent extreme environments for vegetation. Barren habitat within the BSA is found in the buffer areas of CUP Areas 2 and 3, where solar facilities have been installed, and in patches along the gen-tie routes but this habitat type did not occur within the project footprint (Figures 4.4-1 and 4.4-3).

Urban

Mayer and Laudenslayer (1988) describe urban habitat as variable with five vegetative structures defined: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. These structures vary based on the associated urban development. Vegetation commonly associated with this habitat includes ornamental herbs (grass lawns, weeds, and flowers), shrubs, hedges, and trees, as well as ruderal species. Species composition within urban habitat varies with the type of ornamental plantings. Within the BSA there are rural residences adjacent to CUP Areas 2, 3, and 4, and along the gen-tie routes (Figures 4.4-1 and 4.4-3). Vegetation within these urban areas consists mainly of non-native ornamental plant species, including larger trees like Siberian elm (*Ulmus pumila*), eucalyptus (*Eucalyptus* sp.) and various conifer species (*Pinus* sp.).

Deciduous Orchard

Deciduous orchards are typically monoculture operation with trees arranged in rows. There is one deciduous orchard that intersects the BSA at the east end of the Gaskell Road gen-tie route. No deciduous orchard habitat is present on the CUP Areas or along the other gen-tie routes. Non-native grasses and fiddleneck were present between the rows of planted pistachio trees. Trees are typically spaced uniformly and trimmed to be low and bushy, so the fruit is reachable during harvest. Common species are almonds, apples, pomegranates, cherries, figs, plums, and pistachios. Small mammals are often found along orchard rows or adjacent to fence posts. Nests in orchard trees are uncommon but birds may use orchard and vineyards for perching or hunting. Other animals may traverse these lands, but limited foraging, breeding, and sheltering occurs here.

Wildlife Species

Wildlife occurring within the BSA was typical for partially undeveloped areas of the western Mojave Desert. Among others, discussed in additional detail below, common bird species included raven (*Corvus corax*), turkey vulture (*Cathartes aura*), Swainson's hawk (*Buteo swainsoni*) mourning dove (*Zenaida macroura*), California quail (*Callipepla californica*), Bell's sparrow (*Artemesiopiza belli*), and horned lark. Common mammal species included black-tailed jackrabbit, white-tailed antelope squirrel, desert kit fox, and kangaroo rat (*Dipodomys* sp.). Reptiles included common side-blotched lizard, whiptail, desert spiny lizard, and Mojave rattlesnake. A complete list of wildlife observed is included in Appendix C-1.

In sum, a total of 55 species of wildlife were detected including six species of reptiles, 36 avian species, and 10 mammals (for coyote, kangaroo rat, and Mojave pocket gopher (*Thomomys bottae mohavensis*) – were identified by sign including dens, burrows, scape, prey, remains, or tracks). A complete list of species observed during project surveys is provided in Appendix C-1 of this EIR.

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 Endangered Species Act (FESA) or California Endangered Species Act (CESA). 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 FESA or the CESA;
- Species that meet the definitions of rare or endangered under California Environmental Quality Act (CEQA) *Guidelines* Section 15380;
- All of the plants constituting California Rare Plant Rank (CRPR) 1B and CRPR 2B meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act [NPPA]) or Sections 2062 and 2067 (CESA) of the California Fish and Game Code (CFGC), and are eligible for state listing. Many CRPR 4 species do not meet the definitions of special-status plants but may be significant locally and are recommended for consideration under CEQA (CNPS, 2001);
- Species covered under an adopted National Community Conservation Planning Act/Habitat Conservation Plan (HCP) or Desert Renewable Energy Conservation Plan;
- Wildlife designated by the CDFW as “species of special concern” or “special animals”;
- Wildlife “fully protected” in California (CFGC Sections 3511, 4700, and 5050);
- Wildlife species protected as “fur-bearing mammals” (CFGC Section 4000 et seq.);
- Any State, local and federal protected plant and wildlife species are protected in the Kern County General Plan (Kern County, 2009) and the Willow Springs Specific Plan (Kern County, 2008);
- 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, many of these, including some raptors, are common species and are not considered special status on that basis alone.

There were five special-status plant species and eight special-status animal species determined to have the potential to occur within the BSA and potentially be affected by the project (**Table 4.4-2**). Each species is discussed in the subsections below. A complete list of species evaluated for this project is included in Appendix C-1.

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 Species of Concern with Potential to Occur on the Project Site,* summarizes the special-status plant and wildlife species that were evaluated for their potential to occur within the project site.

Special-Status Plants

The literature and database review identified 20 special-status plant species known to occur or with potential to occur within the vicinity of the project site. Five of the 20 species were determined to have the potential to occur on-site, because the project site has suitable habitat, because the BSA is located within the species' known range, and/or the species is documented in or near the BSA. These species are listed below.

Alkali Mariposa Lily (*CRPR 1B.2***).** The alkali mariposa lily occurs in chaparral, chenopod scrub, Mojave Desert scrub, and meadows and seeps in alkaline and mesic soils at elevations between 200 and 5,300 feet. It blooms between April and June (CNPS 2021). In California, it occurs in the Sierra Nevada foothills and western Mojave Desert, including Kern, Inyo, Tulare, Los Angeles, and San Bernardino Counties.

The nearest recorded CNDDB occurrence (EONDX 110362) is from 2016 and overlaps the Holiday Road gen-tie route west of its intersection with 100th Street. The floristic survey found approximately 1,425 individuals plants, which are depicted in ***Figure 4.4-4****- Alkali Mariposa Lily Observations in CUP Areas 3 and 4*. The plants were predominantly located in three clusters, cluster A had approximately 1,000 individuals, cluster B had approximately 270 individuals, and cluster C had approximately 54 individuals. This was combined with the 101 individual plant observations that occur along the Holiday Avenue gen-tie route. In addition to this population, one lone specimen was present within Annual Grassland habitat, in CUP Area 4. Other areas that could support the species are on CUP Areas 1 and the southern portion of CUP Area 2 and scattered undisturbed areas on CUP 3. These patches in CUP Area 3 are least likely to support this species due to disturbed habitat conditions.

Lemmon's Jewelflower (*CRPR 1B.2*). Lemmon's jewelflower is an annual herb in the Brassicaceae (mustard) family (CNPS 2021). This species is typically found in pinyon and juniper woodland and valley and foothill grasslands within Alameda, Fresno, Kings, Kern, Merced, Monterey, Santa Barbara, San Benito, San Joaquin, San Luis Obispo, Stanislaus, and Ventura Counties. It is less commonly found in Mojave Desert creosote scrub and San Joaquin Valley grasslands. It has been documented within several U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles within the 12 recorded counties. Lemon's jewelflower is found at elevations ranging from 262 to 5,183 feet, and blooms between February and May (CNPS 2021). Although the species was not found during the on-site surveys conducted in 2020, there is suitable habitat for the species in the Desert Scrub habitat within the BSA and this species has potential to occur. This species was not found but is most likely to occur within Desert Scrub habitat on CUP Areas 1 and 2 and the eastern portion of CUP Area 3 where the habitat has not been previously disturbed.

Table 4.4-2: Special-Status Species of Concern with Potential to Occur on the Project Site

Scientific Name	Common Name	Federal Status[a]	State Status[a]	CRPR Status[b]	Habitat Requirements	Potential to Occur and Explanation
Plants						
Calochortus striatus	alkali mariposa lily	None	None	1B.2	Perennial herb are found in alkaline meadows and ephemeral washes within chaparral, chenopod scrub. Mojavean desert scrub. Occurs between 230 and 5,230 feet. Blooms between April and June.	**Present.** This species was observed during surveys on the east side of the project and along the eastern end of Holiday Road. The nearest CNDDB occurrence is from 2016 and overlaps the Holiday Road Gen-tie route just west of its intersection with 100th St. (EONDX 110362).
Delphinium recurvatum	recurved larkspur	None	None	1B.2	This perennial plant is commonly found in chenopod scrub, valley and foothill grassland and cismontane woodland. It is most common on sandy or clay alkaline soils. It flowers from March to May, and it ranges in elevation from 10 to 2,590 feet.	**Potential but not Observed.** There is suitable habitat present in the less disturbed areas of the project site, but this species was not observed during surveys. There are no CNDDB records within 10 miles of the project.
Caulanthus lemmoni	Lemmon's jewelflower	None	None	1B.2	This annual herb is endemic to California and is found in the foothills of the Coast range in pinyon and juniper woodland habitat, although it uncommonly occurs in grasslands of the San Joaquin Valley and creosote scrub in the Mojave Desert. It is found at elevations between 260 and 5285 feet, and blooms between February and May.	**Potential but not Observed**. There is suitable habitat in the less disturbed areas of the project, but the species was not observed during surveys and there are no CNDDB records within 10 miles. The species was observed by QK biologists in 2017, near Oak Creek approximately 7 miles north of the project.
Cryptantha Clokei	Clokey's cryptantha	None	None	1B.2	This annual herb occurs in alkaline hummocks, often sandy. Around Chenopod scrub openings and vernal pool edges. The blooming period is between April and May and it ranges in elevation from 2,296 to 2,345 feet.	**Potential but not Observed.** Not located within the BSA but it could potentially be present in the Alkali Desert Scrub and Desert Scrub habitats. This species would most likely be present within Desert Scrub habitat
Yucca brevifolia	Western Joshua tree	None	None	None	This monocotyledonus tree, native to the arid southwest, is mostly confined to the geographic range of the Mojave desert, occurring between 1,300 and 5,900 feet.	**Present.** 1084 individual Joshua trees were identified largely within CUP Area 2 and 3.

Table 4.4-2: Special-Status Species of Concern with Potential to Occur on the Project Site

Scientific Name	Common Name	Federal Status[a]	State Status[a]	CRPR Status[b]	Habitat Requirements	Potential to Occur and Explanation
Reptiles						
Anniella pulchra	Northern California legless lizard	None	SSC	N/A	This species occurs in moist warm loose soils with vegetative cover. Is found in beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces. This species requires moisture in the soil.	**Potential but not Observed.** Suitable habitat present in less disturbed areas of the project with shrub cover. Nearest CNDDB occurrence is approximately 4.1 miles south of the project (EONDX 112342).
Gopherus agassizii	desert tortoise	FT	ST	N/A	Prefers creosote bush habitat with annual wildflower blooms. Requires friable soils for burrow and nest construction. Occurs in most desert habitats.	**Potential but not Observed.** Suitable habitat present in native scrub habitat No sign observed during surveys. Nearest CNDDB occurrence is approximately 1.5 miles northwest of the project (EONDX 93646).
Birds						
Athene cunicularia	burrowing owl	None	BCC/ SSC	N/A	Open, dry annual or perennial grasslands, deserts & scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**Present.** This species was observed during surveys and may be present in the less disturbed areas of the project. Nearest CNDDB occurrence is approximately 0.5 miles west of the eastern portion of the project (EONDX 82056).
Buteo swainsoni	Swainson's hawk	None	SSC	N/A	Occurs in grassland, desert and agricultural landscapes in the Central Valley and Antelope Valley; hawks may be resident or migrant; breeds in stands with few trees in juniper-sage flats, riparian areas, and oak savannah; also observed breeding in large eucalyptus trees along freeways and in trees over rural residences surrounded by agriculture; may nest on ground if no suitable trees are available; nests are platform of sticks, bark, and fresh leaves at or near top of trees; breeds from late March to late August; forages in grassland, open scrub, and grain fields, primarily for rodents.	**Present.** Suitable nesting and foraging habitat present and individuals were observed overhead during the surveys. The nearest CNDDB occurrence documents a 2012 nest on the eastern side of the project (EONDX 84479), which was not observed during the surveys. QK Biologists incidentally observed an active nest approximately 0.6 miles east of the project in June 2020, after surveys were completed.

Table 4.4-2: Special-Status Species of Concern with Potential to Occur on the Project Site

Scientific Name	Common Name	Federal Status[a]	State Status[a]	CRPR Status[b]	Habitat Requirements	Potential to Occur and Explanation
Lanius ludovicianus	loggerhead shrike	None	SSC	N/A	Common resident in lowlands and foothills throughout California; prefers open grassland/pasture habitats with scattered trees, fence posts, utility lines, shrubs, and other perches; primarily consumes large insects but will predator other small animals; nests in densely-foliaged shrub or tree less than 50 feet above ground.	**Present.** Suitable foraging and nesting habitat present in the project area. Individuals and nest observed during surveys. Nearest CNDDB record is approximately 1.1 miles north of the project (EONDX 93799).
Toxostoma lecontei	LeConte's thrasher	None	SSC	N/A	Non-migratory species that occurs in the southwestern U.S. and northwestern Mexico; has been observed in the Central Valley from Fresno to Kern County and west to San Luis Obispo County, but range largely restricted to Kern County by land development. Typical habitat is desert scrub, alkali desert scrub, and desert washes, and nests are built in dense spiny shrubs or branched cacti.	**Possible Presence.** Suitable habitat present in the project area and a *Toxostoma* species was observed, although species could not be determined. The nearest CNDDB occurrence is 0.9 miles north of the project (EONDX 24519).
Mammals						
Taxidea taxus	American badger	None	SSC	N/A	Occurs mostly in open, drier stages of shrub, forest, and herbaceous habitats, with friable soils; feeds mostly on fossorial rodents; digs burrows for cover and reproduction; can dig new den each night; litters born mostly in March and April; somewhat tolerant of human activities but avoids cultivated agricultural habitats.	**Potential but not Observed.** Suitable habitat is present on the project. Nearest CNDDB occurrence is approximately 2.5 miles north of the project (EONDX 57489).
Vulpes macrotis arsipus	desert kit fox	None	None[c]	N/A	This species occurs on open desert, creosote bush flats, and sand dunes. Species preys on kangaroo rats, black-tailed jackrabbits, birds, reptiles, and insects. They are nocturnal and will forage near the den during the evening.	**Potential but not Observed.** There is suitable habitat on the project site and several potential dens were found during the surveys. The CNDDB does not track this species.

Table 4.4-2: Special-Status Species of Concern with Potential to Occur on the Project Site

Scientific Name	Common Name	Federal Status[a]	State Status[a]	CRPR Status[b]	Habitat Requirements	Potential to Occur and Explanation

CRPR (California Rare Plant Rank:
1B Rare, Threatened, or Endangered in California and elsewhere
CRPR Threat Code Extension:
2 Fairly endangered in California (20-80% occurrences threatened)
FT Federally Threated
ST State Threatened
SSC State Species of Special Concern

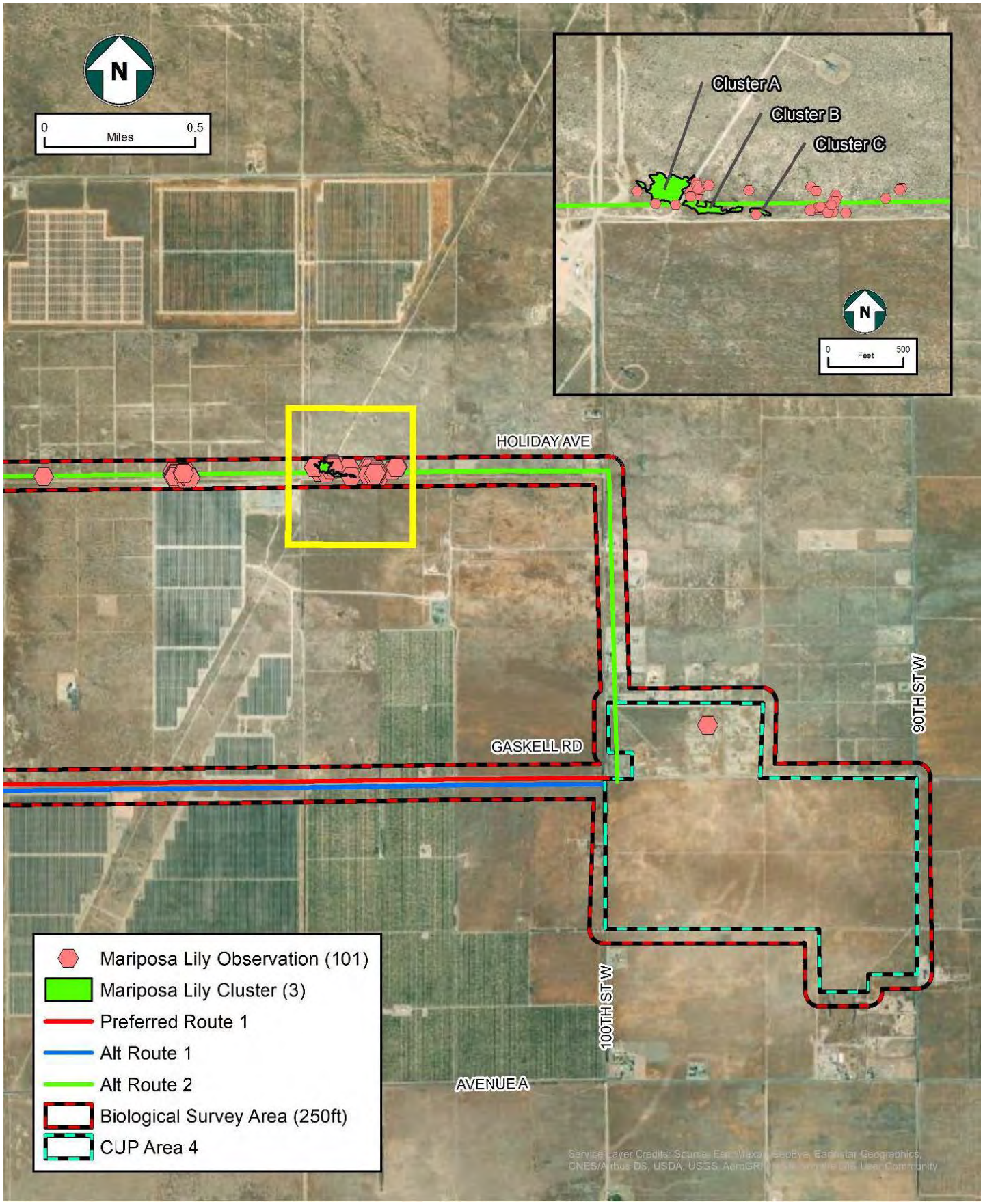

FIGURE 4.4-4: Alkali Mariposa Lily Observations in CUP Area 3 and 4

Clokeye's Crypthantha (*CRPR 1B.2***).** Clokey's cryptantha is an annual herb and is found in Mojavean Desert Scrub habitats, is endemic to California, and has been documented in Inyo, Kern, Los Angeles, and San Bernardino counties. It blooms in April and is found at elevations between 2,375 and 4,475 feet. The nearest recorded CNDDB occurrence (EONDX 79495) is approximately 5.7 miles south of the project site within the California Antelope Valley Poppy Reserve.

This species was not observed within the BSA during floristic surveys in 2020 or 2021, but there is suitable habitat on-site and the species could be present. This species was not found but is more likely to occur within Desert Scrub habitat on CUP Areas 1 and 2 and the eastern portion of CUP Area 3 where the habitat has not been previously disturbed.

Recurved Larkspur (CRPR 1B.2). The recurved larkspur is a perennial herb that occurs in chenopod scrub, cismontane woodlands, and grassland habitats at elevations to 2,600 feet. The blooming period of this species is from March to June. The recurved larkspur is endemic to California and is historically known to occur in California's Great Valley, ranging from Butte County to Kern County. Most of the known occurrences of this species are in Kern, Tulare, and San Luis Obispo counties.

There are no CNDDB occurrences within 10 miles of the project site, and there are few records in the Mojave Desert. The species was not observed within the BSA during floristic surveys in 2020 or 2021, but there is suitable habitat on-site and the species could be present. This species was not found but is most likely to occur within Desert Scrub habitat on CUP Areas 1 and 2 and the eastern portion of CUP Area 3 where the habitat has not been previously disturbed.

Western Joshua Tree (*California Desert Native Plants Act; Candidate Species for CESA Listing***)**. The Western Joshua tree (Joshua tree) is a species that is protected by the CDNPA. In 2020, the California Fish and Game Commission granted the species listing candidate status under CESA.. During this interim candidacy period, an Incidental Take Permit under Section 2081 of CFGC would be required to take the species. A decision on whether to list the Joshua tree is expected from the California Fish and Game Commission in 2022.

One thousand eighty-four (1,084) individual Joshua trees were observed on the project site, mostly in the central portion of CUP areas 2 and 3 in Desert Scrub, Alkali Desert Scrub, and Annual Grassland habitats ***Figure 4.4-5*** *Joshua Tree Observations in CUP Area* 1, ***Figure 4.4-6*** *Joshua Tree Observations in CUP Areas 2 and 3,* and ***Figure 4.4-7*** *Joshua Tree Observations in CUP Area 4,* show where the species was found. One hundred (100) individual Joshua trees were also observed along portions of the three gen-tie routes, but are not expected to be impacted with strategic power pole placement to avoid the individual trees.

A Joshua tree woodland and canopy analysis of the project was conducted to determine whether it meets the threshold to be considered a Joshua Tree Woodland. Results of this analysis is included in Appendix C-1 (see *Western Joshua Tree (Yucca brevifolia) Woodlands Analysis for the Rosemond South Solar Project,* (QK, 2022a). Joshua Tree Woodland (*Yucca brevifolia* Woodland Alliance) is defined as areas where Joshua trees are evenly distributed at ≥ one percent cover, and Juniperus and/or Pinus spp., are less than one percent absolute cover in the tree canopy (Thomas et al. 2004). The study gathered information of the number of Joshua trees and calculated the canopy cover of the trees within each of three height classes recognized by the CDFW. The three height classes are:

1. height less than 1 meter
2. 1 to 5 meters
3. greater than 5 meters

The canopy cover of Joshua trees were calculated for three different sample areas of varying acreage. These sample areas were:

1. A portion of CUP Area 2: 160 acres
2. CUP Area 3: 547.45 acres
3. All CUP Areas combined (the total project area): 1,292 acres

The canopy cover on CUP Areas 2 and 3 was analyzed because those were the areas where Joshua trees appeared to very dense. CUP Area 1 and CUP Area 4 were excluded from separate analysis because of their relative low density. The sample areas selected were representative of the varying conditions occurring over the project site. This method allowed for a "natural" blocking of the project and was designed to determine the presence/absence of Joshua tree woodland.

During the 2021 census 1,084 Joshua trees recorded on the project site and in 2022, 113 trees were sampled to determine canopy cover. Each individual sampled was placed into its appropriate height class. The canopy cover of each height class was estimated to obtain an average canopy value (Table 4.4-3).

Table 4.4-3 Western Joshua Tree Sample Size Rosamond South Solar

Height Class	Number of Trees Counted during 2021 Census	Number of Trees Sampled in 2022
Under 1 meter	508	52
1 meter to 5 meters	542	56
Over 5 meters	34	5
Total	1,084	113

As noted above, the sample include 52 Joshua tree <1 meter in height, 56 trees between 1 and 5 meters in in height, and 5 trees > than 5 meters in height. Joshua canopy cover varies by height and degree of branching. Canopy cover was based upon the area of an ellipse using the shortest and longest radius of each sampled tree. The shortest and the longest diameters of the ellipse were measured in inches, which were then converted to radii by dividing by 2 and converted from inches to meters. The short radius was multiplied by the long radius then multiplied by Pi (3.1415) to obtain the canopy cover of each tree in meters squared (m^2). The cover of each height class of trees was then calculated by multiplying the average cover of all trees sampled by the number of trees present within each class. The cover of each height class was added together to obtain the total cover of all classes combined. The percent cover was then calculated by dividing the square meters of total cover by the size of the sample plot.

Percent cover was calculated for three sample plot sizes: a 160 acre portion of CUP area 2, all of CUP Area 3 (547.45-acres), and the entire project site (1,292 acres). The step-by-step process and formulas used are:

Step 1. Determine area (A) of ellipse of each sample:

$A = [(R1in / 39.37) * (R2 in /39.37)] * \pi$

Where R1 = short radius, in = inches, R2= long radius, $\pi = 3.1415$, and 39.37in = 1 meter

Step 2. Determine average cover (AC) per size class:

AC = sum of ($A_{1, 2, 3...n}$) / n

Where $A_{1, 2, 3...n}$ are the cover of each individual tree, and n is the total number of samples within a size class

Step 3. Determine percent cover of Joshua tree within each size class and total cover of WJTs for all size classes within each of three sample areas (CUP Area 2, CUP Area 3, and entire project site):

PC = [(AC*$N_{1, 2, 3}$) / (Plot size) * 100]

Where PC = Percent cover, AC = average cover, N = count of trees in each size class and within each CUP area, and Plot size is the acreage of each CUP area converted to square meters. The values obtained are multiplied by 100 to convert the results to a percentage.

The average canopy cover for each height class varied from 0.1440 m^2 for the smallest height class to 12.8053 m^2 for the largest height class (Table 4.4-4).

Table 4.4-4 Average Canopy Cover per Height Class (m^2)

Height Class	Average Canopy Cover (AC) per Height Class (m^2)
< 1 meter	0.1420
1 meter to 5 meters	1.1837
> 5 meters	12.8053

Percent cover of Joshua trees in CUP Area 2 varied from 0.0039 percent for the smallest height class to 0.04075 for the intermediate height class (Table 4.4-5). The combined percent cover of all WJTs within CUP Area 2 was 0.0732, which is well below the coverage required to be classified as a Joshua Tree Woodland.

Table 4.4-5 CUP Area 2 (160-Acres)

Height Class	Number of WJT sampled(n)	Average Canopy Cover (AC) per Height Class (m^2)	Number of Trees (N) Present on 160-Acres Sample Plot	Total Cover(m^2)	Percent Cover (PC)
Under 1 meter	52	0.14207	181	23.7219	0.0039
1 meter to 5 meters	56	1.1837	260	2,701.5540	0.0475
Over 5 meters	5	12.8053	11	123.550	0.0217
Total	113	-	452	2,848.8256	0.0732

The percent cover of Joshua tree in CUP Area 3 varied from 0.0019 percent for the smallest height class to 0.0143 for the intermediate height class (Table 4.4-6). The combined percent cover of all trees within CUP Area 3 was 0.0295, which is well below the coverage required to be classified as a Joshua Tree Woodland.

Table 4.4-6 CUP Area 3 (547.45-Acres)

Height Class	Number of WJT sampled (n)	Average Canopy Cover (AC)per Height Class (m^2)	Number of Trees (N) Present on 547.45-Acres Sample Plot	Total Cover(m^2)	Percent Cover (PC)
Under 1 meter	52	0.14207	181	38.9238	0.0019
1 meter to 5 meters	56	1.1837	260	2,795.0697	0.0143
Over 5 meters	5	12.8053	11	258.3318	0.0132
Total	113	-	452	3,092.3250	0.0295

The percent cover of Joshua trees within the entire project site varied from 0.0014 for the smallest height class to 0.0125 for the intermediate height class (Table 4.4-7). The combined percent cover of all Joshua trees within the project was 0.02227, which is well below the cover required to be classified as a Joshua Tree Woodland.

Table 1.4-7: All CUP Areas (1,292-acres)

Height Class	Number of WJT (n) sampled	Average Canopy Cover (AC) per Height Class (m^2)	Number of Trees (N) Present on 547.45-Acres Sample Plot	Total Cover(m^2)	Percent Cover (PC)
Under 1 meter	52	0.14207	508	38.9238	0.0014
1 meter to 5 meters	56	1.1837	542	2,795.0697	0.0125
Over 5 meters	5	12.8053	34	258.3318	0.0083
Total	113	-	1084	3,092.325	0.02227

Based on this analysis, the Joshua tree on the project do not meet the criteria to be classified as a Joshua tree Woodland.

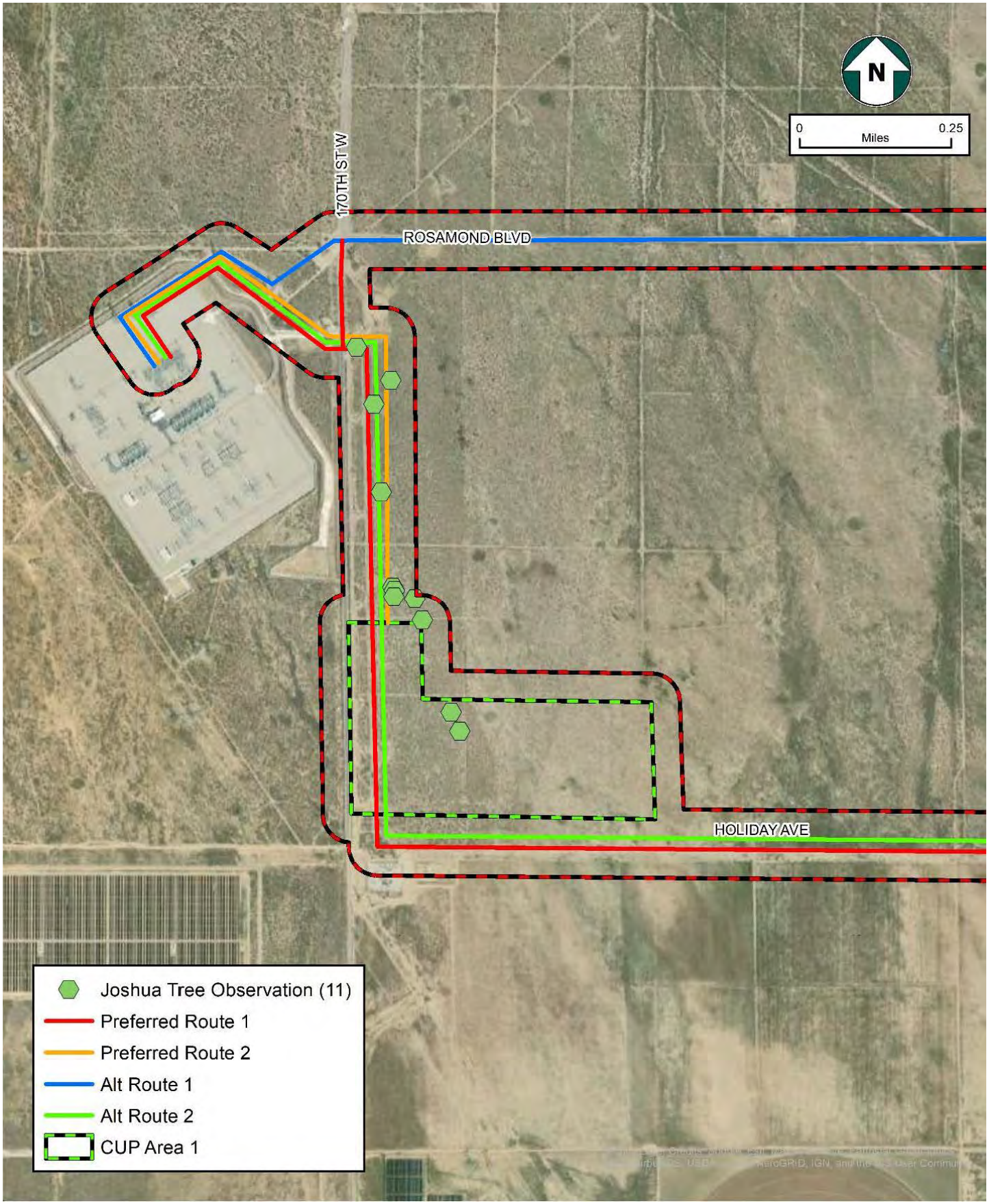

FIGURE 4.4-5: Joshua Tree Observations in CUP Area 1

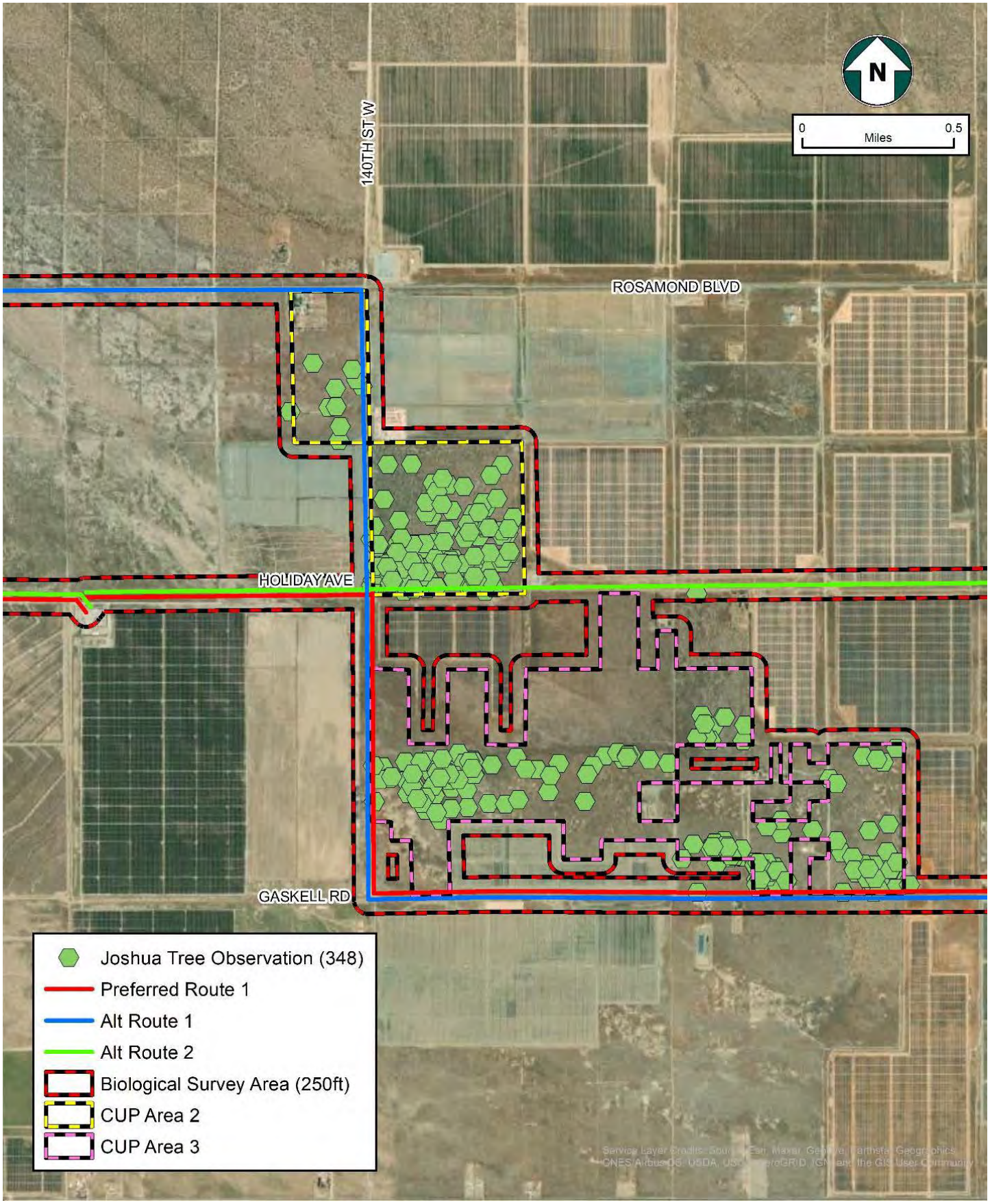

FIGURE 4.4-6: Joshua Tree Observations in CUP Areas 2 and 3

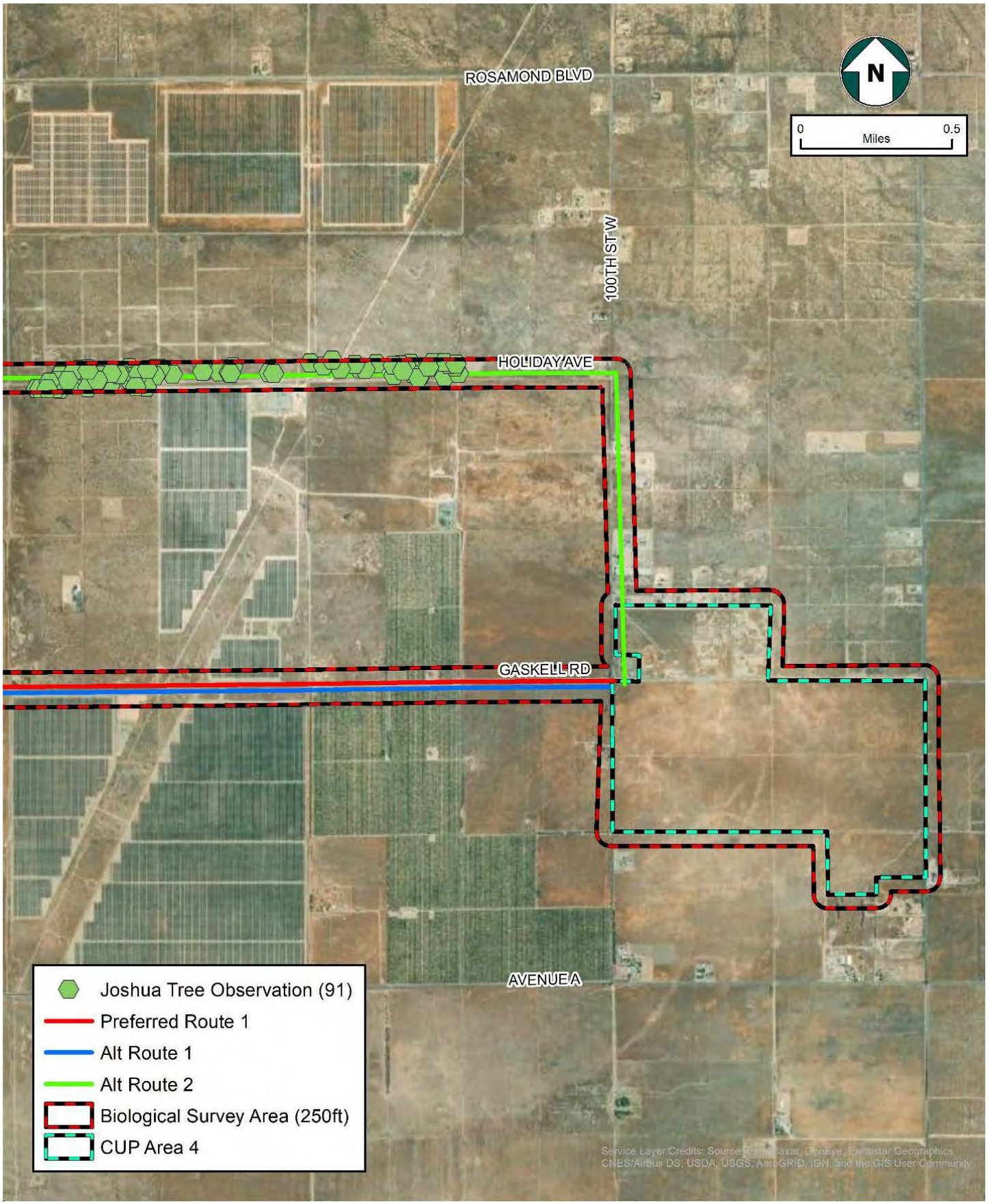

FIGURE 4.4-7: Joshua Tree Observations in CUP Area 4

Special-Status Wildlife

The literature and database review identified 30 special-status wildlife species known to occur or with potential to occur in the vicinity of the project (see Appendix C-1). Of these, nine (9) of these special-status species were determined to have the potential to occur on-the project site (see **Table 4.4-2**) due to suitable habitat conditions, because the BSA is located within the species' known range, and/or the species has been documented in or near the BSA. The QK Biological resources report (QK, 2021a) mapped special-status special species observations whether avian species in were flight and/or perched. Each ground based species is discussed individually below and their mapped locations are shown on the following figures. Special status birds and nests are shown in ***Figure 4.4-8*** *– Special Status Birds and Nests in CUP Area 1*, ***Figure 4.4-9****- Special Status Birds and Nests in CUP Area 2 and 3*, and ***Figure 4.4-10*** *– Special Status Bird Species and Nests in CUP Area 4*. Special-status animal species are shown in ***Figure 4.4-11****- Desert Kit Fox Potential Dens in CUP Area 1*, ***Figure 4.4-12*** *– Desert Kit Fox Potential Dens and Remains in CUP Areas 2 and 3*, and ***Figure 4.4.13*** *– Desert Kit Fox Potential Dens in CUP Area 4.*

Northern Legless Lizard (*State Species of Special Concern*). The northern legless is found in moist, sandy soils under sparse vegetation in chaparral, coastal dunes, pine-oak woodlands, desert scrub, sandy washes, and stream terraces. It is often found under surface objects such as rocks, boards, driftwood, and logs. This species is found from the southern edge of the San Joaquin River in northern Contra Costa County south to Ventura County, in scattered locations in the San Joaquin Valley, and along the southern Sierra Nevada mountains. There is a disconnected population on the Mojave Desert side of the Tehachapi Mountains.

The nearest CNDDB record of this species is approximately 4.1 miles south of the project site, from 2017. No VertNet occurrences of this species have been recorded in the vicinity of the BSA. No legless lizards were found during the 2020 or 2021 surveys, but this species is rarely seen above ground and it may be present in the Desert Scrub habitat on CUP Areas 1 and 2, in the central and eastern areas of CUP Area 3, and along Holiday Avenue and Rosamond Boulevard, and in Alkali Desert Scrub habitats along the eastern Holiday Avenue gen-tie route.

Western Burrowing Owl (*State Species of Special 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 nearest recorded CNDDB occurrence of western burrowing owls is approximately 0.5 miles west of the project in 2006 with a total of 11 individuals were using two burrows. No eBird sightings for burrowing owl were recorded in the vicinity of the project site. No VertNet occurrences of this species have been recorded in the vicinity of the BSA.

One burrowing owl and its active burrow were present during the 2020 reconnaissance survey on the west side of CUP Area 3 beneath a creosote bush within Annual Grassland habitat, but this individual was not sighted during the later floristic surveys. Burrowing owl sign (whitewash, pellets) was also present at an old den system in CUP Area 2. Two individuals and their burrows were observed during the 2021 surveys, in Desert Scrub habitat in CUP Area 1 and in Annual

Grassland habitat on the east side of CUP Area 3. The more open areas of the BSA provide suitable habitat for this species and it may be present at any time as a resident or transient. The open areas of the BSA that could provide suitable foraging and nesting habitat for the species include all of CUP Area 1, the open areas in CUP Area 2, the Annual Grassland and Desert Scrub habitat CUP Area 3, all of CUP Area 4, and open areas along the gen-tie routes.

Swainson's Hawk (*State Threatened***).** Swainson's hawks occur in grassland, desert, and agricultural landscapes throughout the Central Valley. Within the Antelope Valley there are limited breeding pairs. 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 nearest CNDDB occurrence is from 2012 and documents a nest on the eastern side of the BSA east of the project footprint. That nest was not present during 2020 surveys. According to eBird several sightings of Swainson's hawk have been recorded in the vicinity of the project footprint (QK, 2021a). The most recent sighting was from June 2020 of three adults and two juveniles at a confirmed nest east of the project footprint. No VertNet occurrences of this species have been recorded in the vicinity of the BSA.

Numerous surveys for Swainson's hawks have been conducted within the last five years for a number of solar projects in the vicinity of the project site and this information was used in the analysis for this EIR.. Three nests were observed in large trees adjacent to agricultural fields three miles north of the project site in 2018 (QK, 2021a). Surveys in an area adjacent to CUP Area 4 identified an active nest in 2020 approximately 0.5 mile from the site boundary, but it was no longer present during the 2021 site visits. Three active nests were observed during 2017 on a nest located approximately one mile north of CUP Area 2 and three active nests observed during a 2017 surveys adjacent to CUP Area 4. These nests were not active during subsequent surveys in 2018 and 2019(QK, 2021a). CDFW also has claimed the presence of three known nests within one mile of the AV Apollo solar project approximately 10 miles north, however those nests were historic and not active at the time of the surveys. No other active Swainson's hawk nest sites were observed within one mile of the project site.

Swainson's hawks were seen soaring over CUP Area 3 and near CUP Area 4 during the 2020 reconnaissance surveys. A Swainson's hawk pair was perched in a transmission tower on the eastern portion of the BSA along the Gaskell Road gen-tie route between CUP Areas 3 and 4. An active nest was in a pine tree at a rural residence approximately 0.6 miles east of CUP Area 4. On May 10, 2021, qualified biologists checked the previously active 2020 Swainson's hawk nest located at a rural residence approximately 0.6 miles east CUP Area 4 and found that the nest was no longer present at this site.

Foraging habitat of varying quality occurs over the project site and BSA, ranging from low to moderate suitability depending upon vegetative types, size of available non-developed tracts of land, available prey base, distance to nesting sites, and nearby disturbance from human activities. Swainson's hawks may nest in the trees of rural residences within the BSA near the project footprint and larger Joshua trees that may be present in the near the project site. Most of the Joshua trees present within the project footprint are not large enough to support Swainson's hawk nests.

An analysis of foraging habitat was conducted to determine the overall quality of land within the project. Table 4.4-7 shows the results of the analysis of the relative quality of the foraging habitat found on the project, and acreage for each category.

Table 4.4-8 Foraging Habitat Assessment

	CUP Area 1	CUP Area 2	CUP Area 3	CUP Area 4	Total
Low Quality	71.035688	160.703284	391.00869	0	622.747662
Moderate Quality	0	70.078385	152.635372	445.423959	668.137716
No Habitat	0	0	1.411799	0	1.411799
Not Applicable	0	9.871196	0	0	9.871196

There is no high quality suitable habitat on the project, as there is no active agricultural cultivation and a relatively low number of small mammal burrows to provide an adequate prey base. Suitable foraging habitat of low to moderate quality is found where large open areas and no existing or under-construction solar facilities are located. As is discussed below, there are areas within 10 miles of the project that offer a large number of acres of moderate and high quality suitable habitat.

CUP Area 1 include approximately 71 acres of low quality suitable habitat. CUP Area 2 includes approximately 160.7 acres of low quality habitat and 70 acres of moderate habitat, as well as 9.8 acres of land that is not a part of the project acreage. CUP Area 3 has an estimated 391 acres of low quality suitable habitat, 152.6 acres of moderate habitat and 1.4 acres with no suitable habitat. CUP Area 4 has approximately 445.4 acres of moderate habitat.

A cumulative analysis of project impacts to Swainson's hawk foraging habitat follows an approach that has been successfully used to support projects in Fresno and King counties in California. A cumulative and qualitative approach was used to analyze other large solar projects in the vicinity (QK, 2021a).

For threshold of significance, the regulatory guidelines recommend acquisition of replacement lands (i.e., compensatory mitigation) for projects that would result in the loss of foraging habitat in amounts that would be sufficient to significantly impact a Swainson's hawk population pursuant to CEQA definitions. The guidelines state that the determining criteria for CEQA significance is the removal of any suitable foraging habitat within 5 miles of an active Swainson's hawk nest, which is defined as a nest that was active at any time during the previous 5 years

The "regional population" of Swainson's hawks is defined as the number of nesting territories occurring within 10 miles of the project site. The 10-mile radius standard was chosen based on telemetry studies that indicate Swainson's hawks will forage 10 miles from an active nest (QK, 2021a). Consequently, the regional population considered in this analysis includes the Swainson's hawks that may forage on the project site and thus be directly affected by the project through loss of foraging habitat. The 10-mile radius around the project site boundary also defines the study area for this analysis. According to the 2010 CDFW Swainson's hawk guidance document it was estimated that the Antelope Valley, on average, supports 10 pairs of breeding Swainson's hawk (CDFG 2010).

Swainson's hawk nesting data from a number of publicly available sources was reviewed, including studies from solar projects in the area, the CNDDB and recent data provided from the Audubon

Society. Additional Swainson's hawk surveys of the project site were also conducted. These efforts resulted in noting 11 documented Swainson's hawk breeding pairs within the study area within the last five years. Five of those pairs of nesting Swainson's hawks occur within five miles of the project. Although there were more active nests within the study area than known nesting pairs of Swainson's hawks, this is an artifact because not all nests are found to be active in any single year.

Surveys confirm there are no nests or suitable nesting trees within the project site. Therefore, potential for the project to result in impacts to Swainson's hawk nests is restricted to the three active nests that occur outside of the project boundaries but within 0.5-mile of the site (QK, 2021a).

CDFW management protocols stipulate a 0.5-mile buffer for "new disturbances" around active nests. CDFW defines "disturbance" in the Antelope Valley as any activities that that lead to an increase in dust, noise, human presence, and other factors that could likely occur during project construction and decommissioning (CDFG 2010). Project construction activities could create disturbances to nearby nesting Swainson's hawks through noise, vibration, night lighting or human presence, leading to chick abandonment and/or mortality. Activity from project that would result in population-based impacts to a listed species, or that would result in the substantial reduction in the numbers or range of the Swainson's hawk as a species would be considered a significant impact under CEQA.

Impacts to foraging habitat availability depends on the amount, distribution, and quality of foraging habitat available to the regional Swainson's hawk population is a function of surrounding land use patterns. Historically, Swainson's hawks hunted in the grasslands of the Central Valley and coastal valleys, and the desert scrub and shrublands of high desert regions. With the historic conversion of natural habitat to agriculture in many areas in California, Swainson's hawk foraging has often shifted to cultivated lands. The Antelope Valley once supported a large area of agricultural activity, but over the past 10 years, much of this cultivated land has become fallow due to an insufficient amount of water available for irrigation and crop production. The shift in agriculture has subsequently allowed previously cultivated cropland to revegetated with desert scrub habitat. Additionally, agricultural land has also been converted to large scale renewable energy projects, housing development or other types of development.

The suitability of individual land-cover types is largely a function of two factors; prey abundance, and prey accessibility, both of which are influenced by vegetation structure. Land uses that are suitable for Swainson's hawk foraging include alfalfa hay; irrigated cropland that consists of low-profile, open vegetative structure; irrigated pasture; and uncultivated land that has retained some natural soil and vegetation suitable to support a small mammal prey base. Land uses that are generally unsuitable for Swainson's hawk foraging include developed land, orchards, vineyards and open water as well as steep sloped hillsides and dense urban development (QK, 2021a). For the analysis it was determined four categories of foraging habitat quality existing within the study area: unsuitable, low, medium, and high. The habitat quality of each type is based upon factors that influence the potential value of these land uses to support foraging Swainson's hawks.

Areas of unsuitable habitat are located within active solar facilities, heavily urbanized areas in or near the town of Rosemond, and steep hillsides and mountains in the study area. Small areas of vacant land near or between solar facilities were considered to be low quality habitat (QK, 2021a). However, conservatively, this land was considered to be moderate quality habitat in this analysis; these areas are not statistically significant to affect the study area calculations. Low quality habitat also includes low lying areas that are seasonally flooded, because they contain a relative low density

of small mammal burrows to support adequate prey base. Other low-quality habitat type includes active wind energy facilities, recently disked agricultural fields and barren ground. A majority of the study area consists of moderate habitat quality type that consists of native vegetation, high-profile agricultural fields, irrigated pastureland, low density residential property and fallow agricultural fields. High quality habitat is identified as active low-profile agricultural fields, which are sparsely found throughout the study area.

Most foraging of Swainson's hawks occurs within 10 miles from the nest, but the species may sometimes forage within a broader area (QK, 2021a). Comparing only the habitat available inside the 10-mile area to the total habitat requirements of the regional population would underestimate the amount of habitat available to the regional population. The overlap of foraging areas and the potential for a Swainson's hawk to forage within a given area both decrease with increasing distances from a nest. This relationship can be represented with a trigonometric formula outlined in the analysis study (QK,2021a).

To account for variation in the foraging acreage estimates due to annual variations in the regional population (caused by mortality and recruitment), acknowledge the resilience of the species to environmental factors outside the scope of this analysis, and to account for other potential sources of error, the threshold of determining significant impacts should be set substantially higher than the minimum amount of foraging habitat required to sustain the regional population. For this analysis, the significance threshold was conservatively set at 70 percent of the existing surplus habitat. The 70 percent threshold has been established as being adequate to provide a buffer of foraging habitat above the minimum number of acres needed (QK, 2021a). If the project would result in reducing suitable foraging habitat to less than 70 percent, it would be considered to have a significant impact on the regional population of Swainson's hawks under CEQA.

The existing landscape, including this project, supports a total of 200,653 acres of suitable Swainson's hawk foraging habitat and 25,354 acres developed with land uses unsuitable for foraging within the 10-mile radius of the project, for a total 226,007 acres of available foraging habitat.

Data on the locations and acreages of other existing, planned and reasonably foreseeable solar projects (cumulative projects) in the study area were obtained from Kern County. Cumulative projects were classified as either "existing" (construction complete) or "proposed" (planned, but not yet constructed) for purposes of this analysis. Solar projects included in the cumulative analysis include: Antelope Valley Solar, AV Apollo Solar, AVEP, BigBeau Solar, Catalina Renewable Energy, Central Antelope Drive Ranch Project, Gaskell West Solar Project, Gettysburg Solar Project, Kingbird Photovoltaic, Raceway Solar 2.0, RE Astoria Solar Project, Rosamond Central Project, Rosamond Solar Array, RE Garland Solar, Sierra Solar, TA High Desert Solar and Valentine Solar. All solar projects that are planned, under construction or completed.

The regional population of Swainson's hawks that would potentially be directly or indirectly affected by the Rosamond South Solar Project is 10 nesting pairs known to have nested within the 226,007-acre study area within the last five years. The nest locations are concentrated mainly in the eastern one-third of the study area.

Half of the nests are more than 5 miles from the project site boundary, and the largest concentration of nests (7 nests) are 3.5 to 6.5 miles from the project site. To adjust for overlapping home ranges

and including all foraging areas within 10-miles of each nest, the approximate overlap of these areas was calculated for each nest.

When considering a 10-mile foraging buffer around the ten known Swainson's hawk nests within the study area, there is a total of 86,424.95 acres of potential foraging habitat that is outside of the study area, and 9,562,97 acres of unsuitable foraging habitat outside of the study area. This habitat was not considered in the analysis but is available and likely used by foraging Swainson's hawk.

When all proposed projects within 10-miles of the project are considered and fully developed, including this project (i.e., cumulative impacts), approximately 74 percent of suitable foraging habitat will remain. Based upon the established 70 percent threshold, the cumulative impacts do not reach a level of significance. The loss of 1,292 acres of undeveloped land resulting from development of the Rosamond South Solar Project will not affect the distribution or abundance of nesting Swainson's hawks in the study area. Because the project represents only 0.6 percent of the total available foraging habitat (low, moderate, and high quality combined) within the study area, its conversion is negligible relative to habitat availability and the relatively small number of Swainson's hawks that nest in the study area. The loss of 1,292 acres of undeveloped land would not represent a significant loss of foraging habitat for Swainson's hawks and does not represent a significant impact. At the cumulative level all existing and proposed solar projects would result in the removal of approximately 15 percent of the total available foraging habitat within the study area. There is also 95,988 acres of foraging habitat outside of the study area that is available to the regional population of foraging Swainson's hawks.

The project would not result in a significant impact to the regional population of Swainson's hawk through the loss of suitable foraging habitat, nor would it contribute to a significant cumulative impact in conjunction with other existing, planned, or reasonably foreseeable solar projects. After project development, the amount of surplus suitable foraging habitat for Swainson's hawk in the study area would remain greater than 70 percent of the existing surplus and therefore provide sufficient surplus foraging habitat to allow for population growth and resiliency to disturbance, as well as to changes to the foraging landscape through changes in land uses.

Because no analysis of Swainson's hawk foraging or home ranges in the Antelope Valley has been conducted, it is possible that the significance threshold could vary from the 70 percent threshold that is accepted for Central Valley populations. The foraging habitat availability for Swainson's hawks in the Antelope Valley could be greater than in the Central Valley because the Antelope Valley area is less undeveloped and has far fewer large scale agricultural operations compared to the Central Valley, which supports more active agriculture, urban development, and infrastructure. However, the current status of nests, locations of active nests, increasing numbers of Swainson's hawk individuals, and migratory patterns of the Swainson's hawk could change in the future, thus invalidating the findings of this analysis.

The analysis is based on previously accepted methods used for Swainson's hawks in California's Central Valley and makes use of the best available data(QK, 2021a). This study considers impacts to Swainson's hawks at a more biologically realistic scale than the method employed in the 2010 CDFW guidelines while remaining logistically feasible as well as applicable to a wide range of projects and locations. The most limiting factor in this analysis is the need for telemetry studies to determine average home range size for Swainson's hawks in the Antelope Valley. The CDFW guidelines define an active Swainson's hawk nest location as one that has been active in any of the previous five years. Therefore, primary nest data for the study area should come from a ground

survey within the previous five years. In this case, much of the study area has been surveyed for Swainson's hawk within the last five years in support of other solar projects that have been recently proposed or constructed. Data from CNDDB, and the Audubon Society were used to supplement data collected during Swainson's hawk surveys.

Suitable nesting habitat is only found outside of the project footprint except for a few, scattered, large Joshua trees, which are not the preferred nest substrate for Swainson's hawk. Suitable nesting sites occur east of CUP Area 4 where a row of large ornamental trees is located and in ornamental trees on nearby residences south of CUP Areas 3 and 4. This area had one active Swainson's hawk nest in 2020, although that nest is no longer present. Potential nesting sites within the vicinity of CUP Areas 1-3 are located along power poles on the outside perimeter of the project footprint. This species may nest in large planted trees surrounding rural residences along the three proposed gen-tie routes.

CDFW's 2010 Swainson's hawk regulatory guidance recommends acquisition of replacement lands (i.e., compensatory mitigation) for projects that would result in the loss of foraging habitat in amounts that would be sufficient to significantly impact a Swainson's hawk population. The guidelines state that the determining criteria for CEQA significance is the removal of any suitable foraging habitat within 5 miles of an active Swainson's hawk nest, which is defined as a nest that was active at any time during the previous 5 years. For this project, a cumulative analysis of project impacts to Swainson's hawk foraging habitat was prepared following an approach that has been successfully used in California's Central Valley. The analysis makes use of the best available data and considers impacts to Swainson's hawks at a more biologically realistic scale than the methods recommended in the 2010 CDFW Guidance.

Townsend's big-eared bat (CDFW Species of Special Concern). The Townsend's big-eared bat can occur throughout California in all but alpine and subalpine habitats and may be found during any season. Suitable foraging habitat for Townsend's big-eared bats includes a heterogeneous mosaic of forested and edge habitats, including riparian zones, which are also used for commuting and drinking. In California, both males and females forage along the edges of riparian vegetation dominated by Douglas-fir, California bay, and willow species, but they also avoid open grasslands both when traveling and foraging. Townsend's big-eared bat roosting habitat is associated with areas containing caves and cave-like structures.

The nearest CNDDB occurrence is from a mine site approximately 4.2 miles northeast of the BSA. There is only one VertNet record for the species. This record is from 1942 and is approximately five miles east of the project site. This area has been developed for commercial use and no longer provides suitable roosting or foraging habitat for the species.

No Townsend's big-eared bat or diagnostic sign of Townsend's big-eared bat was observed within the BSA during the surveys. There is no suitable roosting habitat within the BSA or the immediate vicinity, but the BSA and surrounding land may provide suitable foraging habitat and the species could be present as a transient forager.

Desert Tortoise (Federally and State Threatened). 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.

The nearest CNDDB occurrence is approximately 1.5 miles northwest of the project, where multiple burrows were observed in 2010. No VertNet occurrences for this species have been recorded in the vicinity of the BSA. Although no tortoises or their diagnostic sign (i.e., tracks, burrows, scat) were observed during the surveys, the BSA does contain Desert Scrub habitat suitable for the species, and it is possible, although unlikely, for the species to become established within the BSA or be present as a transient.

Loggerhead Shrike (State Species of Special Concern). Loggerhead shrikes can be found throughout North America, extending north into Canada during the breeding season and as far south as Central America during the non-breeding season. Shrikes occurring in the southern regions reside year-round, usually living in pairs on permanent territories. Loggerhead shrikes that occupy southern California are primarily residents and breed between January and July. Ecological requirements include tall shrubs or trees for use as hunting perches and nest placement, and areas with short grass cover and bare ground for hunting. They also need impaling sites for prey manipulation or storage.

The nearest recorded CNDDB occurrence is approximately 1.1 miles north of the project site where multiple observations were recorded in 2010 and 2011. Several sightings of loggerhead shrike have been observed in the vicinity. The most recent sighting was from July 2020. There is only one VertNet record for the species, which was from 1906 approximately four miles northeast of CUP Area 4. This area has been partially developed for residential properties but some of the area remains open habitat. Loggerhead shrikes were sighted several times during QK's on-site surveys, typically in the Desert Scrub and Joshua Tree habitats, and one active nest was present within CUP Area 2 in 2020. This species may be found within the BSA at any time.

American Badger. (*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 nearest CNDDB occurrences are approximately 2.5 miles north and 6.7 miles south of the project site. Both records lack the dates of the observations. The date of the most recent occurrence near the project site is from 2011, but the record is over 10 miles west of the project area. No VertNet occurrences for this species have been recorded in the vicinity of the BSA.

No badgers or badger dens were identified during the on-site surveys, but the species is historically known to occur in the area and the BSA provides suitable denning and foraging habitat. American badger could become established within the BSA or pass through as a transient at any time.

LeConte's Thrasher [*State Species of Special Concern* (*Federal Bird of Conservation Concern*)]. Only the San Joaquin Valley population of the LeConte's thrasher is considered a State Species of Special Concern, but the species is tracked in the CNDDB regardless of the location of the population. LeConte's thrasher is an uncommon, year-round resident in southern California deserts and the San Joaquin Valley, preferring sparsely vegetated desert flats, alluvial fans, or gently rolling hills, typically with a high proportion of saltbush or shadscale species or cholla cactus. They rarely occur in habitat where creosote is the sole shrub species.

The nearest CNDDB record for the species is from 1989, located 0.9 miles north of the project site. Several sightings of LeConte's thrasher have been observed in the vicinity. The most recent sighting was from June 2018. There is only one relevant VertNet record for the species, which is from 1904 and is approximately seven miles southwest of CUP Area 4. This area has been partially developed for a residential property and agricultural fields but some of the area remains open habitat that is suitable for this species.

One Toxostoma species was fleetingly observed in CUP Area 2, within creosote scrub, during the 2020 reconnaissance survey. The sighting could either have been a LeConte's thrasher or of a California thrasher (*T. redivivum*), both of which are similar in appearance and overlap in range. The project site supports suitable foraging and nesting habitat for LeConte's thrasher, particularly in the Alkali Desert Scrub and Desert Scrub habitats in CUP Areas 1 through 3. This species could also be present in the suitable habitat along the gen-tie routes.

Desert Kit Fox (*CFGC Protected*). 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. However, as a fur-bearing mammal, it is protected from take by Title 14 California Code of Regulations section 460. No VertNet occurrences have been recorded for this species within the vicinity of the BSA. The remains of a desert kit fox pup were found in the central portion of CUP Area 3 during the 2020 late-season floristic survey, and a dead desert kit fox was found along Rosamond Boulevard gen-tie during the 2021 mid-season floristic survey. A desert kit fox was observed in 2021 during floristic surveys along the Gaskell gen-tie route, running into an existing solar panel facility beneath its raised fence. Numerous potential desert kit fox dens were found within the BSA. Specifically, potential dens were found on the northeast corner of the BSA near CUP Area 1, in the southern half of CUP Area 2, on the east side of CUP Area 3, on the western boundary of CUP Area 4, and along Rosamond Boulevard gen-tie. These dens were primarily in open desert scrub habitat. This species has a wide-ranging and could potentially be present within the BSA.

Migratory and Nesting Birds

Habitat within the BSA supports nesting native bird species, which are protected by the federal MBTA and the CFGC. The on-site surveys were conducted within the nesting bird season (February 1st to September 15th), and numerous nests were found. Active nests present within the

BSA included those of loggerhead shrike, cactus wren (*Camphylorhynchus brunneicapillus*), mourning dove, Eurasian collared dove (*Streptopelia decaocto*), horned lark, common raven, and Swainson's hawk. The project site supports several types of habitats, substrates, and structures suitable for nesting birds, and it is likely that birds will be present during the breeding season.

The reconnaissance survey was conducted at the end of the overwintering period and during the spring migration period. Long-billed curlew (*Numenius americanus*) and rufous hummingbird (*Salasphorus rufus*) were sighted during the reconnaissance survey but are not likely to breed on the project site. Other potentially occurring winter migratory birds that could be present but that were not observed include whimbrel (*Numenius phaeopus*) and white-faced ibis (*Plegadis chihi*). Potentially occurring winter foraging raptors include ferruginous hawk (*Buteo regalis*), merlin (*Falco columbarius*), and prairie falcon (*Falco mexicanus*). All five sites and the gen-tie routes provide high quality foraging habitat and it is likely that wintering and migratory birds and raptors may be present for foraging and during the winter and during the spring and fall migratory periods.

Sensitive Natural Communities

The database and literature review identified four sensitive plant communities occurring within 10 miles of the project site: Southern Riparian Scrub, Southern Willow Scrub, Valley Needlegrass Grassland, and Wildflower Field. Neither these or other sensitive natural plant communities were present within the BSA.

The nearest CNDDB occurrence of Southern Riparian Scrub is approximately 10 miles to the southwest in the Transverse Mountain Range. The nearest record for Southern Willow Scrub is approximately 9.3 miles southwest, also in the Transverse Range. There are no perennial waterways in or near the BSA to support either the Southern Riparian and Southern Willow Scrub communities. The nearest occurrences for Valley Needlegrass Grassland and Wildflower Field are approximately 5.3 miles south of the project site in the Antelope Valley California Poppy Reserve.

Two needlegrass (*Stipa*) species were observed during the surveys, Indian rice grass (*S. hymenoides*) and desert needlegrass (*S. speciosa*), but these bunchgrasses too sparse to be considered Valley Needlegrass Grassland. Indian rice grass was found on CUP Areas 1 through 3, and along the gen-tie routes. Desert needlegrass was found on CUP Area 3 and along Holiday Avenue gen-tie route. Most of the grasses encountered within the BSA were non-native *Hordeum* and *Bromus* species. Numerous wildflower species were encountered within the BSA in 2020, especially on CUP Areas 1 and 2, and the eastern side of CUP Area 3. Wildflowers were mostly scattered between shrubs amongst grasses and other forbs within scrub habitat. Wildflowers did not occur in a conspicuous uninterrupted plain, which is the definition of the Wildflower Field community.

Critical Habitat

The project does not overlap with federally designated critical habitats for any species. The nearest critical habitat is for California condor (*Gymnogyps californianus*) approximately 6.8 miles to the northwest. Critical Habitat is shown in ***Figure 4.4-14*** *– Critical Habitat in the Project Vicinity*.

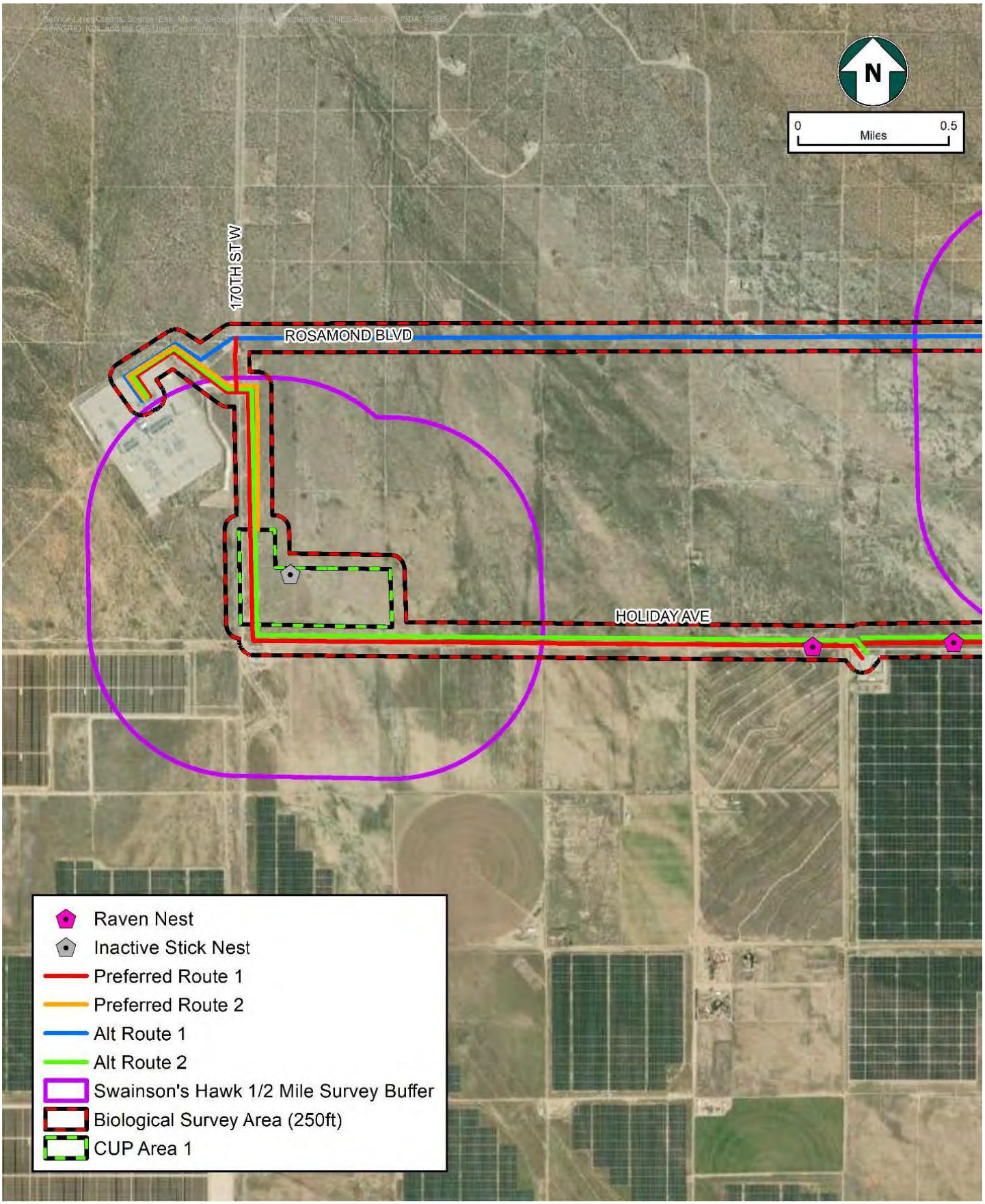

FIGURE 4.4-8: Special Status Birds and Nests in CUP Area 1

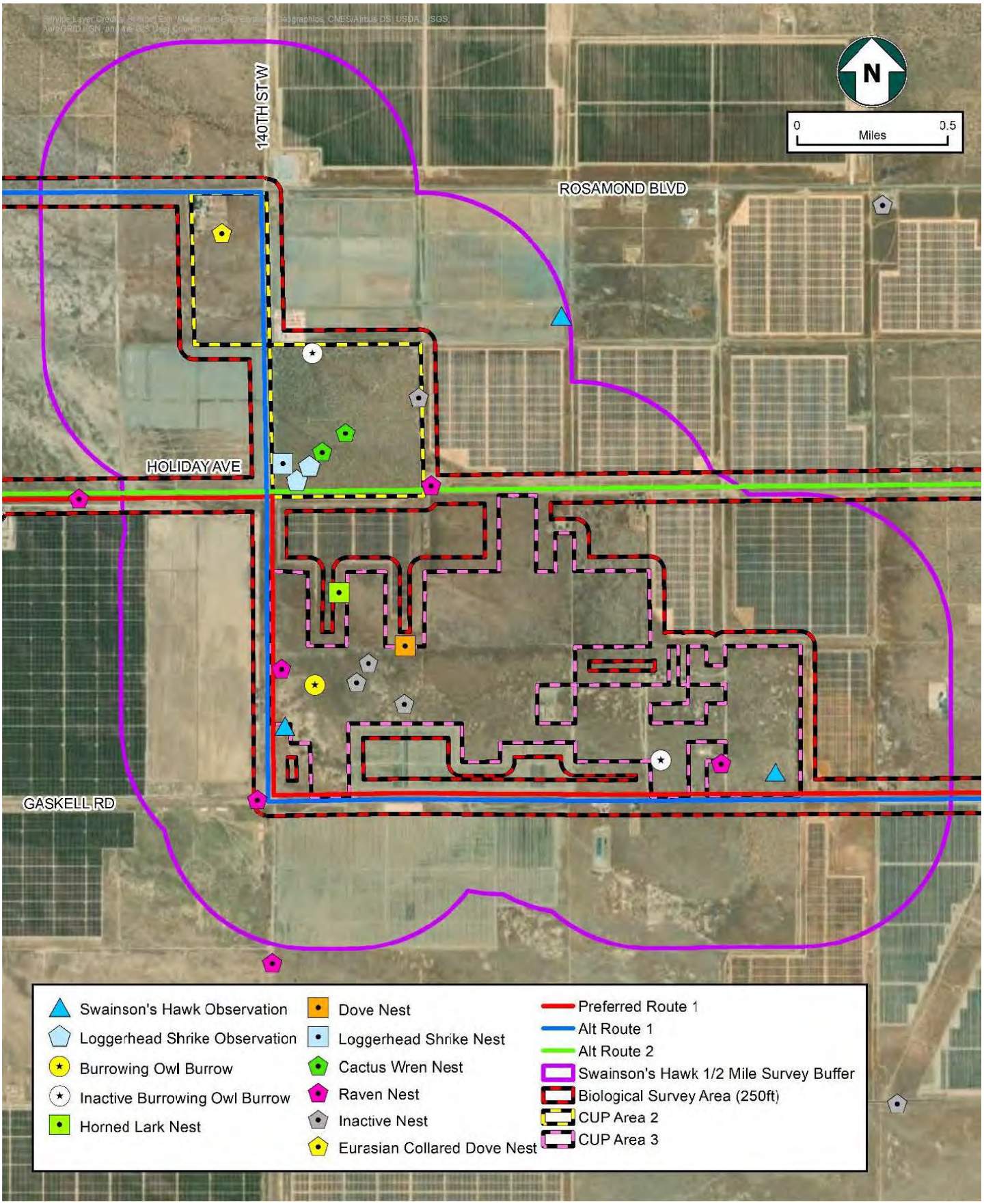

FIGURE 4.4-9: Special Status Birds and Nests in CUP Areas 2 and 3

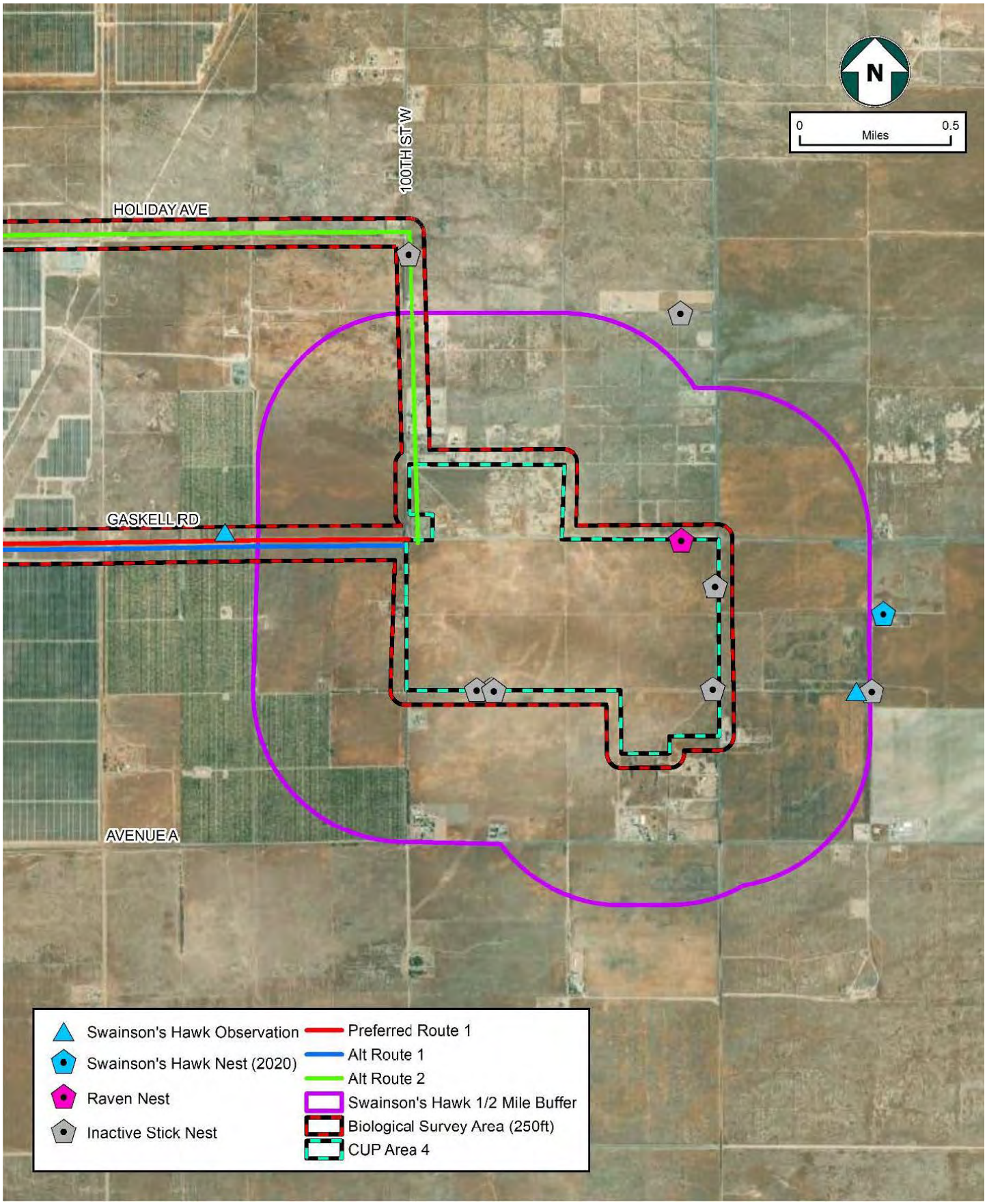

FIGURE 4.4-10: Special Status Bird Species and Nests in CUP Area 4

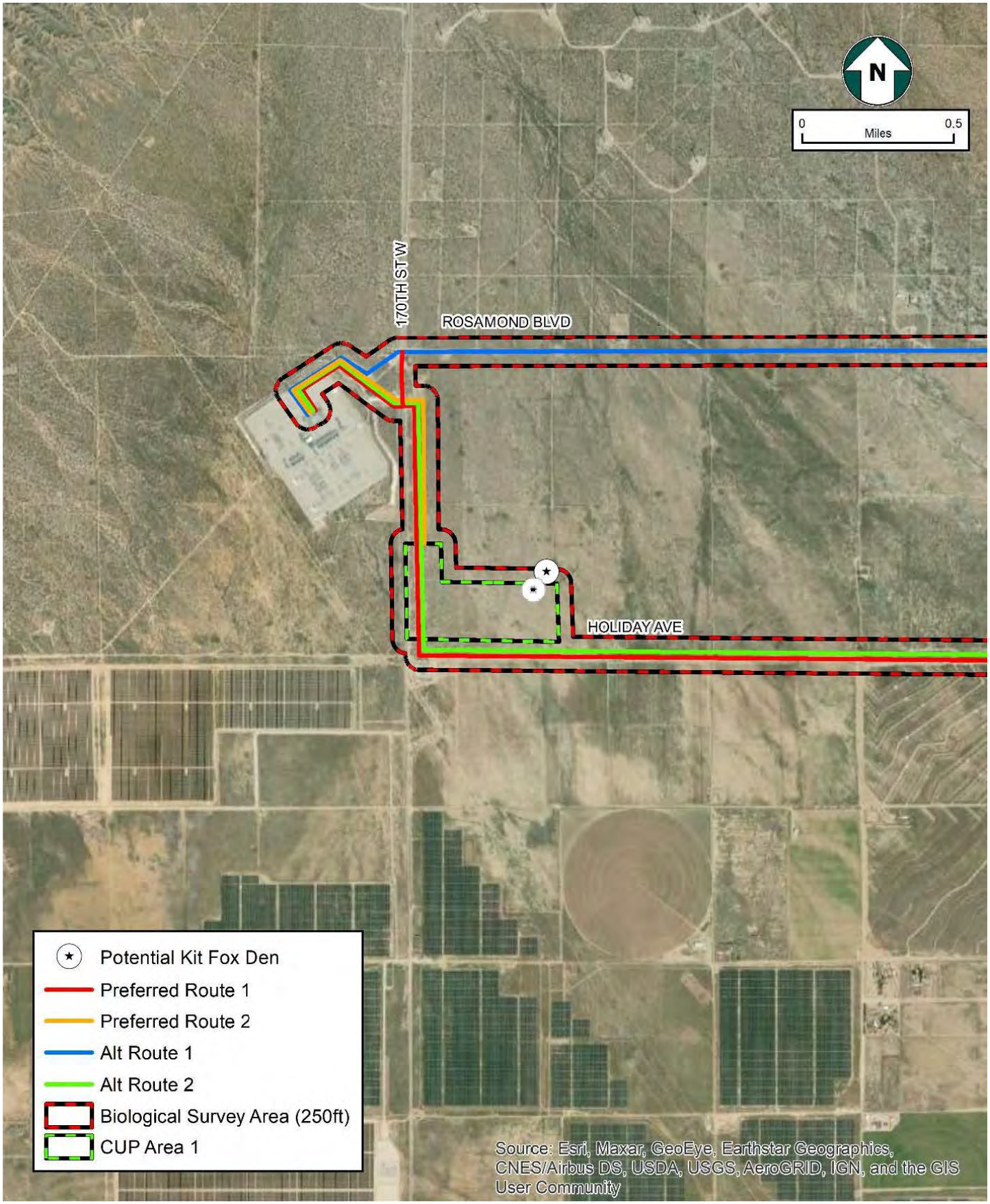

FIGURE 4.4-11: Desert Kit Fox Potential Dens in CUP Area 1

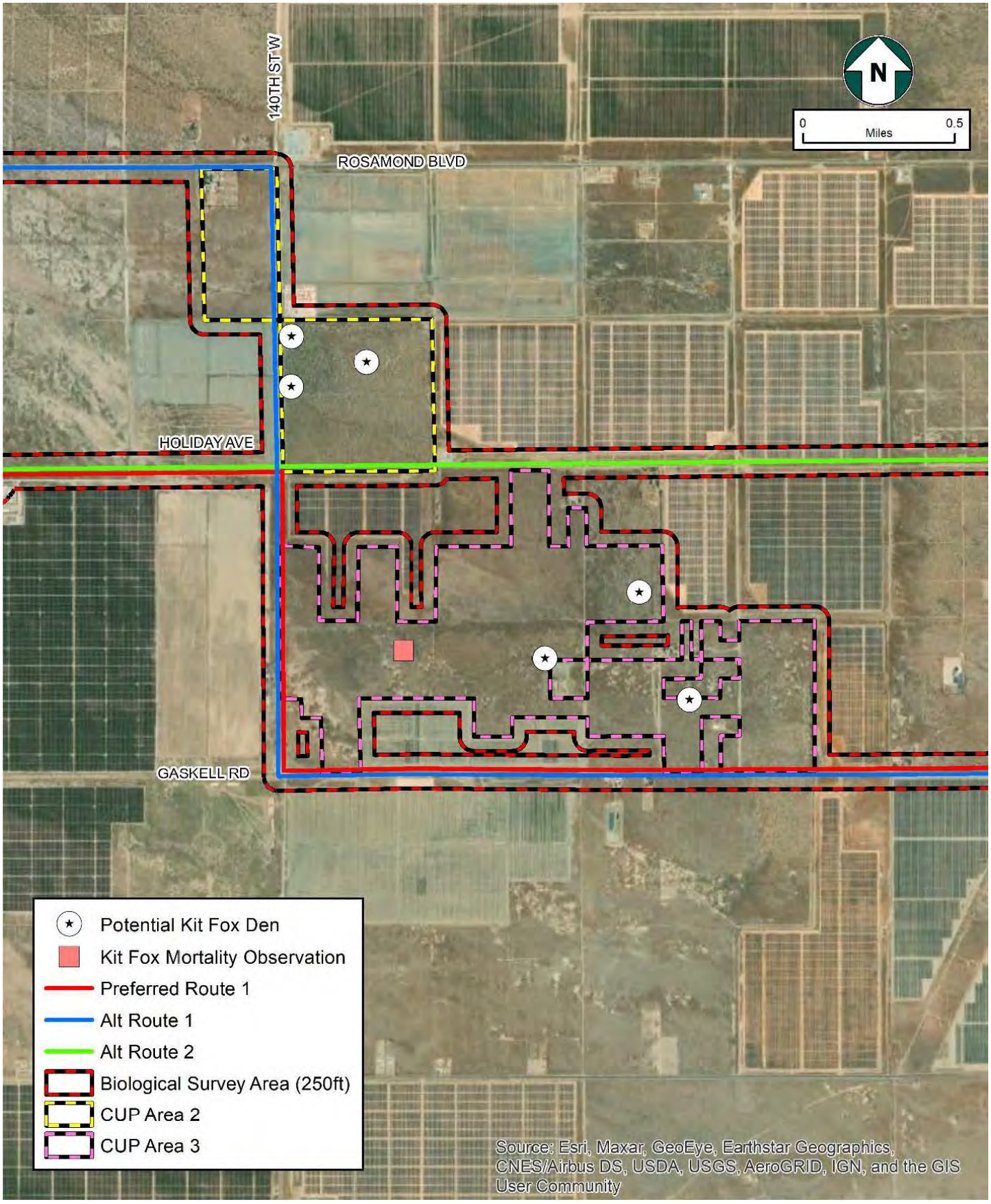

FIGURE 4.4-12: Desert Kit Fox Potential Dens and Remains in CUP Areas 2 and 3

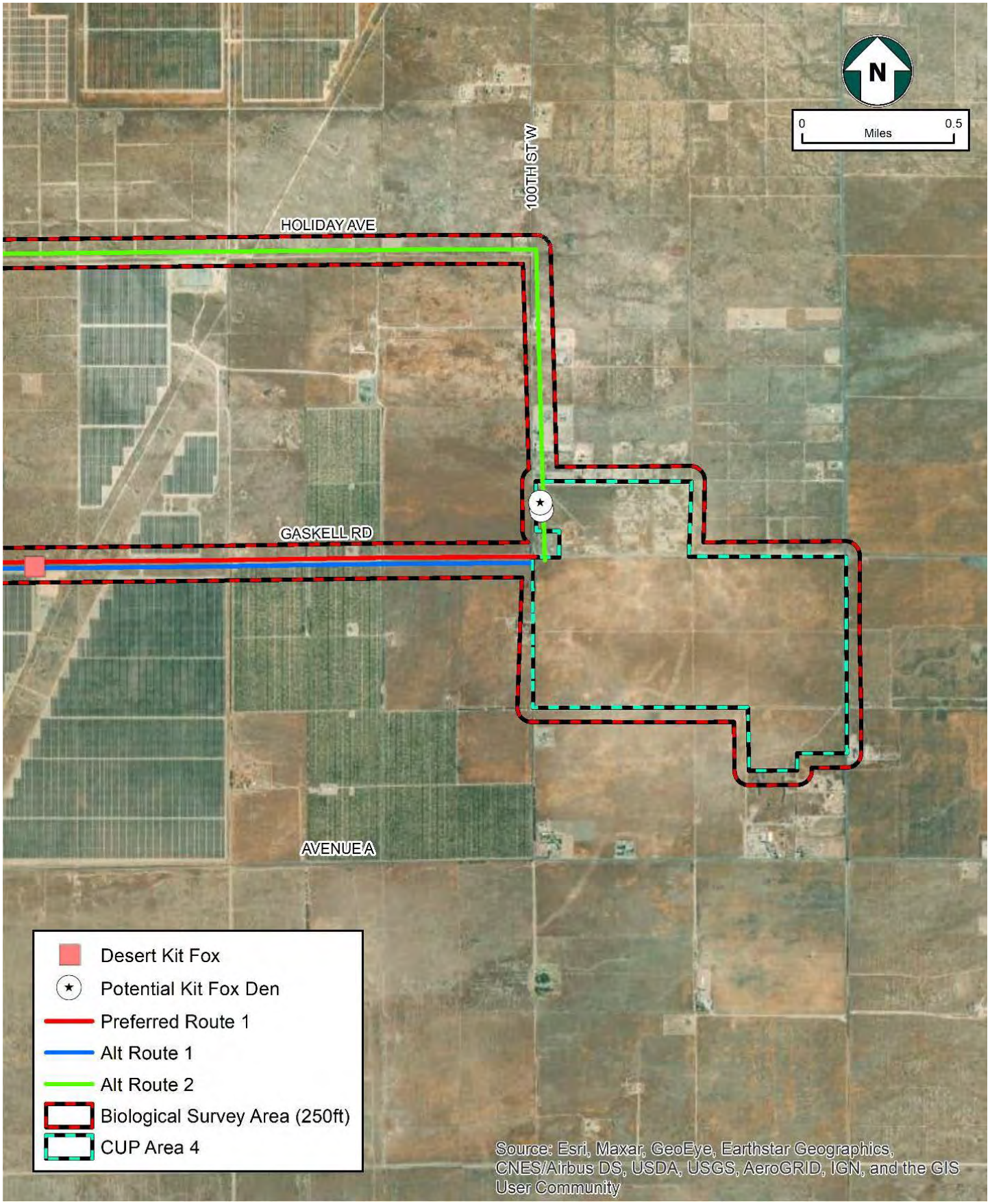

FIGURE 4.4-13: Desert Kit Fox Potential Dens in CUP Area 4

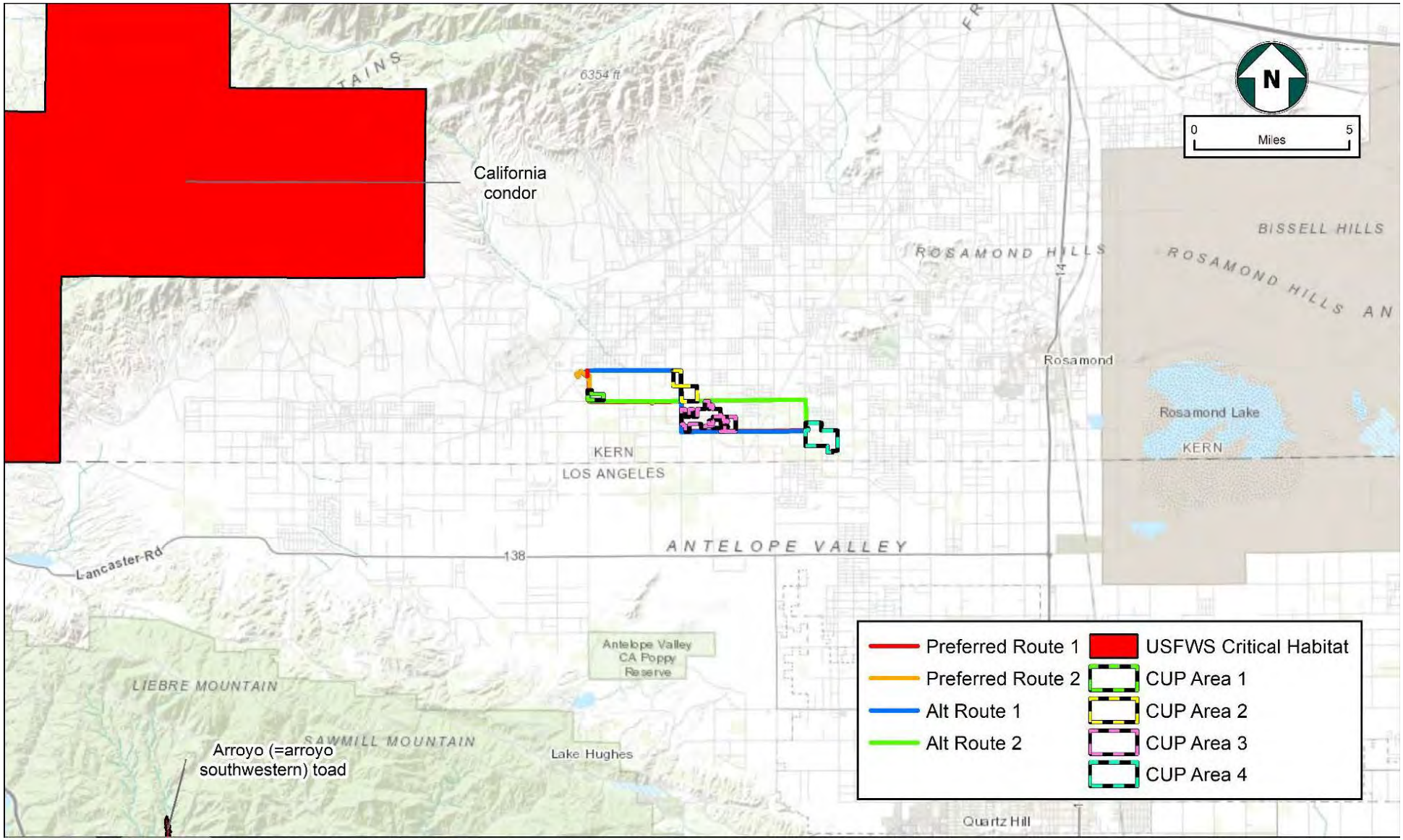

FIGURE 4.4-14: Critical Habitat in the Project Vicinity

Wildlife Movement Corridors

Wildlife movement corridors, are generally defined as linear features along which animals can travel from one habitat or resource area to another. The project site lies within a recognized wildlife connectivity area identified by the California Essential Habitat Connectivity Project (***Figure 4.4-15***, *Wildlife Corridors and Habitat Linkages in the Project Vicinity*). This corridor is not based upon any specific wildlife species but instead has been added as an overall pathway to ensure connectivity throughout California. The corridor in its entirety is approximately 24 miles wide and connects the Tehachapi Mountains in the north to the San Gabriel Mountains to the south. The project site is between the travel areas for most wildlife species located to the east and west in a location where there is little open pathway due to human disturbance and structures (i.e. roads, fences, homesites, solar sites and other facilities).

The project is situated within the Pacific Flyway, which is a significant avian migration route that covers a wide swath of land along the western Americas from Patagonia to Alaska. Migratory bird species were present on the project including long-billed curlew, rufous hummingbird, and lark sparrow (*Chondestes grammacus*).

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 project site is located within the Antelope Valley Hydrologic Unit, a closed basin situated within the western Mojave Desert, with a system of Rosamond, Buckhorn, and Rogers dry lakes as the central watershed terminus. Rosamond, Buckhorn, and Rogers Lakes and their tributaries function as an isolated intrastate watershed system and are non-jurisdictional waters of the United States (USACE, 2013). Any waters or wetlands located on the project site are therefore isolated, are not considered “waters of the United States” and, therefore, are not be subject to regulation under the federal Clean Water Act (CWA).

Within the project site, one non-wetland drainage feature was identified that may constitute waters of the State and fall under the jurisdiction of CDFW and the RWQCB. This drainage feature encompassed 1.82 acres and was 2,973 feet in length. No other potential waters of the State were identified on the project site.

The NHD and NWI databases show several water features potentially located in CUP Areas 2 and 3. Focused delineation work confirmed that these features did not meet wetland criteria and therefore did not qualify as wetlands under the jurisdiction of the U.S. Army Corps of Engineers (USACE) and do not fall under the regulatory authority of the RWQCB (Lahontan Region) or CDFW in this regard.

SCE Interconnection Facilities

The SCE property is developed with the existing Whirlwind power station. The SCE interconnection facilities would be constructed within the existing power station and would not have the potential to impact biological resources.

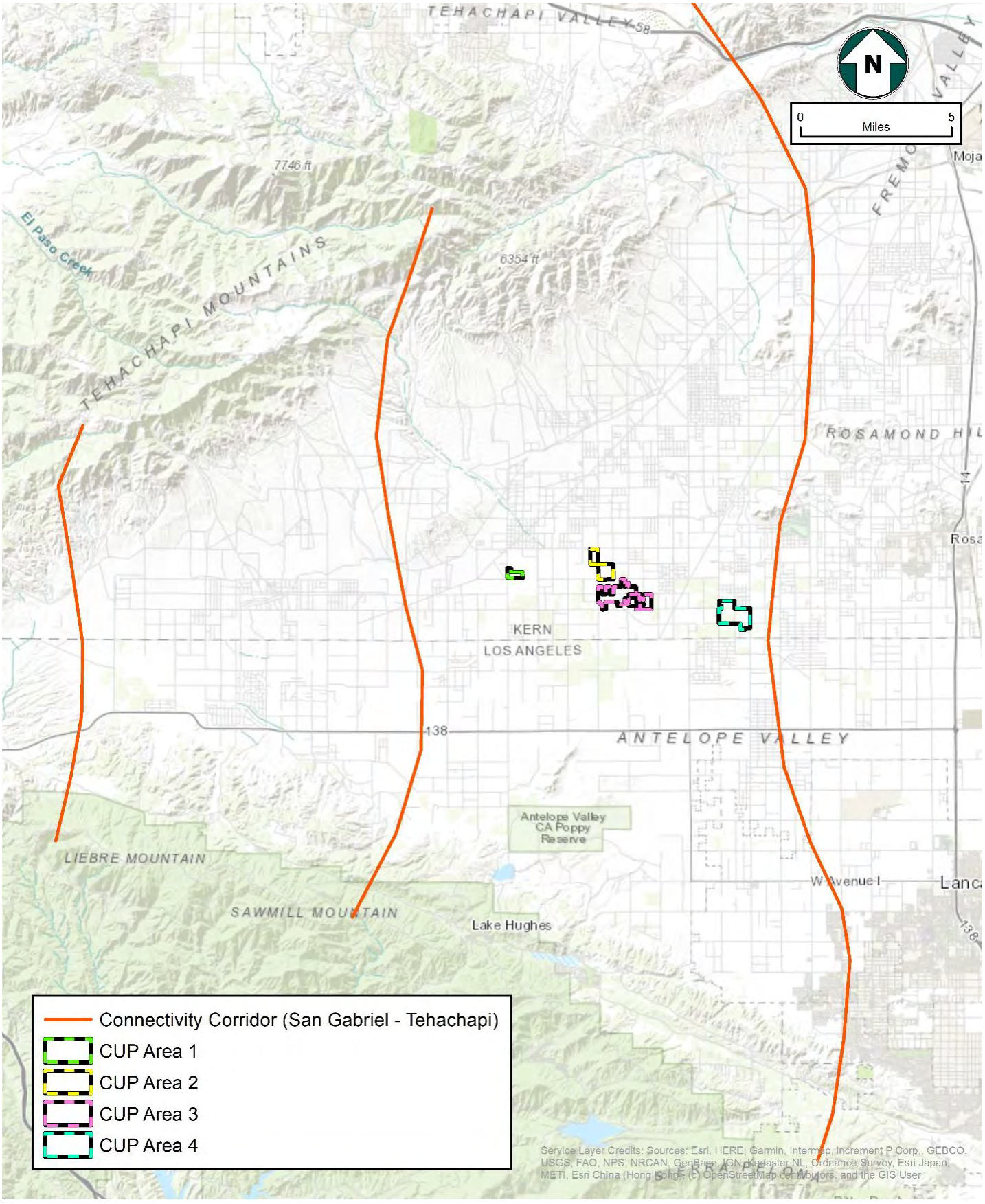

FIGURE 4.4-15: Wildlife Corridors and Habitat Linkages in the Project Vicinity

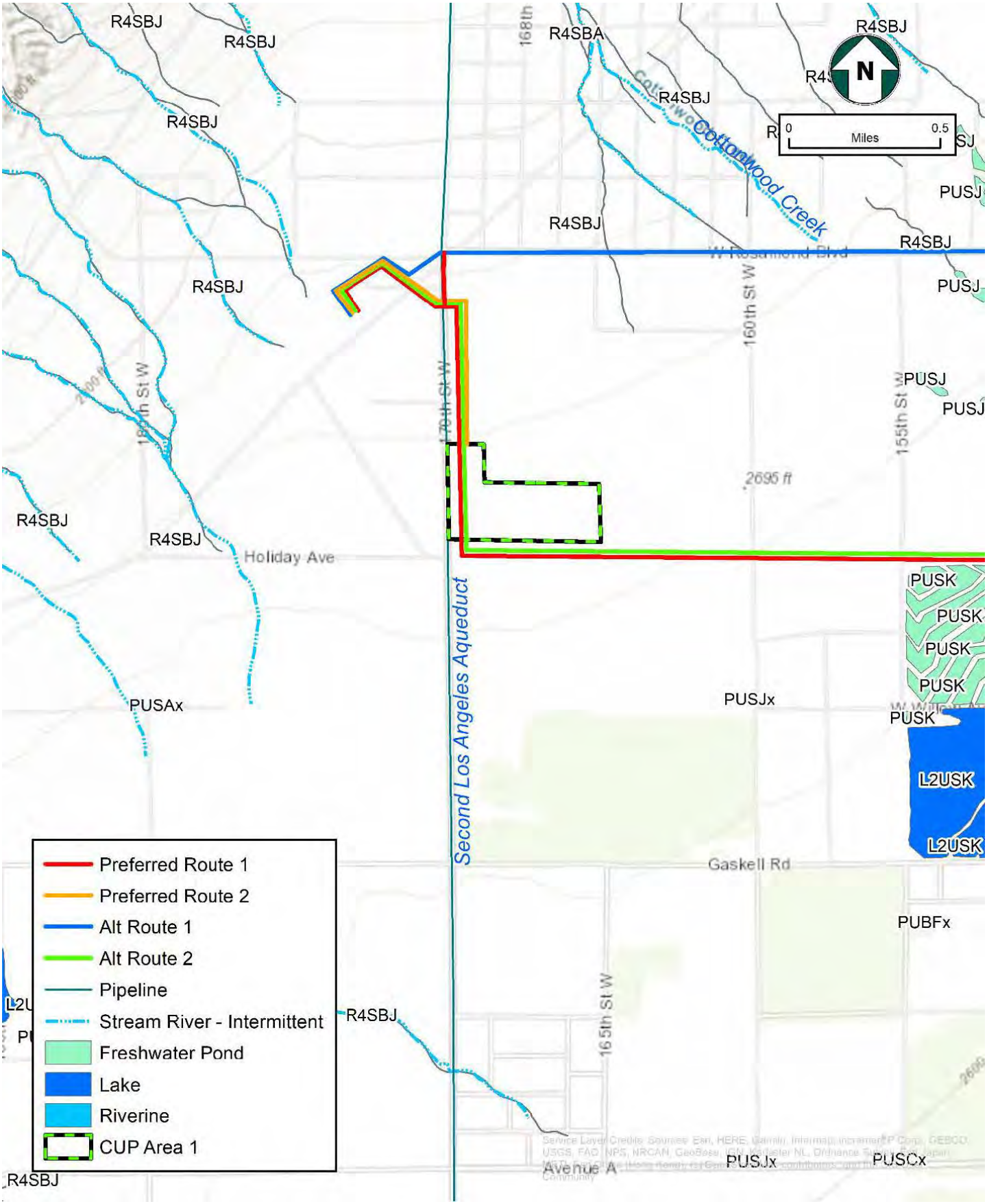

FIGURE 4.4-16: Mapped Waters within CUP Area 1

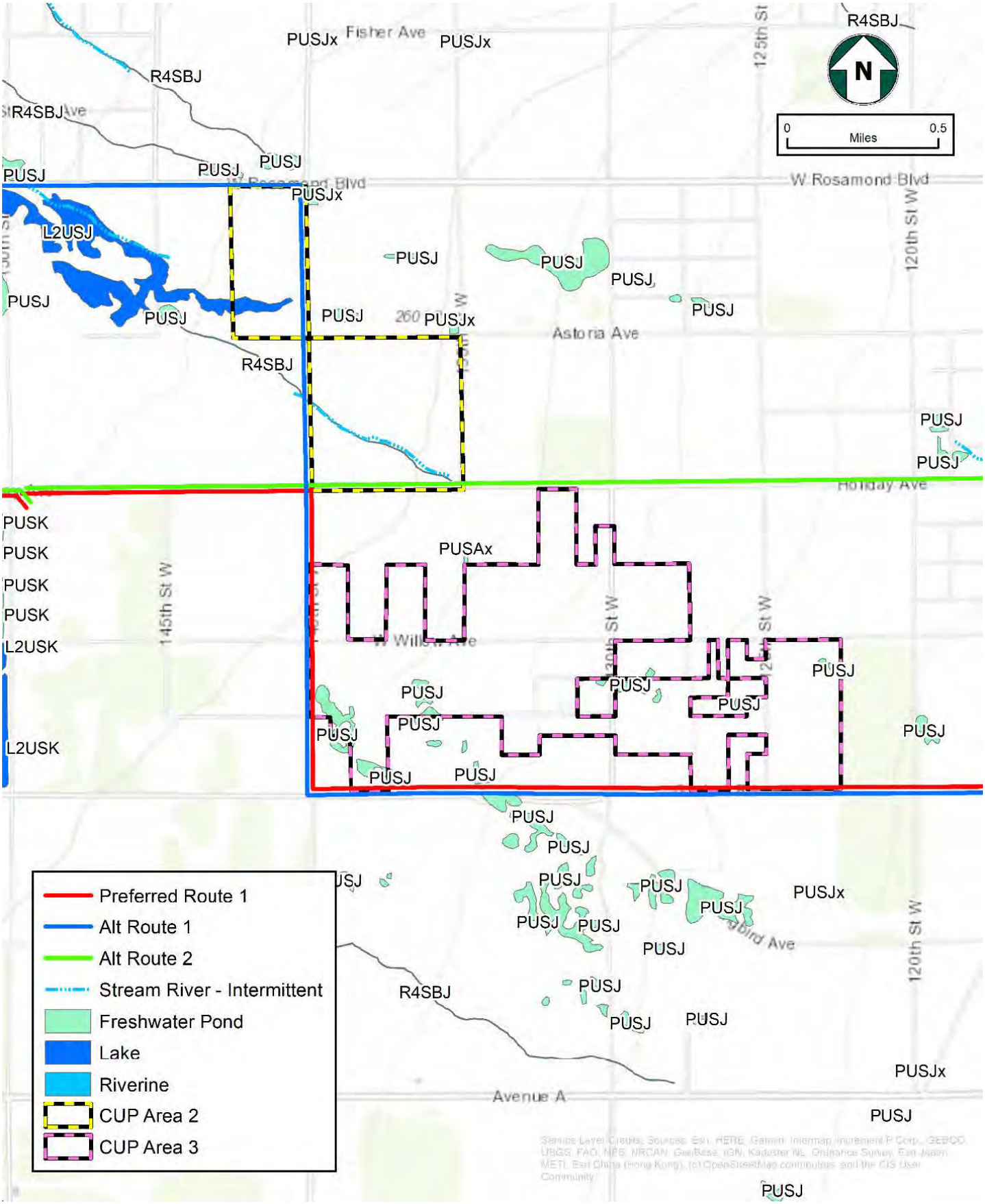

FIGURE 4.4-17: Mapped Waters within CUP Area 2 and 3

FIGURE 4.4-18: Mapped Waters within CUP Area 4

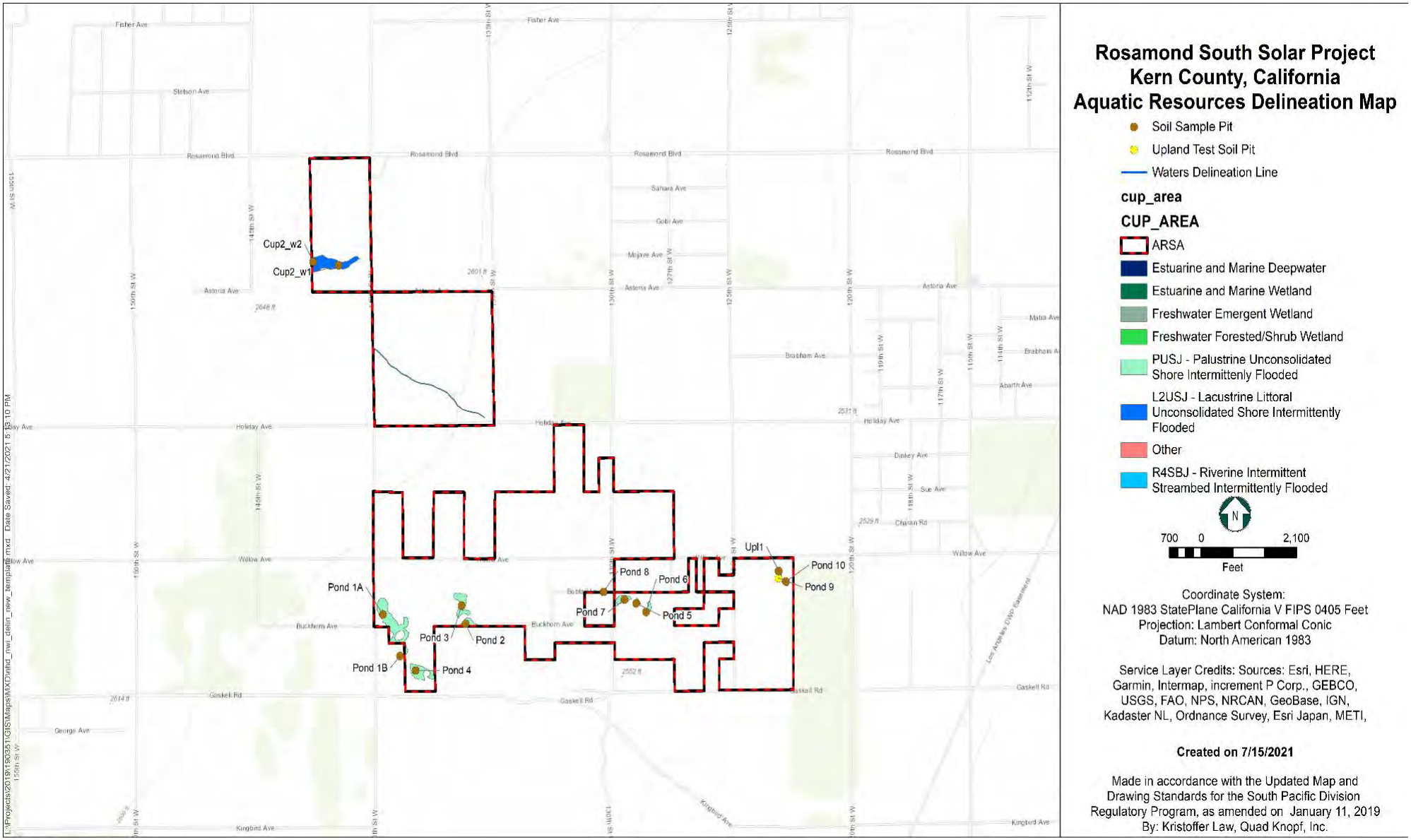

FIGURE 4.4-19: Aquatic Resources Delineation Soil Pit Map

4.4.3 Regulatory Setting

Federal

Endangered Species Act of 1973 (USC Title 16, Sections 1531–1543)

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 share responsibilities for administering the FESA. Regulations governing interagency cooperation under Section 7 are found in California Code of Regulations Title 50, Part 402. The opinion issued at the conclusion of consultation will include a statement authorizing "take" (i.e., to harass, harm, pursue, hunt, wound, kill, etc.) that may occur incidental to an otherwise legal activity.

Section 9 lists those actions that are prohibited under the FESA. Although take of a listed species is prohibited, it is allowed when it is incidental to an otherwise legal activity. Section 9 prohibits take of listed species of fish, wildlife, and plants without special exemption. The definition of "harm" includes significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns related to breeding, feeding, or shelter. "Harass" is defined as actions that create the likelihood of injury to listed species by disrupting normal behavioral patterns related to breeding, feeding, and shelter significantly.

Section 10 provides a means whereby a nonfederal action with the potential to result in take of a listed species can be allowed under an incidental take permit. Application procedures are found at Code of Federal Regulation (CFR) Title 50, Sections 13 and 17 for species under the jurisdiction of USFWS, and at CFR Title 50, Sections 217, 220, and 222 for species under the jurisdiction of the National Marine Fisheries Service.

FESA Section 4(a)(3) and (b)(2) 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 FESA Section 3(5)(A): (1) areas within the geographic range of a species that are occupied by individuals of that species and contain the primary constituent elements (physical and biological features) essential to the conservation of the species, thus warranting special management consideration or protection; and (2) areas outside of the geographic range of a species at the time of listing but that are considered essential to the conservation of the species.

Migratory Bird Treaty Act (USC Title 16, Sections 703–711)

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" (USC 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 (USC Title 16, Section 668, enacted by 54 Statute 250)

The Bald and Golden Eagle Protection Act of 1940 protects bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) by prohibiting the taking, possession, and commerce of these species, and establishes civil penalties for violation of this act. Take of bald and golden eagles includes to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." To disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior (Federal Register volume 72, page 31132; 50 CFR 22.3).

Federal Clean Water Act (USC Title 33, Sections 1251–1376)

The federal Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Under section 404 of the CWA, the USACE, under the authority of the U.S. EPA, 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 U.S. EPA in conjunction with 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 state-established water quality standards in addition to those included in the CWA. In California, the State Water Resource Control Board (SWRCB) 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 a take permit under Section 2081(b).

Regional Water Quality Control Board

Under CWA Section 401, the RWQCB must certify that actions receiving authorization under Section 404 of the CWA also meet State water quality standards. The RWQCB also regulates waters of the State under the Porter-Cologne Act Water Quality Control Act. The RWQCB requires projects to avoid impacts to wetlands if feasible and requires that projects do not result in a net loss of wetland acreage or a net loss of wetland function and values. The RWQCB typically requires compensatory mitigation for impacts to waters of the State, which may include wetlands or waters deemed 'isolated' or not subject to Section 404 jurisdiction, under the Solid Waste Agency of Northern Cook County (SWANCC) legal decision. The thrust of the SWANCC legal decision is that isolated, non-navigable, and intrastate waters are not "waters of the United States" subject to USACE jurisdiction under the CWA. However, filling, dredging, or excavation of isolated waters may constitute a discharge of waste to waters of the State and if so, then prospective dischargers are required to file a Report of Waste Discharge to obtain Waste Water Discharge Requirements as authorization for that fill or waiver thereof from the RWQCB.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, waters of the State fall under the jurisdiction of the SWRCB and the appropriate RWQCB. Waters of the State are broadly defined by the Porter-Cologne Water Quality Control 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 CWA Section 401.

California Fish and Game Code

Section 460. Under this section of the CFGC, desert kit fox may not be taken at any time.

Sections 1600–1616. Under these sections of the CFGC, the project proponent is required to notify CDFW prior to any project that would divert, obstruct, or change the natural flow, bed, channel, or

bank of any river, stream, or lake. Pursuant to the code, a "stream" is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that supports or has supported riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial watercourses valuable to fish and wildlife are subject to CDFW jurisdiction. CDFW also has jurisdiction over dry washes that carry water during storm events. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resource. These modifications are formalized in a Streambed Alteration Agreement, which becomes part of the plans, specifications, and bid documents for the project.

Sections 2080 and 2081. CFGC Section 2080 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 CFGC Section 2081, CDFW may authorize individuals or public agencies to import, export, take, or possess state-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or memoranda of understanding if the take is incidental to an otherwise lawful activity, impacts of the authorized take are minimized and fully mitigated, the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and the project proponent ensures adequate funding to implement the measures required by CDFW, which makes this determination based on available scientific information and considers the ability of the species to survive and reproduce.

Sections 3503, 3503.5, 3513, and 3800. Under these sections of the CFGC, the project proponent is not allowed to conduct activities that would result in the taking, possessing, or destroying of any birds of prey or their nests or eggs; the taking or possessing of any migratory nongame bird as designated in the MBTA; the taking, possessing, or needlessly destroying of the nest or eggs of any bird; or the taking of any nongame bird pursuant to CFGC Section 3800.

Sections 3511, 4700, 5050, and 5515. Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the CFGC. These statutes prohibit take or possession of fully protected species. CDFW is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species.

Sections 4000–4003. Under Section 4000 of the CFGC, it is unlawful to conduct activities that would result in the taking, possessing, or destroying of any fur-bearing mammals, including kit foxes, without prior authorization from the CDFW.

CEQA *Guidelines*, Section 15380

In addition to the protections provided by specific federal and state statutes, *CEQA Guidelines* Section 15380(b) provides that a species not listed on the federal or state list of protected species nonetheless may be considered rare or endangered for purposes of CEQA if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the ESA 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 effort 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 1900–1913)

California's NPPA requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of the NPPA prohibit the taking of listed plants from the wild and require notification of CDFW at least 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 Plant Act (California Food and Agricultural Code Sections 800071–80075)

The CDNPA 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 CDNPA 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*)
- Catclaw (*Acacia greggii*), desert-holly (*Atriplex hymenelytra*), smoke tree (*Dalea spinose*), and desert ironwood (*Olneya tesota*)

Local

Kern County General Plan

The Kern County General Plan identifies the federal, state, and local statutes, ordinances, or policies that govern the conservation of biological resources that must be considered by Kern County during the decision-making process for any project that could affect biological resources.

The Land Use, Open Space, and Conservation Element of the Kern County General Plan states that the element provides for a variety of land uses for future economic growth while also ensuring the conservation of the County's agricultural, natural, and resource attributes. Section 1.10, *General Provisions*, provides goals, policies, and implementation measures that apply to all types of discretionary projects.

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

1.10 General Provisions; 1.10.5 Threatened and Endangered Species

Goal

Goal 1: Ensure that the County can accommodate anticipated future growth and development while 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 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.

1.10.5 – Threatened and Endangered Species

Policy

Policy COS. 27: Threatened or endangered plant and wildlife species should be protected in accordance with state and federal laws.

Policy COS. 28 The County should work closely with state and federal agencies to assume that discretionary Projects avoid or minimize impacts on fish, wildlife, and floristic resources.

Policy COS. 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 COS. 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 COS. 31. Under the provision of CEQA, the County, as lead agency, will solicit comments from the CDFG and the USFWS when an environmental document (Negative Declaration, Mitigated Negative Declaration, or EIR) is prepared.

Policy COS. 32 Riparian areas will be managed in accordance with the USACE and the CDFG 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.

Willow Springs Specific Plan

The project site occurs within the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in 1992 and amended in 2008 as part of the Land Use, Open Space, and Conservation Element of the Kern County General Plan. Its goals, policies, and standards are compatible with those of the General Plan, but are tailored to the particular needs of the expanded Willow Springs area. The biological resources-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project are outlined below (Kern County, 2008). Note that only applicable goals, policies, and standards are included here; those goals, policies, and standards that are not applicable are not included.

Resource

Policy

Policy 3: To ensure compliance with applicable State and federal laws and to protect the biological resources present in the Specific Plan area.

Mitigation/Implementation Measures

Measure 15: Where possible, project development within the Specific Plan Update area shall be designed to avoid displacement of destruction of Joshua tree habitat, to the satisfaction of the Kern County Agricultural Commissioner's Office. Areas adjacent to the woodland shall have a 50-foot setback from the Joshua tree plants. Within that setback, a native plant cover should be restored to natural habitat values to serve as a buffer, if such plant cover is not present.

Measure 16: A Joshua Tree Preservation and Transportation Plan shall be developed by the applicants for each parcel where Joshua trees are located onsite. The plan shall be submitted to the Kern County Agricultural Commissioner's office for review and approval to grading permit issuance.

Measure 23: A Joshua Tree Preservation and/or Transplantation Plan shall be developed by applicants of discretionary projects for each parcel where Joshua trees are located onsite. The plan shall be submitted to the Kern County Agricultural Commissioner for review and approval prior to grading permit issuance.

Measure 24: Prior to issuance of any grading permits for individual projects, individual project applicants shall consult with the Regional Water Quality Control Board, State Department of Fish and Game and/or U.S. Fish and Wildlife Service, and the Army Corps of Engineers to identify potentially required permits. Compliance with this measure will be confirmed through the submittal of a letter (in conjunction with

submittal of grading permit applications) to the County demonstrating compliance with the above-mentioned agencies.

Measure 25: Prior to issuance of permits, individual project applicants shall obtain appropriate permits as determined necessary by the Regional Water Quality Control Board, U.S. Fish and Wildlife Service, State Department of Fish and Game, and Army Corps of Engineers.

Biological Resources

Policies

Policy 1: Where possible, development shall be designated to avoid displacement of sensitive species.

Policy 2: Focused surveys shall be conducted by a County-approved biologist to establish the presence or absence of sensitive species.

Policy 3: Initial development within the area covered under the Willow Springs Specific Plan, when possible, will be directed towards previously impacted areas.

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 and operation of the proposed project. It describes the sensitive biological resources located on and adjacent to the project site that may be affected and identifies the thresholds used to 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, the *Biological Analysis Report* (QK, 2021a) the *Aquatic Resources Delineation Report* (QK, Inc., 2020b) and the *Western Joshua Tree (Yucca brevifolia) Woodlands Analysis* (QK, 2022), prepared for the project. Biological resources evaluated included sensitive habitats, special-status plant and animal species, and potential for wildlife movement corridors. The potential for special-status species to occur on the project site is based on the results of database research, biological assessments, surveys conducted on the project site and vicinity, presence of suitable habitat, and the proximity of the project site to previously recorded occurrences in the CNDDB, CDFW, and USFWS data. The impact analyses presented here address potential biological resources located on the project site based on results of field surveys detailed in Appendix C-1 of this EIR.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in of the *CEQA Guidelines* Appendix G, 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 CDFW or the USFWS;

b. Has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or the USFWS;

c. Has a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

Project Impacts

Impact 4.4-1: The project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

One special-status plant species, alkali mariposa lily, was found within the BSA and three other special-status species have potential to occur within the BSA: Lemmon's jewelflower, Clokey's cryptantha, and recurved larkspur. Joshua trees, which are protected by the Desert Native Plants Act and a candidate species under CESA, were also present on portions of the project site. These species are discussed below.

Special-Status Plants

Alkali Mariposa Lily

The Alkali Mariposa lilies were predominantly located in three clusters, cluster A had approximately 1,000 individuals, cluster B had approximately 270 individuals, and cluster C had approximately 54 individuals. There were 101 individual plant observed to occur along the Holiday Avenue gen-tie route. In addition to this population, one lone specimen was present within Annual Grassland habitat, in CUP Area 4 (QK, 2021a). There were no populations of this plant on the preferred gen-tie route along Gaskell Road.

If the gen-tie route Alternate Route 2 along Holiday Avenue is implemented, strategic power pole placement will allow complete avoidance and reduce the potential to impact alkali mariposa lilies. However, the spread of dust during construction could cause indirect impacts to the species, as could the spread of non-native or invasive species caused by project activities.

Impacts to the species would be significant if substantial portions of the populations are eliminated. With an overall population count of approximately 1,425 individuals, the removal of up to 140 individuals (10 percent) would not significantly impact the population. The proposed project would likely eliminate the single specimen within CUP Area 4, but most of the observed population within the gen-tie Alternate Route 2 would be avoided if upgrades of the transmission lines and areas of disturbance were designed to avoid the plants. Implementation of Mitigation Measure MM 4.4-1 and MM 4.4-2 listed below, would reduce impacts to this species to less than significant. These mitigation measures require special-status plant surveys and actions such as alkali mariposa lily avoidance and relocation or transplantation, and development and implementation of an invasive species control plan. It is anticipated that this species would not colonize the project sites during operation and impacts in this regard would be less than significant

Lemmon's Jewelflower

The Lemmon's jewelflower was not found during any of the surveys but could occur within the BSA in Desert Scrub and Annual Grassland habitats. This species is most likely to occur within Desert Scrub habitat in CUP Areas 1 and 2, the Holiday Avenue and Rosamond Boulevard gen-tie routes, and the eastern portion of CUP Area 3 where the habitat has not been previously disturbed. If plants are present direct impacts could occur from damage or destruction of plants during construction and indirectly from the creation of dust and from the spread of invasive plant species. Operation of the

project during routine maintenance activities also could harm the plant if present. Although this species was not observed on the project site and it is unlikely to be present , if present, implementation of MM 4.4-1 and MM 4.4-2, would reduce the potential for impacts to less than significant. These measures require special-status plant surveys, salvage and relocation of Lemmon's jewelflower if avoidance is not feasible, and development and implement of an invasive species control plan. It is anticipated that this species would not colonize the project sites during operation and impacts in this regard would be less than significant.

Clokey's Cryptantha

Clokey's cryptantha was not found within the BSA during the floristic surveys but could potentially be present in the Alkali Desert Scrub and Desert Scrub habitats within CUP Areas 1 and 2, the gen-tie Alternate Route 2 along Holiday Avenue, and the eastern portion of CUP Area 3 where the habitat has not been disturbed. If plants are present, direct impacts could occur during construction from damage or destruction and indirectly from dust and the potential spread of invasive plant species. Operation of the project during routine maintenance activities also could harm plants if present. There is no evidence that this species is present on the project site and it is unlikely that the project would result in direct or indirect impacts. If present, impacts to Clokey's cryptantha would be reduced to less than significant through implementation of MM 4.4-1 and MM 4.4-2. These measures require special-status plant surveys, salvage and relocation of Clokey's chryptantha if avoidance is not feasible, and development and implement of an invasive species control plan. It is anticipated that this species would not colonize the project sites during operation and impacts in this regard would be less than significant.

Recurved Larkspur

Recurved Larkspur was not found within the BSA during the floristic surveys but could potentially be present in the Alkali Desert Scrub and Desert Scrub habitats. This species would most likely be present within Desert Scrub habitat in CUP Areas 1 and 2, the gen-tie Alternate Route 2 along Holiday Avenue, and the eastern portion of CUP Area 3 where the habitat has not been disturbed. If plants are present impacts could occur during construction which would create dust, and potentially result in the spread of invasive plant species and operation of the project during routine maintenance activities. Although there is no evidence that this species is present on the project site it is unlikely that the project would result in impacts to this species. If present, implementation of MM 4.4-1 and MM 4.4-2, listed below, would reduce impacts to this species to a less than significant level. These measures require special-status plant surveys, salvage and relocation of recurved larkspur if avoidance is not feasible, and development and implement of an invasive species control plan. It is anticipated that this species would not colonize the project sites during the operational phase of the project, and it is assumed that there would be no impacts to this species during the operational phase.

Western Joshua Tree

Approximately 1,084 individual Joshua trees were identified with the trees mainly occur within CUP Areas 2 and 3, and along the gen-tie Alternate Route 2 along Holiday Avenue, but also occur in the northwestern corner of CUP Area 1 (see Figures 4.4-5 through 4.4-7). Joshua trees along the three gen tie routes are not expected to be substantially impacted by the power pole installation activities as the power pole installation and work areas could be planned around them ensuring approximately one hundred trees would be avoided. However, approximately three hundred and fifty Joshua trees

occurring within CUP Areas 2 and 3 would be directly impacted by the proposed project. Joshua trees identified along the gen-tie routes can be avoided by strategic power pole placement.

As noted in the Joshua tree woodlands and canopy analysis, it was determined that Joshua trees on the project do not exhibit a high enough canopy cover to qualify as a Joshua Tree Woodland (QK, 2022). However, individual plants are a protected resource under the CDNPA and as a State candidate species. While the removal of the approximate 11 trees from CUP Area 1 would not be a significant impact to the species, the removal of the Joshua trees from CUP Areas 2 and 3 would be considered significant. The project will be designed to avoid as many Joshua tree as feasible, and there are portions of the site where setbacks and no build areas are being established that would also reduce the number of Joshua trees removed as a result of project construction. If Joshua tree cannot be avoided, the project would obtain a Section 2081 Incidental Take Permit from CDFW, which could require additional protection measures, the purchase of compensatory mitigation land and /or credits in an established mitigation bank, as well as payment of compensation fees.

Implementation of Mitigation Measure MM 4.4-3, would reduce impacts to the species to a less than significant level. Among other things, this mitigation measure requires development and implementation of a Joshua Tree Protection Plan, implementation of avoidance and mitigation measures, compensatory mitigation for impacts to Joshua Trees. It is anticipated that this species would not colonize the project sites during operation and impacts in this regard would be less than significant

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. With implementation of Mitigation Measures 4.4-1 through 4.4-3, impacts to special status plant species would be less than significant.

Special-Status Wildlife

Special-status wildlife species within the project site include burrowing owl, Swainson's hawk, loggerhead shrike, LeConte's thrasher, and desert kit fox. Additionally, the northern legless lizard, Townsend's big-eared bat, desert tortoise, and American badger have the potential to occur on the project site. Construction of the project could result in the direct impacts to these special-status species if any are present during ground disturbance and construction. Additional discussions of impacts to these species are included further below.

Northern Legless Lizard

The Northern Legless Lizard was not found during site surveys but has potential to occur in areas containing desert scrub habitat. If present, direct impacts to the species could occur including mortality or injury during ground disturbance and loss of suitable habitat. Implementation of MM 4.4-11 and MM 4.4-12 would reduce impacts to less than significant. These measures require a qualified biologist to monitor project construction activities, cessation of project construction as necessary to allow special status wildlife to leave the area or be relocated by an authorized biologist, and worker environmental awareness training regarding special status species with the potential to occur on the project site.\

Western Burrowing Owl.

The western burrowing owl is present in the region year-round and one individual was observed on the project site. It also is possible for transient burrowing owls to inhabit the project site including during the operational phase. Direct impacts from construction from crushing of burrows or direct mortality to birds could occur if there is an active burrow within or adjacent to the project site. In addition, noise and vibration, and human activity during both construction and operation (but likely to a lesser degree than construction activities) could disrupt birds and typical behaviors resulting in displacement from burrows or lead to nest failure. Implementation of MM 4.4-4, MM 4.4-6, MM 4.4-7, MM 4.4-11, and MM 4.4-12 would reduce impacts to less than significant. These measures require completion of pre-activity surveys, establishment of avoidance buffers, excavation of unoccupied burrows by a qualified biologist, implementation of avoidance and minimization measures designed to protection wildlife, project construction monitoring by a qualified biologist, cessation of project construction as necessary to allow special status wildlife to leave the area or be relocated by an authorized biologist, and worker environmental awareness training regarding special status species with the potential to occur on the project site.

Swainson's Hawk

Potential Nesting Impacts. Two Swainson's hawks nests were observed in proximity to the project site during the 2021 field season survey, one approximately 0.6 miles away, and one approximately 0.2 miles away from the project site. Neither nest however, remained active and there were no active nests within the project site. There is, however, potential nests existing within 0.5 miles. Further from the project site, there are at least ten known nesting Swainson's hawk pairs occurring within 5 miles of the project footprint recorded over the last 5 years.

If construction occurs in proximity to an off-site nest, the noise and vibration and presence of workers could disrupt the nest, cause the young to prematurely fledge or result in abandonment of the nest. Such effects could alter the reproductive success of a nest with 0.5 miles. To account for this potential the project would implement Implementation of MM 4.4-8, MM 4.4-9, MM 4.4-11, and MM 4.4-12 which would reduce impacts to less than significant. These measures require a qualified biologist to monitor project construction activities, cessation of project construction as necessary to allow special status wildlife to leave the area or be relocated by an authorized biologist, worker environmental awareness training regarding special status species with the potential to occur on the project site, and compliance with APLIC standards for all power lines to reduce electrocution and collision risk. These measures further require the project proponent to prepare and implement a Swainson's Hawk Monitoring and Mitigation Plan designed to avoid and minimize impacts to nesting Swainson's hawks during project construction, and to mitigate for loss of Swainson's hawk foraging and nesting habitat by providing habitat management lands within the Antelope Valley Swainson's hawk breeding range at a minimum 0.5:1 ratio.

Loss of Foraging Habitat. The nests identified within 5 miles of the project are considered in this evaluation of impacts as a standard assumption is that Swainson's hawks typically forage within 10 miles of a nest site. To estimate loss of foraging habitat, a 10-mile foraging area was centered on the project footprint as well as around the existing known nest sites. This equated to approximately 226,007 acres of available foraging habitat within a 10-mile distance around the project footprint and around existing known nest sites (Figure 4.4-8 through 4.4-10). Existing solar facilities, mountains, urban landscape, and other unsuitable habitat was eliminated from potential foraging habitat acreage. This results in the project footprint, 1,292 acres, representing

approximately 0.5 percent of available foraging habitat for those known occurrences of nesting Swainson's hawks (10 miles of the project footprint and around existing known nest sites).

An analysis of the foraging habitat on the construction site was conducted for the project and surrounding 250-foot buffer area. The project site foraging habitat types used the same ranking habitat as described in *Section 4.4-2* and shown in Table 4.4-7, as low, moderate and high value foraging habitat. The project site contains low and medium foraging habitat with no high value foraging habitat. Approximately 622.7 acres of the project are classified as low quality foraging habitat (Desert Scrub consisting of dense creosote brush, low visibility to a prey base, a lower density of small mammal burrows and/or close proximity to existing solar fields for foraging Swainson's hawks), where conditions for foraging are not preferred. Approximately 668.1 acres of the project site contain moderate foraging habitat for Swainson's hawk, open Grassland where visibility to prey is more optimum and contains a greater amount accessibility to prey base. Approximately 9.8 acres of the project site are barren or contain existing infrastructure which contain no foraging habitat for Swainson's hawks (QK, 2021a). The project footprint contains several types of vegetation types that are most prevalent, Desert Scrub (approximately 662 acres) and Annual Grassland (approximately 668 acres) vegetation types cover approximately 93 percent of the project site. Compensation of the loss of such foraging habitat should be commensurate with the lack of high quality habitat on the project and the availability of higher quality foraging habitat within 10 miles.

Based upon observations during site surveys, much of the Annual Grassland habitat is covered in non-native plant species and much of this habitat has been previously disturbed providing low to moderate foraging habitat. Current conditions are moderately favorable for the small mammal prey base utilized by foraging Swainson's hawks. However, because the project footprint is either adjacent to or "filling in" gaps between existing solar facilities and there are no large expanses of open grassland, irrigated farm land or Desert Scrub within the project areas that provide high value foraging habitat, the land within the project site provide low to moderate foraging habitat with a reduced potential for foraging Swainson's hawks. Overall, with the implementation of the above mentioned Mitigation Measures, impacts would be less than significant to the loss of Swainson's hawk foraging habitat.

Townsend's big-eared bat

There is no suitable roosting habitat for the Townsend's big-eared bat on or near the project site, but it could be present on the site as a transient forager. Direct or indirect impacts to individuals are not anticipated to occur and no measures are warranted or required.

Desert Tortoise

No desert tortoises or positive sign of the species (burrows, scat) were present during the on-site surveys. CNDDB records do document tortoise burrows within approximately 1.5 miles to the north. Some suitable desert scrub habitat is within the project site and would provide suitable burrowing and foraging habitat and establishment within the project site is possible. If, however, tortoises are present, direct impacts could include mortality or injury during construction activities and, noise, vibration, and increased human activity could alter the normal behaviors of tortoises, affecting overall fitness and reproductive success, making them more vulnerable to predation, or causing them to void their water stores. While it is unlikely that tortoises would be present due to lack of sign and disturbed nature of on-site habitats and the surrounding solar panel arrays, tortoises

would be deterred from moving into the project site. Nonetheless, if the species is present, implementation of MM 4.4-4, MM 4.4-5, MM 4.4-11 and MM 4.4-12 would reduce impacts to the species to less than significant. These measures require a qualified biologist to monitor project construction activities, cessation of project construction as necessary to allow special status wildlife to leave the area or be relocated by an authorized biologist, and worker environmental awareness training regarding special status species with the potential to occur on the project site. These measures further require completion of pre-activity surveys to determine potential presence of special status species such as desert tortoise. If evidence of desert tortoise is found, MM 4.4-5 requires the completion of desert tortoise preconstruction clearance surveys, potential installment of exclusionary fencing (as determined in consultation with CDFW), environmental awareness training, and authorizes a biological monitor to stop work as necessary to avoid impacts to tortoises.

Loggerhead Shrike

The Desert Scrub habitat and grassland habitat with suitable perching structures could provide suitable nesting and foraging habitat for loggerhead shrike. Two individual and active loggerhead shrike nests were present on the northern side of the project area. Direct impacts to this species could occur during construction from destruction of active nests. In addition, noise, vibration, and increased human activity could alter normal behaviors resulting in nest failure, reduced foraging success, and displacement of individuals from established territories. Impacts, however, would be minimized through implementation of Mitigation Measure 4.4-11 and MM 4.4-12. These measures require a qualified biologist to monitor project construction activities, cessation of project construction as necessary to allow special status wildlife to leave the area or be relocated by an authorized biologist, and worker environmental awareness training regarding special status species with the potential to occur on the project site.

American Badger

No badgers, badger dens, or other sign of the species were present. Nonetheless, there is suitable denning and foraging habitat over the majority of the project site and the species is known to occur in the area historically. Thus, the species is highly mobile and could become established within the project site or pass through a transient forager at any

If this species is present, direct impacts could occur from motility or injury caused by entrapment or crushing individuals within dens or from vehicle strikes. Indirect impacts could occur from creation of noise, vibration, and the presence of construction workers that could alter normal behaviors, which would affect reproductive success, foraging success, or displacement from active dens. Operational activities also could impact as it is assumed the species could be transient through the site during operations. Implementation of Mitigation Measures MM 4.4-4, MM 4.4-6, MM 4.4-7, MM 4.4-11, and MM 4.4-12 are proposed and would reduce impacts to less than significant. These measures require a qualified biologist to monitor project construction activities, cessation of project construction as necessary to allow special status wildlife to leave the area or be relocated by an authorized biologist, and worker environmental awareness training regarding special status species with the potential to occur on the project site. These measures further require completion of pre-activity surveys to determine potential presence of special status species such as American badger. If American badger dens are found, MM 4.4-6 requires the establishment of avoidance buffers and allows for excavation of unoccupied dens by a qualified biologist. Mitigation Measure 4.4-7 requires implementation of avoidance and minimization measures to reduce the potential for impacts to American Badger.

LeConte's Thrasher

Two individual LeConte's thrashers and an active nest were present on the northern site of the project site. The desert scrub habitat within the project site provides suitable nesting and foraging habitat as well as the grassland habitats where there are suitable perching structures. Construction activities could result in direct impacts to this species from destruction of active nests or injury to the birds. Indirect impacts also could be caused by noise, vibration, and increased human activity that could alter normal behaviors, resulting in nest failure, decreased foraging success, and displacing individuals from established territories (loss of suitable habitat). Implementation of Mitigation Measure MM 4.4-10 through MM 4.4-12 are proposed and would reduce impacts to less than significant. These measures require a qualified biologist to monitor project construction activities, cessation of project construction as necessary to allow special status wildlife to leave the area or be relocated by an authorized biologist, worker environmental awareness training regarding special status species with the potential to occur on the project site, and compliance with APLIC standards for all power lines to reduce electrocution and collision risk. These measures further require completion of pre-activity nesting surveys if project activities will occurring during nesting season. Active nests may be protected by an avoidance buffer of 250 to 500 feet, as determined by a qualified biologist.

Desert Kit Fox

Suitable habitat to support the desert kit fox occurs throughout most of the BSA, particularly in the Desert Scrub habitat. This species is known to occur in the project area as the remains of a kit fox were found in the annual grassland habitat in the central portion of the project site, and along Rosamond Boulevard from a vehicle strike. (Figures 4.4-11 through 4.4-13). Multiple potential kit fox dens were found within the BSA, particularly in the more open Desert Scrub habitats. Because of their mobility and range, this species could be present anywhere within the BSA, including during the operational phase of the project, either as a resident or transient forager.

Construction activities could result in direct impacts from mortality or injury caused by entrapment or crushing individuals within dens or from vehicle strikes. Indirect impacts could result from noise and vibration, and presence of people that could alter normal behavior of the animals. This also could affect reproductive success, foraging success, or displacement from active dens. Implementation of MM 4.4-4, MM 4.4-6, MM 4.4-7, MM 4.4-11, and MM 4.4-12 would reduce impacts to less than significant. These measures require a qualified biologist to monitor project construction activities, cessation of project construction as necessary to allow special status wildlife to leave the area or be relocated by an authorized biologist, and worker environmental awareness training regarding special status species with the potential to occur on the project site. These measures further require completion of pre-activity surveys to determine potential presence of special status species such as desert kit fox. If desert kit fox dens are found, MM 4.4-6 requires the establishment of avoidance buffers and allows for excavation of unoccupied dens by a qualified biologist. Mitigation Measure 4.4-7 requires implementation of avoidance and minimization measures to reduce the potential for impacts to desert kit fox.

Nesting Birds

The entire BSA contains habitat suitable to support a wide variety of habitat including Joshua trees, ornamental trees, shrubs, man-made structures, power lines, utility poles, and the ground for native nesting birds. Nests of multiple species were present within the BSA including loggerhead shrike,

Swainson's hawk, horned lark, and cactus wren. Construction could result in direct impacts (destruction of nests) to species if they are present. In addition, noise, vibration, and increased human activity could alter normal species behaviors, resulting in nest failure. Lastly, loss of suitable habitat could cause indirect impacts the species resulting from the loss of potential nesting habitat. Implementation of Mitigation Measures MM 4.4-9 through MM 4.4-12 are proposed and would reduce impacts to less than significant. These measures require a qualified biologist to monitor project construction activities, cessation of project construction as necessary to allow special status wildlife to leave the area or be relocated by an authorized biologist, worker environmental awareness training regarding special status species with the potential to occur on the project site, and installation of power lines in conformance with APLIC standards. These measures further require completion of pre-activity nesting surveys if project activities will occurring during nesting season. Active nests may be protected by an avoidance buffer of 250 to 500 feet, as determined by a qualified biologist.

Wintering Migratory Birds and Raptors

The project site contains suitable foraging habitat for a variety of wintering migratory birds and raptors including rufous hummingbird and long-billed curlew which were observed on the project site but such species are not anticipated to nest within the BSA. Accordingly, it is likely that migratory birds and raptors would be present as transient foragers during the winter and during the spring and fall migratory periods. Project activities could affect foraging behavior, but are unlikely to result in mortality or injury, or decrease reproductive success.

Suitable foraging habitat for raptors includes open desert scrub communities present on and adjacent to the project site. The availability of suitable foraging habitat on the project site for raptors 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.

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.

A study discussed in the BAR (*Background Avian Mortality Across the California Desert Region*) that did focus on PV solar projects estimated avian mortalities ranging from 1.82 to 2.49 mortalities per megawatt per year (QK, 2021a) . Applying these values to the proposed project results in an estimated annual avian mortality rate of 182 to 249 mortalities per year. This is a very small mortality rate compared to injuries and death from natural causes in the region each year from natural and other anthropogenic causes

To ensure direct and indirect impacts to migratory birds and minimized, Mitigation Measures MM 4.1-6 and MM 4.1-7 would be implemented to ensure solar panels, hardware, and onsite buildings are designed to minimize glare as described in Section 4.1, Aesthetics. Impacts to migratory birds would be less than significant during operation and maintenance with the implementation of these mitigation measures.

Decommissioning

Upon decommissioning, the solar PV panels would be removed requiring disturbance of the project site and some areas of compacted soil (e.g., on roads, laydown yards, and structure foundations). The post-project condition of the project site as a result of project construction and operation would be different than pre-project conditions. If special-status species have recolonized the project site during operation, decommissioning could impact these species. 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 wildlife re-occupy the project site during operations, these species could be directly impacted by decommissioning, similar to the direct impacts described for construction. Wildlife with the potential to utilize partially-developed habitats and man-made structures include burrowing owls, kit fox, badger, and nesting birds. Burrowing owls are known to use burrows under concrete slabs and along active road berms.

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. Depending on the species and biological resources present within and adjacent to the project site at the time of decommissioning, decommissioning activities could result in significant impacts to biological resources. However, Mitigation Measures MM 4.4-1 through MM 4.4-12 require biological monitoring, worker education training, and measures for avoidance and protection of biological resources. 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.

As discussed above, implementation of the avoidance and minimization listed below and summarized throughout the discussion of construction impacts would reduce project impacts to special-status plant and wildlife species to less than significant.

SCE Interconnection Facilities

Impacts associated with construction of the SCE Interconnection Facilities are expected to encompass a relatively small footprint and minimal ground disturbance within the existing Whirlwind power station. SCE's standard best management practices and APMs include pre-construction biological resources inventory and data recovery, if necessary, and minimization or avoidance of impacts to any potentially significant biological 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 Biological Resources Specialist.

Mitigation Measures

Implement Mitigation Measures MM 4.1-6 and MM 4.1-7 from Section 4.1 *Aesthetics*, and:

MM 4.4-1: Prior to the issuance of grading or building permits, the project proponent/operator shall conduct preconstruction surveys to map the location and quantify the number of plants on the project site protected by the CNDPPA and proposed for removal. The project proponent/operate shall pay the required fee to remove these plants in accordance with the California Desert Native Plants Act prior to construction activities.

Prior to any ground disturbance a qualified biologist shall conduct pedestrian survey of project areas and a 100-foot buffer to determine if alkali mariposa lily, lemmon's jewelflower, or recurved larkspur are present. All surveys shall be conducted during the blooming periods for the species and in accordance with United States Fish and Wildlife (USFWS) and California Department of Fish and Wildlife (CDFW) protocols. Surveys for alkali mariposa lily shall occur between April and June; surveys for Lemmon's jewelflower shall occur between February to May; surveys for Clokey's cryptantha shall occur in April; and surveys for recurved larkspur shall occur between March and May. Locations of special status plants shall be mapped and included to a Biological Site Review Report (BSRR), if no special-status plants are identified during the survey(s) no further actions would be required. If special status plants are located the following shall occur:

If special-status plants are located, Ecologically Sensitive Area (ESA) fencing will be established at a 50-foot radius around the plant populations. If special-status plants cannot be avoided, the CDFW will be provided the opportunity to salvage and relocate the plants. The CDFW will be notified within 10 days prior to salvage of any Alkali mariposa lily, Lemmon's jewelflower, or recurved larkspur that would be disturbed or lost due to project activities. If CDFW declines to salvage and relocate special-status plants that cannot be avoided, a qualified biologist shall conduct salvage and relocation. Salvage activities shall include the relocation of the topsoil and seedbanks within a 50-foot radius of any individuals that cannot be avoided. Plants will be relocated to an undisturbed area with the project site. All mitigation efforts under this measure shall be coordinated with the Kern County Planning and Natural Resources Department prior to implementation of the plan. Verification of implementation of this measure shall be submitted to Kern County Planning and Natural Resources Department.

MM 4.4-2: Prior to initial ground disturbance, the applicant shall develop a plan to minimize the spread of invasive species and reduce dust that could spread invasive species. The plan shall be approved by the Kern County Planning and Natural Resources Department. The plan shall include methods to minimize introduction and spread of invasive and non-native plant species. The spread of invasive species and their seeds shall be avoided and controlled, through the use of watering or soil stabilizer(s) during construction. Watering and soil stabilizer(s) shall be used in areas under construction (i.e. active grading, trenching, etc.) or unpaved or non-gravel roadways (dirt) being used to transport or move materials and machinery within the project site. In addition, construction entrances and exits shall be

stabilized (using rip-rap and/or metal grates) to minimize off-site transport of materials that may contain invasive species or seeds.

If invasive species are located during construction, they shall be removed from the project site during construction. All plants shall be removed from the site and disposed of in a manner that prohibits their spread on-and off-site. Areas where invasive plants are removed and cleared during construction will not be used for project activities or needed for access (i.e. roadways); and will be 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.

Prior to removal and destruction of invasive plants or reseeding temporary ground disturbance areas, the qualified biologist will review the removal and destruction plan, and 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 4.4-3: Prior to any ground disturbance, a qualified biologist shall prepare a Joshua Tree Preservation Plan (JTPP). The JTPP shall be developed in coordination with the California Department of Fish and Wildlife (CDFW) and shall apply to Joshua trees within the project footprint that cannot be avoided. As part of the JTPP, all trees shall be individually identified, evaluated, to determine if preservation or transplantation is appropriate.
The JTPP shall show which Joshua trees shall be avoided and protected, and those Joshua trees shall be protected from construction activities by fencing, flagging, or stakes establishing a buffer to protect the dripline plus no less than 5 feet from the dripline. Project proponent/operator shall maintain and/or replace those temporary protection measures as needed during construction. After construction is complete, project proponent/operator may remove those temporary protective materials after consulting and receiving written approval from a qualified biologist

The project proponent/operator shall obtain a CDFW 2081 Incidental Take Permit (ITP) if required for those Joshua tree that cannot be avoided or preserved on the project site, and shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth in any incidental take permit issued for the project. To the extent feasible, the development along the gen-tie routes shall be spaced to avoid Joshua Trees. In instances they could not be avoided, the requirements of CDFW 2081 ITP shall be applied. All trees removed may be salvaged to the extent feasible and as allowed by issued permits.

MM 4.4-4: Within 14 days of the start of project ground disturbance activities, a pre-activity survey shall be conducted by a qualified biologist. If needed, the timing of the pre-activity surveys may be phased to ensure appropriate evaluation before initiation of ground disturbance. If greater than 14 days elapse between the survey and the start of activities, an additional survey shall be required.

The pre-activity survey shall include walking transects to identify presence of burrowing owls and their burrows, desert tortoise and their burrows, American badgers and their dens, and desert kit foxes and their dens. The pre-activity survey

shall be walked using transects spaced at intervals of not greater than 30 feet to enable 100 percent coverage of the project site and a 250-foot buffer. Some areas of the buffer may not be accessible (other private land and inaccessible property) so transects within the buffer shall only be required where feasible. If no evidence of these special-status species is detected, no further action is required. If evidence special status species are detected, the following mitigation (MM 4.4-5 through MM 4.5-7) for the listed terrestrial species shall be required. Results of the surveys will be documented in a written report provided to the County.

MM 4.4-5: If evidence of desert tortoise is identified during the pre-activity surveys conducted pursuant to MM 4.4-4, prior to the start of project ground disturbance activities, qualified personnel shall perform a preconstruction clearance survey for desert tortoise. If the species is present on-site, individual(s) shall be allowed to leave the site on their own, and in consultation with California Department of Fish and Wildlife (CDFW), the applicant may be required to install exclusionary/perimeter fencing, with mesh attached to the fence fabric extending from approximately 12 inches below grade to approximately 24 inches above grade to ensure no tortoises re-enter the work limits. No person(s) shall be allowed to touch a tortoise without authorization from the US Fish and Wildlife Service (USFWS) and CDFW.

Environmental awareness training shall be provided for all construction personnel to educate them on desert tortoise, protective status, and avoidance measures to be implemented by all personnel, including looking under vehicles and equipment prior to moving. If tortoises are encountered, such vehicles shall not be moved until the tortoises have voluntarily moved away from them or a qualified biologist has moved the tortoises out of harm's way.

If a tortoise is present, a biological monitor shall be present during all disturbance activities in the vicinity of exclusionary fencing (if required) and shall have the authority to stop work as needed to avoid direct impacts to tortoises. Periodic biological inspections and maintenance shall be conducted during the construction period to ensure the integrity of exclusionary fencing (if required). Work may proceed within the excluded area when the biologist confirms all tortoises have left the excluded area. Should tortoises be found during construction activities, the biological monitor shall have the authority to stop work as needed to avoid direct impacts to tortoises, and further consultations with the USFWS and CDFW shall take place. Trash and food items shall be contained in closed containers and removed daily to reduce attractiveness to opportunistic predators of desert tortoise (e.g., ravens, coyotes, and feral dogs).

MM 4.4-6: If dens or burrows that could support any of these species are discovered during the pre-activity survey conducted under Mitigation Measure MM 4.4-4, 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 only)

- Non-breeding season (September 1 – January 31): 160 feet
- Breeding season (February 1 – August 31): 250 feet

American Badger and Desert Kit Fox

- Potential or Atypical den: 50 feet
- Known den: 100 feet
- Natal or pupping den: 200 feet.

Burrows and dens may be excavated by a qualified biologist once it is determined that the burrow or den is not occupied. To determine occupation, each den shall be monitored for three consecutive days/nights using tracking medium and/or remote cameras fitted with a motion detector and/or infra-red triggering system. In addition, prior to excavation of burrows or dens, one-way doors may be installed (only in non-breeding season) and the burrows or dens shall be scoped with optic cameras to ensure no occupation of wildlife are present. All excavations shall be accomplished by hand or backhoe under the direct supervision of a qualified biologist.

MM 4.4-7: The following avoidance and minimization measures should be implemented during all phases of the project to reduce the potential for impacts to sensitive species. These are modified from the U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance (USFWS 2011b) but they can be applied equally to protect all species.

a. Project-related vehicles should observe a daytime speed limit of 20-mph throughout the site in all project areas, except on County roads and State and federal highways.

b. All project activities should occur during daylight hours, but if work must be conducted at night then a night-time construction speed limit of 10-mph should be established.

c. Off-road traffic outside of designated project areas should be prohibited.

d. To prevent inadvertent entrapment of kit foxes or other animals during construction of the project, all excavated, steep-walled holes, or trenches more than two feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps spaced at a minimum distance of 100 feet and constructed of earthen-fill or wooden planks should be installed.

e. Before holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the CDFW should be contacted before proceeding with the work.

f. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes, American

badgers, and burrowing owls before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the animal vacates the pipe of its own accord. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox, badger, or burrowing owl has escaped.

g. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from a construction or project site.

h. No pets, such as dogs or cats, shall be permitted on the project site unless permitted in accordance with the Americans with Disabilities Act (ADA).

i. Project-related use of rodenticides and herbicides shall be restricted.

j. A representative shall be appointed by the project proponent/operator who will be the contact source for any employee or contractor who might inadvertently kill or injure one of these species or who finds a dead, injured, or entrapped animal. The representative should be identified during the employee education program and their name and telephone number should be provided to the CDFW.

k. Upon completion of the project, all areas subject to temporary ground disturbances (including storage and staging areas, temporary roads, pipeline corridors, etc.) shall be recontoured and revegetated to promote restoration of the area to pre-project conditions following a revegetation plan approved by the County. An area subject to "temporary" disturbance means any area that is disturbed during the project, but after project completion will not be subject to further disturbance and has the potential to be revegetated.

l. Any project personnel who are responsible for inadvertently killing or injuring one of these species should immediately report the incident to their representative. This representative shall contact the CDFW immediately in the case of a dead, injured, or entrapped kit fox, American badger, or western burrowing owl.

m. New sightings of American badger or western burrowing owl shall be reports to the CNDDB.

MM 4.4-8: a. The project proponent/operator shall mitigate the loss of Swainson's hawk foraging habitat by providing Habitat Management (HM) lands within the Antelope Valley Swainson's hawk breeding range at a 0.5:1 ratio for the loss of 668 acres of moderate quality foraging habitat. Project developers may consider delegating responsibilities for acquisition and management of the HM lands to the CDFW or a third party, such as a nongovernmental organization dedicated to Mojave Desert habitat conservation. Approaches for acquisition and management of HM lands include the following:

1. Identify the region within which lands would be acquired, and the type/quality of habitat to be acquired. Foraging habitat should be

moderate to good with a capacity to improve in quality and value to Swainson's hawks, and must be within the Antelope Valley Swainson's hawk breeding range. Foraging habitat with suitable nest trees is preferred.

2. Provide an acquisition proposal to the Department and the appropriate lead agency for their approval at least 3 months before acquiring the property. The proposal should discuss the suitability of the property by comparing it to the selection criteria.

3. If an irrevocable letter of credit or other form of security is provided, complete land acquisition within 12 months after beginning ground-disturbing project activities. Provide financial assurances for dedicating adequate funding for impact avoidance, minimization and compensation measures required for project approval.

4. Be prepared to provide a preliminary title report, initial hazardous materials survey report, biological analysis, at a minimum to the Kern County Planning and Natural Resources Department. The information will likely also be reviewed by the California Department of General Services, Fish and Game Commission and/or Wildlife Conservation Board. Fee title or conservation easement will likely be transferred to a Department of Fish and Game-approved non-profit third party and the Department, or solely to the Department. Be prepared to support enhancement and endowment funds for protection and enhancement of acquired lands. The Department will approve establishment and management of the funds, ensuring that qualified non-profit organizations or the Department will manage the funds in an appropriate manner. Contributed funds and any related interest generated from the initial capital endowment would support long-term operation, management, and protection of the approved HM lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and any other action designed to protect or improve the habitat values of the HM lands. Be prepared to reimburse the Department or other entities for all land acquisition costs.

b. The project proponent/operator shall perform preconstruction surveys to verify locations of Swainson's Hawks and active nests. The project proponent/operator shall be required to prepare and implement a Swainson's Hawk Monitoring and Mitigation Plan in coordination with the California Department of Fish and Wildlife and the Kern County Planning and Community Development Department. The Plan shall be prepared by a qualified wildlife biologist approved the County and shall include the following in order to avoid and minimize impacts to Swainson's hawks in and near the project site:

1. During the nesting season, ensure no new disturbances, habitat conversions, or other project activities that may cause nest

abandonment or forced fledging within 0.5 miles of an active nest between March 1 and September 15. Buffer zones may be adjusted in consultation with CDFW and the County.

2. The project proponent/operator shall not remove Swainson's hawk nest trees unless avoidance measures are determined to be infeasible. Removal of such trees should occur only during the timeframe of October 1 and the last day in February.

c. If an injured Swainson's hawk is found during project-related activities:

1. A plan should be in place to call for immediate relocation to a raptor recovery center approved by CDFW.

2. A system should be set up so that costs associated with the care or treatment of such injured Swainson's hawks will be borne by the project proponent/operator

3. Include appropriate contact information for immediate notification to CDFW and the County if a hawk injury incident occurs. Have an approved procedure in place to notify CDFW and the County inside of normal business hours. Notify the appropriate personnel via telephone or email, followed by a written incident report. Include the date, time, location, and circumstance of the incident in reports.

MM 4.4-9: 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 for collision-reducing techniques as 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 4.4-10 If project activities must start construction during the nesting season (February 1 to September 15) and construction activities occur within 0.5 miles from and active Swainson's hawk nest. If construction is initiated outside the nesting season, no additional action is required.

Pre-activity nesting bird surveys shall be conducted 14 days prior to the start of construction at the construction site and include a 250-foot buffer (avoidance buffer) for songbirds and a 500-foot buffer for raptors (other than Swainson's hawk). The surveys should be phased with construction of the project. If no active nests are found, no further action is required. However, existing nests may become active and new nests may be built at any time prior to and throughout the nesting season, including when construction activities are in progress. If active nests are found during the survey or at any time during construction of the project, an avoidance buffer ranging from 250 feet to 500 feet may be required, with the avoidance buffer from any specific nest being determined by a qualified biologist. Full-time monitoring of an active nest may be needed when activities are occurring at the fringe of a buffer to determine whether activities are affecting nesting birds.

Results of the monitoring may indicate a need to expand the size of avoidance buffer areas. The avoidance buffer shall remain in place until the biologist has determined that the young are no longer reliant on the adults or the nest. Work may occur within the avoidance buffer under the approval and guidance of the biologist, but full-time monitoring may be required. The biologist shall have the ability to stop construction if nesting adults show any sign of distress.

MM 4.4-11 A qualified biologist shall monitor all initial ground-disturbing activities. The qualified biologist shall be present at all times during initial ground-disturbing activities (including trenching) within and adjacent to habitat with the potential to support special-status wildlife species, including northern legless lizard, desert tortoise, burrowing owl, American badger, desert kit fox, and nesting birds. If a special-status species is found within the construction area, all construction shall cease immediately and the animal will be allowed to leave the area of its own accord or relocated by an authorized biologist to suitable habitat outside of the project area.

MM 4.4-12 Prior to the initiation of construction activities, all personnel shall attend a Worker Environmental Awareness Training (WEAT) program developed by a qualified biologist. The program shall include information on the life histories of special-status species with potential to occur on the project, their legal status, course of action should these species be encountered on-site, and avoidance and minimization measures to protect these species. All attendees at WEATs shall signify that they have received and understand the training material by signing an attendance sheet, which will be maintained on site. All attendees shall be provided with summary training materials that they can carry while on the job and can reference while working on the project.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.1-6 and MM 4.1-7 from Section 4.1 Aesthetics and Mitigation Measures MM 4.4-1 through MM 4.4-12 impacts would be less than significant. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard BMPs and APMs for pre-construction study, data recovery, and halting of construction of an biological resource is found. No mitigation measures are required for the SCE Interconnection Facilities.

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, or regulations or by CDFW or USFWS.

The project does not support any riparian or other sensitive natural communities, nor does it overlap with any designated critical habitat. The project would have no impacts to these resources and no measures are warranted.

SCE Interconnection Facilities

The SCE property is developed with the existing Whirlwind power station. The SCE interconnection facilities would be constructed within the existing power station and would not have the potential to impact riparian or other biological resources and will not be in conflict with any wildlife agency regional plans policies or regulations.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

Impacts would be less than significant for the project and the SCE Interconnection Facilities.

Impact 4.4-3: The project would have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

There are no wetlands on the project site.

The intermittent riverine feature in CUP Area 2, is a total of 2,973 linear feet and is a total of 1.826 acres. Isolated waters within the Lahontan Region, including this feature, are not considered "waters of the United States" and therefore are not be subject to regulation under the federal CWA. However, this feature qualifies as a water of the State and would likely be under the regulatory authority of the RWQCB (Lahontan Region) and CDFW, the latter of which takes jurisdiction over the bed, bank, and channel of water features and associated riparian habitat. The drainage, though, did not contain a defined bed or bank or ordinary high-water mark. In addition, the drainage is an isolated episodic water feature that typically only flows for brief periods in response to rainfall. The drainage flows in a northwest – southeast orientation and terminates on the southeast corner of CUP Area 2. This water feature historically extended 0.5 miles northeast of CUP Area 2, but a solar farm has been constructed over most of the northwest portion, which has eliminated the upstream water source at the western boundary of CUP Area 2. The upstream channels that have been eliminated are considered dormant, which reduces the potential for this feature to carry water.

The project would result in a maximum of 1.826 acres of disturbance to this feature. The final disturbance area would depend upon the final design and layout of the solar facilities. The elimination of this water feature may be considered a significant impact. If the project design avoids direct impacts to the riverine feature, there would be no significant impact.

To minimize impact to waters of the State and fulfill the regulatory requirements associated with discharges to waters of the State, the following measures would be implemented if the project cannot be designed to avoid the intermittent riverine feature. These measures address impacts resulting from construction and compensation for the loss of wetland and water resources. If the riverine feature is not determined to be a water of the State or under the jurisdiction of any agency, the following measures would not be warranted.

SCE Interconnection Facilities

The SCE property is developed with the existing Whirlwind power station. The SCE interconnection facilities would be constructed within the existing power station and would not have the potential to impact any wetland or water features. No mitigation is required.

Mitigation Measures

MM 4.4-13 The following measures shall be implemented prior to the start of ground disturbance activities to avoid impacts to the intermittent riverine in CUP Area 2.

1. Any material/spoils from project activities shall be located away from jurisdictional areas. Jurisdictional areas shall be protected from stormwater run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and/or straw bale barriers, as appropriate. Protection measures shall follow project-specific criteria as developed in the project's Stormwater Pollution Prevention and Protection Plan (SWPPP) required by MM 4.10-2.
2. Prior to the start of construction activities, the project proponent/operator shall provide evidence that all fueling and hazardous materials storage areas construction activities will be sited at least 100 feet away from on-site drainages and other water features, as identified in the project-specific delineation of wetlands and waters.
3. The project proponent should prepare a Hazardous Materials Business Plan (HMBP) in accordance with MM 4.9-1 and the California Health and Safety Code and Kern County regulations. The HMBP shall provide for hazardous material and hazardous waste storage areas; describe proper handling, storage, 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.
4. Any spillage of material shall be stopped if it can be done safely. The contaminated area will be cleaned, and any contaminated materials properly disposed. The project foreman or designated environmental representative shall be notified of all spills.

MM 4.4-14 The project shall be designed to avoid impacts to the intermittent riverine feature in CUP Area 2 to the extent feasible. If this feature cannot be avoided, the project proponent shall implement the following:

1. The project proponent/operator shall file a complete Report of Waste Discharge with the RWQCB to obtain Waste Discharge Requirements and shall also consult with California Department of Fish and Wildlife (CDFW) on the need for a Section 1602 Streambed Alteration Agreement. Copies of reports and any necessary permits shall be submitted to the Country.

2. Based on consultation with RWQCB and CDFW, if permits are required for the project site, appropriate permits shall be obtained prior to disturbance of jurisdictional resources.

3. Compensatory mitigation for impacts to unvegetated streambeds/washes shall be identified prior to disturbance of the features, as approved by the RWQCB or CDFW either through onsite or offsite mitigation or purchasing credits from an approved mitigation bank.

4. The project proponent/operator shall comply with the compensatory mitigation required and proof of compliance, along with copies of permits obtained from RWQCB and/or CDFW, which shall be provided to the County.

5. A Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared that outlines the compensatory mitigation in coordination with the RWQCB and CDFW.

    1. If onsite mitigation is proposed, the HMMP 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 HMMP shall include remedial measures in the event that performance criteria are not met.

    3. If mitigation is implemented off site, 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 HMMP should 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. Copies of any coordination, permits, etc., with RWQCB and CDFW should be provided to the County.

Level of Significance After Mitigation

With Implementation of Mitigation Measure MM 4.4-13 and MM 4.4-14 impacts would be less than significant for the project. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard BMPs and APMs, and no mitigation would be required.

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.

The project site occurs within a 24-mile wide wildlife connectivity area identified by the Essential Habitat Connectivity project. The project site represents a small area in comparison to the expanses of open habitat contained within this area. The project would not block or substantially alter the ability of species to use the corridor. Animals would still be able to disperse through fenced areas of the project site because of the wildlife-friendly perimeter fence design. Wildlife would be expected to traverse the project site, as well as low-disturbance areas surrounding the project site, unimpeded during foraging and dispersal. Although the project is located within the Pacific Flyway, the project is low-laying and is not expected to impact avian migratory movements within the flyway. The project would not have any impacts to wildlife movement corridors and no mitigation measures are warranted. Project related direct impacts on nesting migratory birds and raptors during construction could include crushing or vehicle collisions with nesting birds and/or destruction of nests and eggs through vegetation clearing and grading with heavy machinery. Indirect impacts could include interference with reproductive success and nest abandonment brought on by increased human presence and noise levels during construction within the breeding season. Additional indirect impacts to migratory birds and raptors from construction of the project could result from the conversion of open land to a solar facility, which would result in the loss of potential breeding habitat. However, with the implementation of Mitigation Measures MM 4.4-7 through MM 4.4-12 impacts to migratory birds and raptors would be less than significant.

In addition, all lighting installed as a part of the proposed project would comply with the Kern County Dark Skies Ordinance and would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties as stipulated in Mitigation Measure MM 4.1-5 (see Section 4.1, Aesthetics, for full Mitigation Measure text). This would help reduce impacts to wildlife moving through the area. Therefore, the proposed project is not expected to adversely impact wildlife movement and impacts would be less than significant.

SCE Interconnection Facilities

The SCE property is developed with the existing Whirlwind power station. The SCE interconnection facilities would be constructed within the existing power station and would not have the potential to impact any wildlife movement corridors or native wildlife nursery sites. No mitigation is required.

Mitigation Measures

Implement Mitigation Measure MM 4.1-5 (see Section 4.1, *Aesthetics*, for full Mitigation Measure text) and Mitigation Measures MM 4.4-7 through MM 4.4-12.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.1-5 and MM 4.4-7 through MM 4.4-12, impacts would be less than significant for the project. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Impact 4.4-5: The project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

As currently designed, the proposed project is considered consistent with the Land Use, Open Space, and Conservation Element of the Kern County General Plan. As described above, the project would implement mitigation measures to reduce potential project-related impacts to sensitive biological resources including special-status species and jurisdictional features. With the implementation of the mitigation measures, identified above, impacts to environment from a violation of a local policies or ordinances would be less than significant.

One local plan (Willow Springs Specific Plan) falls within the project site. This plan requires avoidance of Joshua trees when possible and to create a Joshua tree Preservation and/or Transplantation Plan, and implementation of Mitigation Measure MM 4.4-3 ensures compliance with this requirement. Direct impacts to Joshua trees could occur due to project activities such as Joshua tree removal and root damage due to construction activities. Indirect impacts include dust and soil compaction leading to habitat degradation. However, removal of Joshua trees would be mitigated and temporary ground disturbance would be addressed as stated in Mitigation Measure MM 4.4-3. Additionally, MM 4.4-1 and MM 4.4-2, and MM 4.4-4 through MM 4.4-14 would reduce impacts to sensitive biological resources and maintain consistency with applicable local policies and ordinances. Therefore, these impacts would be mitigated to less than significant.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities will not conflict with any local policies or ordinances protecting biological resources. SCE's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation. No mitigation is required.

Mitigation Measures

Implement Mitigation Measures MM 4.4-1 through MM 4.4-14.

Level of Significance after Mitigation

With Implementation of Mitigation Measure MM 4.4-1 though MM 4.4-14 impacts would be less than significant. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard BMPs and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

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 is within the boundaries of the draft West Mojave Plan Habitat Conservation Plan and the Desert Renewable Energy Conservation Plan (DRECP). Because the project is located on private land, it is not the subject of the draft West Mojave Plan or to Phase I of the DRECP, which

both apply only to Bureau of Land Management-managed lands. Therefore, the project would not conflict with any adopted HCP or NCCP, there will be no impacts, and no measures are warranted.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities will not conflict with any adopted Habitat Conservation Plan, Natural Communities Conservation Plan or other local, regional or State plan. SCE's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation. No mitigation is required

Mitigation Measures

No mitigation would be required.

Level of Significance after Mitigation

Impacts would be less than significant for the project and the SCE Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative impacts for a project would be significant if the incremental effects of the individual project are considerable when combined with the effects of past projects, other current projects, and probable future projects. As described above, the project-specific impacts of the project would be less than significant with implementation of Mitigation Measures MM 4.1-6 and MM 4.1-7 from Section 4.1 Aesthetics, MM 4.9-1 from Section 4.9 Hazards, and MM 4.4-1 through MM 4.4-14.

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 3-4**, *Cumulative Projects List*, in Chapter 3, *Project Description*, of this EIR, other projects with similar species effects have been completed within the Antelope Valley including Antelope Valley Solar Project and North Rosamond Solar Project, and Willow Springs Solar Project, which abut the project site, and Catalina Renewable Energy Project and, Rosamond Solar Project, Valentine Solar Project, and Antelope Valley Solar Project which are all within the same region as the proposed project. 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.

As described above, there are a number of special-status species, both plants and wildlife, that currently utilize the project site and surrounding vicinity. Implementation of the project, along with related projects, have the potential to impact wildlife species, including Crotch's bumblebee, burrowing owls, Northern Legless Lizard, Western Burrowing Owl, Swainson's hawk, desert tortoise, loggerhead shrike, LeConte's thrasher, other raptors, migratory birds, American badger, and desert kit fox. The project site contains habitat that support plants, 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 not expected to utilize the project site on a transient basis, if at all.

The project would contribute to cumulative impacts to special-status plant species, including the alkali mariposa lily, a CRPR 1B.2 species; and Western Joshua Tree, California Desert Native Plants Act and a listed State Candidate, however, after implementation of MM 4.4-1 through MM 4.4-3, which includes pre-construction surveys, avoidance, and translocation/salvage measures, and other compensation via an Section 2081 ITP, the project's contribution of impacts to special-status plant species would be less than significant.

Given the number of present and reasonably foreseeable future development projects in the Antelope Valley, the proposed project, when combined with other projects, would contribute to cumulative loss of habitat for special-status species. Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14 would reduce impacts to habitat to less than significant for the proposed project. However, the proposed project, when combined with other related development projects proposed throughout the County, would cumulatively impact habitat for special-status species. Thus, cumulative impacts would be significant and unavoidable.

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. The common raven population growth is directly attributed to human development and the subsidies it creates that support this adaptable species. When considered within the cumulative context of related projects as described above, the project's contribution to maintaining artificially high common raven populations when combined with other related projects, which threatens other desert wildlife, including special-status species, is potentially significant. However, the contribution of the project with mitigation incorporated, would not be cumulatively considerable because project impacts to specials-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 related projects to cause or contribute to a significant cumulative effect within the Antelope Valley portion of the Pacific Flyway for the duration of the project. Identified cumulative projects that involve the installation of PV panels, gen-tie lines, and associated power poles 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. 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 proposed 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 all feasible and reasonable mitigation.

Impacts associated with construction of the gen-tie lines are expected to encompass a relatively small development footprint and would therefore result in minimal ground disturbance. Gen-tie infrastructure would not cause barriers to wildlife movement and would be within disturbed and developed surrounding property. Because of the temporary nature of the construction phase and the small gen-tie development footprint, indirect impacts to wildlife and the vegetation communities and habitats surrounding the gen-tie lines would be minimal, and no impacts to adjacent habitats are anticipated during the operational phase. Overall, the gen-tie line would not contribute to cumulative impacts to biological resources due to the minimal ground disturbance, similarity of improvements to the existing transmission infrastructure in the region, the short construction

timeframe, and the limited vehicle and equipment use required for construction of the gen-tie line. Additionally, no impacts are expected to occur to adjacent areas during the operational phase of the gen-tie line; therefore, the operation of the project would not contribute to cumulative impacts to biological resources in the region. When considered in combination with other existing and reasonably foreseeable projects in the surrounding flat, open portions of Antelope Valley from SR-14 to the Tehachapi foothills, the proposed project has the potential to further reduce local wildlife movement. However, wildlife movement within the project site and area is likely diffuse, and flat, undeveloped lands would remain available to facilitate wildlife movement within the valley. Therefore, impacts concerning wildlife movement would be less than significant.

SCE Interconnection Facilities

Impacts associated with construction of the SCE Interconnection Facilities are expected to encompass a relatively small footprint and minimal ground disturbance within the existing Whirlwind power station. SCE's standard BMPs and APMs include pre-construction biological resources inventory and data recovery, if necessary, and minimization or avoidance of impacts to any potentially significant biological 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 Biological Resources Specialist. Cumulative impacts would be less than significant

Mitigation Measures

Implement Mitigation Measures MM 4.1-6 and MM 4.1-7 from Section 4.1 Aesthetics, MM 4.9-1 from Section 4.9 Hazards, and MM 4.4 1 through MM 4.4 14.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.1-6, MM 4.1-7, MM 4.9-1, and MM 4.4-1 through 4.4-14, cumulative impacts would be significant and unavoidable. Cumulative impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Section 4.5
Cultural Resources

4.5.1 Introduction

This section of the EIR provides contextual background information on cultural resources in the project site, including the site's prehistoric, ethnographic, and historical settings of the region. This section also summarizes the results of a cultural resources assessment, including background research, cultural resources survey of the project site, and significance evaluation of identified resources. The project's potential impacts on tribal cultural resources, are addressed in Section 4.15, *Tribal Cultural Resources*.

This section is based on a *Phase I Cultural Resources Survey* prepared by ASM Affiliates (ASM), Rosamond South Solar. See the Geotechnical Report prepared for the project for information related to geologic setting. Native American consultation was conducted by the County for purposes of compliance with CEQA requirements pursuant to Assembly Bill (AB) 52 and Senate Bill (SB) 18. The *Phase I Cultural Resources Survey* report (ASM, 2021) details the results of a cultural resources records search and field survey for the project. This report is provided in Appendix D-1 of this EIR. The Phase 1 Study was conducted in compliance with California Public Resources Code (PRC) Section 5024.1 and CEQA to identify archaeological, historic built architectural, and other cultural resources in the project area. Due to the confidential nature of the location of cultural resources, information regarding locations of cultural resources has been removed from these reports and is not included in the appendix.

Cultural Resource Terminology

For the purposes of CEQA, "cultural resources" generally refer to prehistoric and historical archaeological sites, isolates, and the built environment. Cultural resources can also include areas determined to be important to Native Americans. Below are definitions of key cultural resources terms used in this section.

- **Alluvium:** a fine-grained fertile soil consisting of mud, silt, and sand deposited by flowing water on flood plains, in river beds, and in estuaries.
- **Archaeological site:** A site is defined as the place or places where the remnants of a past culture survive in a physical context that allows for the interpretation of these remains. Archaeological remains usually take the form of artifacts (e.g., fragments of tools, vestiges of utilitarian, or nonutilitarian objects), features (e.g., remnants of walls, cooking hearths, or midden deposits), and ecological evidence (e.g., pollen remaining from plants that were in the area when the activities occurred). Prehistoric archaeological sites generally represent the material remains of Native American groups and their activities dating to the period before European contact. In some cases, prehistoric sites may contain evidence of trade contact with Europeans. Ethnohistoric archaeological sites are defined as Native American settlements occupied after the arrival of European settlers in California. Historic archaeological sites reflect activities during the Historic period.
- **Artifact:** An object that has been made, modified, or used by a human being.

- **Cultural resource:** Cultural resources are expressions of human culture and history in the physical environment, and may include archaeological sites, buildings, structures, objects, districts, works of art, architecture, and natural features that were important in past human events. They may consist of physical remains, but also may include areas where significant human events occurred, even though evidence of the events no longer remains. Cultural resources also include places that are considered to be of traditional cultural or religious importance to social or cultural groups.
- **Ethnographic:** Relating to the study of human cultures. "Ethnographic resources" represent the heritage resource of a particular ethnic or cultural group, such as Native Americans or African, European, Latino, or Asian immigrants. They may include traditional resource-collecting areas, ceremonial sites, value-imbued landscape features, cemeteries, shrines, or ethnic neighborhoods and structures.
- **Historic period:** The period that begins with the arrival of the first 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 project study area.
- **Historical resource:** This term is used for the purposes of CEQA and is defined in the CEQA *Guidelines* (Section 15064.5) as: (1) a resource listed in, or determined to be eligible for listing in the California Register of Historical Resources (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 10,000 years ago at the end of the Pleistocene.
- **Isolate:** An isolated artifact or small group of artifacts that appear to reflect a single event or activity. Because isolates may lack identifiable context and may not have the potential to add important information about a region, culture, or person, they are generally not considered under CEQA to be historical or unique archaeological resources (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.

- **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 (PRC § 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

The project site generally lies within the western Mojave Desert, specifically the Antelope Valley, in southeast Kern County approximately 11 miles west of the unincorporated community of Rosamond. The Antelope Valley is within the 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 located 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. More specifically, the project site is within an area of Quaternary alluvial sediments consisting of marine and nonmarine (continental) sedimentary rocks. These areas generally consists of alluvium, lake, playa, and terrace deposits; unconsolidated and semi-consolidated.

Paleoenvironment

As glaciers in the western U.S. began to retreat between 12,000 and 10,000 years ago, the climate became dramatically warmer and drier, and vegetation communities such as piñon-juniper woodlands, along with the animals that relied on them, began to inhabit higher elevations. 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 8,000 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.

Ethnographic Background

The western Mojave was inhabited during the Historic/Protohistoric period by three distinct language-speakers. The most significant linguistic division existed between the Kawaiisu speakers, who lived in Tehachapi Valley, through the southern Sierra Nevada and eastward across Fremont Valley towards Red Mountain and into southern Panamint Valley. Two other groups lived to the south and west of the Kawaiisu in the Antelope Valley and included members of the Uto-Aztecan language family. Both had distinct languages belonging to the Takic branch, specifically to the Serran Takic branch. Along the south westernmost side of the Antelope Valley, including the northern foothills of the Liebre Mountains and the southern side of the Sierra Pelona, were the Tataviam. Related to them linguistically, but speaking a distinct language, were the Kitanemuk, who occupied the westernmost Antelope Valley and the Tehachapi Mountains west of Tehachapi Pass. Living to the east of the Kitanemuk, who extended to approximately the current location of Highway 14 where it heads north across the Antelope Valley, were a group of closely related peoples identified as the Haminat. Apparently, Haminat and Kitanemuk represent dialects of the Serrano language, which also included Serrano proper and Vanyume (or Beñemé).

The study area thus falls in a slightly ambiguous zone near the Kawaiisu, Kitanemuk and Haminat boundaries. Despite this uncertainty, these groups were culturally similar. All three, for example, were foragers, with food sources derived principally from gathering. Following general California patterns, there were also a number of similarities in social and political organization across the Antelope Valley. It is suggested that the Haminat may have been organized into exogamous clans and moieties, whereas the western groups might have lacked these, and in this sense the Haminat could have been more like the southern California Desert groups like the Serrano and Cahuilla, with the other groups more similar to the south-central California culture of the Chumash and related peoples. What is apparent, however, is that the region as a whole lacked any political organization beyond that of the tribelet, or what has been identified in the Spanish records as naciones. These were autonomous land-owning groups, focused on a principal village and led by a headman or chief, and probably comprising a lineage system or clan. In this sense, the Antelope Valley can be said to follow the political organizational pattern found throughout most of Native California. This, of course, further links it with Californian, as opposed to Great Basin, cultural patterns.

In general terms, major historical villages were located at well-watered spots, such as springs. Most of these are, for this reason, are located in the San Andreas Rift Zone, along the south side of the Antelope Valley, which is unusually well-watered. The only known village in the general project vicinity is located near Willow Springs, northeast of the Project. Indigenous names in Serrano (Chibubit or Punakavea), Kawaiisu (SeSevjek) and Kitanemuk (šeševiyək) are known for this village; according to the Kawaiisu informant Andy Greene, it was a Kitanemuk village (site record for P-15-000129).

Pre-Clovis [earlier than 12,000 years before present (YBP)]

The initial occupation of North America is not known and little is understood about the lifeways of the earliest occupants. This time was during the late Pleistocene occupation and is generally

referred to as the Pre-Clovis (cultural) Period, dated at earlier than 12,000 years before present (YBP). During this period, many of the valley floors of the Mojave Desert and the Great Basin where filled with a large lake system, including Lake Thompson in the Antelope Valley. While some Pre-Clovis sites have been identified in the Mojave Desert, their presence remains controversial and uncertain. For example, possible Pre-Clovis petroglyph dates for the Coso Range have been located but still require verification by additional tests.

Paleoindian (11, 200 – 9,000 YBP)

While the initial timeline of occupation is controversial, the Paleoindian period is generally agreed upon. The hallmarks of the Paleoindian period are the fluted, collaterally flaked and basally-thinned and -ground Clovis and Folsom spear points, during the earlier portions of the period, followed by a series of large, well-flaked but unfluted lanceolate points towards the end of the period, some of which are stemmed. The materials were used by the inhabitants who were mobile big-game hunters who exploited Pleistocene megafauna and views of the Paleoindians as specialized big-game hunters has become pervasive for North America. Paleoclimatic reconstruction in the vicinity of the study area indicates that a drought also occurred in this specific region which indicates, among other evidence, that the Mojave Desert populations – human and animal – existed in stressed conditions at that time.

Evidence of Paleoindian use of eastern California has been found in a number of areas, including Pilot Knob Valley, northeast of the study area; on the shores of Pleistocene Lake China and within the Coso Range, per se; in Fort Irwin, northeast of Barstow; at Boron, to the west; in the El Paso Mountains, north of the study area; and in the Tehachapi Mountains, further to the northwest. This evidence generally includes spear points, and although not pervasive throughout the area, seven recorded fluted points have been found in the Mojave Desert, three from Pilot Knob Valley; and another basally-thinned point which was found in the area of the now Death Valley National Monument. Other points have been found on And Edwards Air Force Base area, Boron, and notably 49 fluted points were recovered around China Lake, which bolsters evidence of Paleoindian use of this general region. Although projectile points are the dominant evidence, Paleoindian petroglyphs, and obsidian Paleoindian point sourced from the Coso Sugarloaf Quarry indicate the area was very important for these early occupants. Thus, while it is likely that Paleoindian habitation sites are somewhere preserved in the region, they have yet to be found and a better understanding of the Paleoindian period in this portion of eastern California will only be obtained when such sites are discovered and investigated.

Early Archaic (9000-6000 YBP)

The Early Archaic period (Western Pluvial Lakes Tradition), occurred during the early Holocene and is characterized by Western Stemmed Tradition projectile points. These include the local variants known as Lake Mohave and Silver Lake points, which may in fact actually date between 10,500 and 7,500 YBP and thus be partly coeval with fluted points. This chronological overlap suggests that the Western Stemmed Tradition may have been an in-situ development out of the earlier Paleoindian tradition.

Early Archaic sites are most commonly found on the lowest terraces above latest Pleistocene and early Holocene lake basins and stream deltas. While Early Archaic sites are also found in other environments, in eastern California at least, the environmental association remains and maintains

validity. More recent research in the Great Basin has emphasized the general importance of lacustrine adaptations in general terms. Other research has identified and discussed the importance of a number of putative Early Archaic sites in the Panamint region. These are located in both the China Lake Basin and the Panamint Valley in former lacustrine environments, and indicate lakeshore use and/or occupation did occur, but it also is noted that Western Stemmed Tradition points have also been recovered as isolates in upland environments in the Cosos. Thus, although lakeshore exploitation may have been an emphasis during the Early Archaic in this portion of eastern California, this period apparently also included mobile hunting in other environments as well.

Middle Archaic (6000 to 4000 YBP)

The Middle Archaic or Pinto Period, at about 6000 years YBP lasted until approximately 4000 years YBP and within the region a number of sites are known from the Rosamond area, specifically the prehistoric shoreline of Rosamond Lake. The Middle Archaic, however, can be considered a controversial topic regarding the Mojave Desert prehistory due to its cultural and chronological ambiguity. This is from the controversy concerning the nature of the *paleoclimate* during this period and from the uncertainty in the chronological placement of the Pinto series projectile points. This may suggest is that there was much more regional variation during certain periods of the prehistoric past than is recognized.

In the Coso area to the north of the project area there is little if any evidence for Middle Archaic occupation and existing evidence could be considered to show a reduced occupation, or even a abandonment of the area. This appears to correspond to the hot and dry climatological conditions of the period. Other possibilities include that local inhabitants may have adopted a subsistence strategy and settlement pattern with little archaeological visibility on the landscape during this period. Although this alternative interpretation of the apparent dearth of Middle Archaic sites must be acknowledged, it seems implausible in light of the fact that extremely dry conditions would be more commonly predicted to result in a stronger form of “tethered nomadism”, and thus greater archaeological visibility, around water sources. Moreover, there is very clear evidence for Middle Archaic settlements in the Fort Irwin area, to the east of Barstow, suggesting that not all portions of eastern California were abandoned at this time; again, emphasizing the possibility of more regional variability than heretofore acknowledged.

Late Archaic (4000 to 1500 YBP)

The Late Archaic period, or Elko Period, lasting from about 4000 to 1500 years YBP is less controversial. This period correlates with improved and wetter environmental conditions across the far west -- including within the study area. Although sites from this time period are sometimes considered rare in the Mojave Desert, many of the subsequent Rose Spring Period villages were occupied during the earlier phase and there seems to be a strong continuity between the Elko Period and later times. This is evidences by major increase in population beginning about 3000 years YBP. Other areas, such as the Coso Range region to the north at the start of the Late Archaic to the north also is noted to have experienced a major, far western North American-wide expansion of settlements into new environments and increases in population, stretching from the Great Basin of eastern California, through the southern Sierra Nevada, across the Transverse Ranges, and down to

the coast .The primary temporal diagnostics for the Late Archaic are Elko and Gypsum series projectile points.

In the Coso Range, the Late Archaic is signaled by the establishment of major winter villages, typically at springs, in valley bottoms on the western and wetter side of the range. Analyses of paleoethnobotanical and faunal remains suggest a generalized foraging strategy, emphasizing all available resources, including buckwheat stands around small mud-playas. This evidence is complemented by an extensive but seemingly non-logistically organized use of all upland environments. Included here is a significant quantity of isolated projectile points in the uplands, suggesting mobile hunting patterns. Furthermore, the Late Archaic witnessed the beginning of the intensive exploitation of the Coso Sugarloaf obsidian quarry, an event that apparently correlates with the beginning of the inland-to-coastal obsidian trade in south-central California.

Rose Spring (1500 – 800 YBP)

The Rose Spring Period is differentiated from the earlier Late Archaic/Elko Period by the introduction of the bow and arrow and a change from spear points to arrow points at circa AD 500. This development is not thought to have had immediate major impacts on social or cultural systems, and the settlement and subsistence systems remained stable, and lithic technology and production did not noticeably change. The Rose Spring times appear to have been a continuum from the earlier patterns, so that the change in hunting technology was probably less important than may be presumed. Within the Antelope Valley area, Desert Village Complexes were founded at least by Rose Spring times, and perhaps towards the end of the earlier Elko phase. Two were identified by Sutton in the foothills of the Antelope Valley, with a third between Rosamond and Rogers Dry Lake, and a possible fourth at Koehn Lake. These locations are thought to perhaps represent the founding of the tribelet system of political organization in the region.

At approximately AD 1000 - 1200, however, a shift in settlement and subsistence practices began that, ultimately, culminated in the protohistoric/ethnographic patterns referred to as the Later Prehistoric or Numic Period. During this time, settlement patterns became more organized and focused, while subsistence was increasingly specialized, such as on seeds and pinyon nuts, and ritual became more common including production of petroglyphs. Although the causes for this transition are not fully understood it may be linked to the putative spread of Numic peoples out of eastern California and may account for the historical distribution of Numic languages. During this time, there was a major drought that effected all portions of western North America, from northern Mexico through the Southwest, across the Great Basin, and even into the Channel Islands. The influence of the drought and the resulting stress on resources was a contributing factor to the appearance of a simple chiefdom in the Chumash region near Santa Barbara. This may be exemplified by the transition in eastern California and the first appearance of Numic bands and headmen, and other such ritual specialists like rain shamans. This transition also is evidences by the accelerated production of Coso petroglyphs (which are known ethnographically to have been tied to rain shamanism) and the appearance of a logistically-oriented settlement pattern showing signs of increasing sociopolitical control and organization.

Late Prehistoric (800 – 140 YBP)

The Late Prehistoric (or, in some areas, Numic) Period, from 800 years YBP to the Historic Period, represents a continued growth in local population, with numbers of people apparently quite high.

It is distinguished from previous Rose Spring times by the introduction of brownware ceramics and a change in projectile point types: from Rose Springs types to Desert Side-Notched and Cottonwood Triangular. This apparently correlates with similar patterns further towards the coast: at about 800-1000 years ago the desert-to-coast obsidian trade dried up, and Rose Spring-like projectile points were replaced by Cottonwood-like points, with Desert Side-Notched points rare.

The Protohistoric/Historic phase of the Late Prehistoric, representing the last 300 years, is apparently marked by a major disruption in indigenous settlement, and a corresponding paucity of sites. It is thought that missionization pulled many of the region's inhabitants away, however, during this time there also was a brief period of extreme drought. Hence deteriorating environmental conditions may have contributed to social disruptions combined with the introduction of new diseases, all of which would have had detrimental effects on the local population. Subsequently, the Antelope Valley area was used as a staging ground for rustlers and other miscreants, who were raiding the missions' livestock. The result was that the area became somewhat of a no-man's land which, no doubt, has also contributed to the paucity of ethnographic information on it.

Historical Context

The recent historical context is more strongly influenced by conflicts between native peoples and non-indigenous groups. For example, the Antelope Valley was used a staging area for Native American raids on the *estancias* and missions closer to the coast because Euro-American settlement and development of region started later than in other parts of southern California. As a result, the history of the Antelope Valley to about the 1860s principally involved various explorers who traversed it: for example, Pedro Fages crossed the southern valley in 1772; Fr. Garcés crossed the west end and went through Willow Springs, west of the study area, in 1776; Jedediah Smith, similarly, went across the western valley in 1827 and also visited Willow Springs, as did John C. Fremónt and his guide Kit Carson in 1844. The Rogers and Manly party - the Jayhawkers or Death Valley '49ers - camped at Willow Springs towards the end of their dramatic 1849 expedition across the Mojave Desert, as well. And Lt. Edward Beale, at the lead of a caravan of camels, came across the southern side of the valley in his 1857 trip to Fort Tejon.

It was not until the 1860s that the first settlers, involved primarily in ranching, moved into this region, settling mostly in the Elizabeth Lake region and the southern foothills of the Tehachapi Mountains. In 1868 the Cerro Gordo silver mine in Inyo County was developed and Antelope Valley became a major thoroughfare for the movement of bullion and goods between Los Angeles and the Owens Valley. Los Angeles had a monopolization of this trade with Remi Nadeau's freight-line playing a major part in the transshipment of goods and ore across the valley. Willow Springs and its adobe tavern served as a major stop on this route and used Old Nadeau Road and was instrumental in the growth of Los Angeles and is located a few miles east of the project area.

Settlers began to populate the areas in settlements including Wicks, Manzana, Chicago, Kingsbury, John Brown, Old Palmdale and Almondale after about 1869 after the establishment of the first permanent school in the region at Elizabeth Lake. However, the major impetus to settlement resulted with the completion of the Southern Pacific railway through the valley in 1876, fostering the establishment of Rosamond, Lancaster and Palmdale by 1882. The railroads first depot was in Mojave which incentivized the San Bernardino Borax Company to begin hauling its borax to the town on mule teams and helped make the town a transportation hub for the region. Initially, the town as was simply a residential camp for railroad employees, but because of its position as a

transportation hub, Mojave attracted additional residents. Growth induced additional mining at Standard Hill and Soledad Mountain, and construction of the Los Angeles Aqueduct, built between 1907 and 1913, which brought literally thousands of workers into the region leading to substantial growth in the town.

More local to the project, Rosamond was also a Southern Pacific depot originally named Sand Creek but was given its current name in honor of a daughter of a rail official. A post office opened in 1885 and the Butterworth Ranch was homesteaded, for cattle, in 1888, six miles west of Rosamond. The origin of the town proper is somewhat later. The town site was purchased by C.C. Calkins in 1907 who sold the mortgage to Charles M. Stinson. Stinson in turn donated the mortgage to the Union Rescue Mission of Los Angeles, who foreclosed on the property in 1916. In 1935 the Mission began selling lots in the town site, initiating its residential development.

Rosamond's history is also tied to early mining in the region including the Tropico in the 1870s became the primary clay mine for Ezra Hamilton's brickworks and pottery in Los Angeles. In the 1890s Hamilton purchased the mine prospected the area after finding gold dust in the clay. He began the Lida mines and by 1907 had over 8000 tons of ore averaging 1.2 ounces of gold and 7.5 ounces of silver per ton. The properties eventually became the Tropico Mining and Milling Company which operated until 1956.

Willow Springs, also was important to the early history of the region. Willow Springs was an important stop on the main trail through the area for explorers, and stage routes from Los Angeles to both Havilah and Inyo. Notably, Remi Nadeau built a corral at the spring which assisted with the livestock trade between the Antelope Valley and Tejon Ranch. The spring was subsequently purchased around 1900 by Ezra Hamilton, after his discovery of gold in the area, who was responsible for constructing most of the existing stone buildings at this location. The site was eventually purchased by Hamilton and with this and the surrounding 160 acres, created a farm and health resort and by 1913 there were 27 stone houses, a hotel, bath-house, public hall, dance hall, school, and auto and blacksmith shops.

Existing Cultural Resources

Methods Used to Identify Known Cultural Resources

To evaluate the project's potential effects on significant cultural resources, ASM conducted a cultural resources study of the project site, including the four CUP Areas, which included archival research and a pedestrian survey (ASM, 2021). The methodology and results of these studies are summarized below.

Records Search

A records search of site files and maps was completed on December 27, 2020, at the Southern San Joaquin Valley Information Center (SSJVIC), California State University, Bakersfield. In addition to the records search, a search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed on December 18, 2020. Based on the NAHC records, no sacred sites or traditional cultural places had been identified within or adjacent to the study area. In addition to the records search, historical USGS topographical quadrangles, the U.S. 1920 and 1930 censuses, General Land Office homestead patent records, the Kern County 1900 – 1968 Voter Registration

Rolls and air photographs (at historicaerials.com and Google Earth) were examined to amplify the published historical information and potentially identify historical structure locations. It should be noted, the 1:24,000 USGS maps for this area were first printed in 1965, which limited the value of this source for historical information, and the historical air photo coverage for this portion of the Antelope Valley was limited.

The records search showed that 29 previous surveys had covered portions of the study area and that 13 cultural resources (11 archaeological sites, structures or features; and 2 isolated artifacts) historical/Euro-American in origin, had been located within it. These consisted of 7 historical refuse scatters, a burned-down house, a transmission corridor, an equipment foundation, a fence-line, a two-track road, a vegetation feature and two isolated artifacts (Table 1). One of the historical debris scatters (P-15-012725) proved to be adjacent to but outside of the study area. Similarly, the Owens Gorge Transmission Line (P-15-018681) is in a ROW/easement and, legally, is not within the study area and cannot be impacted or affected by the Project. The result is a total of 13 previously recorded resources: 11 historical sites, structures and features; and 2 isolated artifacts. The previously located sites (resource number and description are provided in *Table 4.5-1 – Previously Recorded Cultural Resources within the Study Area*, shows the types of resources located.

Archaeological Field Surveys

The Phase I survey fieldwork was conducted in over the 1,292-ac Clearway Rosamond South Solar Project study area in January – March 2021. The field methods employed included intensive pedestrian examination of the ground surface using parallel transects spaced at 15-meter (m) intervals walked across the study area. Personnel looked for evidence of archaeological sites, in the form of artifacts, surface features (such as bedrock mortars, historical mining equipment), and archaeological indicators (e.g., organically enriched midden soil, burnt animal bone); the identification and location of any discovered sites, should they be present; tabulation and recording of surface diagnostic artifacts; site sketch mapping; preliminary evaluation of site integrity; and site recording, following the California Office of Historic Preservation Instructions for Recording Historic Resources, using DPR 523 forms. Survey transects were spaced at 15-meter intervals. Field conditions during the survey were excellent (90-100% visibility), with minimal ground cover and therefore good surface visibility.

The field survey, revealed thirteen historical cultural resources, consisting of 11 sites, structures or features, and 2 isolated artifacts, had been previously recorded within the Clearway Rosamond South Solar Project study area. Six of the sites and the 2 isolated artifacts could not be re-located in or in the vicinity of their recorded locations and are assumed to have been destroyed in the interim since their original identification. The remaining 5 sites, structures or features were re-identified and their site records were updated. The survey also resulted in the discovery and recording of 5 additional historical sites and 8 isolated artifacts. These resources are discussed below.

Table 4.5-1: Previously Recorded Cultural Resources within the Study Area

Resource Number	Description	Site Visit	Finding
P-15-012725*	Historic debris scatter*	2021 (ASM)	Adjacent to but outside of the Project Site.
P-15-014589	Historic debris scatter	2021 (ASM)	This resources could not be re-identified in the mapped location and no longer constitute extant cultural resources
P-15-014591	Historic debris scatter	2021 (ASM)	These resources could not be re-identified in the mapped location and no longer constitute extant cultural resources
P-15-014592	Historic debris scatter	2021 (ASM)	These resources could not be re-identified in the mapped location and no longer constitute extant cultural resources
P-15-014593	Historic debris scatter	2021 (ASM)	This is a refuse scatter and does not constitute a unique resource under CEQA. The site lacks any associative context, is not associated with a significant historical event and does not meet (CRHR Criterion A, B, C, or D). It is not recommended as eligible for CRHR listing.
P-15-014596	Historic fence-line	2021 (ASM)	These resources could not be re-identified in the mapped location and no longer constitute extant cultural resources
P-15-014597	Historic fence-line	2021 (ASM)	This is a refuse scatter and does not constitute a unique resource under CEQA. The site lacks any associative context, is not associated with a significant historical event and does not meet (CRHR Criterion A, B, C, or D). It is not recommended as eligible for CRHR listing.
P-15-014598	Two-track road	2021 (ASM)	This feature is a minor two-track dirt road in current use, and no affirmative evidence has been presented or known that it is historical in age and warrants consideration as a cultural resource. This resource does not constitute a historical resource under CEQA
P-15-014691	Historic/modern refuse scatter	2021 (ASM)	These resources could not be re-identified in the mapped location and no longer constitute extant cultural resources
P-15-014902	Burnt structure, 1930s	2021 (ASM)	*Discussed in Additional Detail Below*
P-15-014906	Tamarisk wind row	2021 (ASM)	These resources could not be re-identified in the mapped location and no longer constitute extant cultural resources
P-15-014907	Concrete equipment foundation	2021 (ASM)	This feature is a contemporary/modern concrete foundation for an electrical box. It is not a cultural resource and does not constitutes a historical resource under CEQA.
P-15-017588	Isolated glass insulator	2021 (ASM)	The resource was originally recorded as an isolated glass insulator fragment in 2012 by Statistical Research during monitoring. The isolate location was revisited by ASM Affiliates in 2021 and the artifact is no longer present. This isolate no longer constitutes an extant cultural resource
P-15-017589	Isolated glass insulator	2021 (ASM)	The resource was originally recorded as an isolated ceramic insulator fragment in 2012 by Statistical Research during monitoring. The isolate location was revisited by ASM Affiliates in 2021 the artifact is no longer present. This isolate no longer constitutes an extant cultural resource
P-15-018681*	Owens Gorge 230kV Transmission Line*	2021 (ASM)	This feature is in a ROW/easement and is not within the study area. No work is proposed in the vicinity of this feature and it would not be affected by the proposed project.

*Outside of Study Area
CRHR Criterion: Associated with a significant historical event (CRHR Criterion A), or person (CRHR Criterion B); they do not embody distinctive characteristics of a type, period or region (CRHR Criterion C); and they do not have research potential (CRHR Criterion D)

P-15-014902/CA-KER-8324H The site was previously recorded as the remnants of a 1920-1930s fieldstone structure and refuse scatter in 2011. The site was revisited by ASM Affiliates in 2021 and was found to be virtually unchanged in the last decade. The resource consists of portions of the walls of a main house structure, an associated lightly graveled road, and a low-density surface scatter of both modern and historic glass. Site characteristics indicate that the structure was built after 1930, most likely dating it to the Depression Era. Homestead patent files reveal two separate entries for this location including R. Walden and James H. Hill. The 1926 Hill patent fits the 1930s time-frame for the construction of the house, suggesting that he was likely the owner. Minimal historic information is available related to Hill and they do not appear to have played a prominent role in local or regional history. The construction of this house in the 1930s, however, appears to reflect a larger historical trend, which is the Depression era settlement of the Antelope Valley and western Mojave Desert.

NEWLY Recorded Sites

In addition to the previously recorded sites, there are five newly recorded sites that are discussed in additional detail below.

QKRS-SITE -1

This resource consists of mid-twentieth century alfalfa farming field complex consisting of irrigation related structures, pole barns [two standing metal pole barns (used to store hay)], foundations (concrete), remnants of an old fence line, and refuse concentrations of different ages and origins. No residence appears to be associated with the farm. Recorded information (topographic maps, historic aerials, etc.) shows the site location has experienced significant changes since the 1940s with structures within the site boundary first appear around 1948. Features of the site are included to *Table 4.5-2: QKRS Site 1 – Identified Features and Refuse Concentrations*, summarizes these features below.

Table 4.5-2: QKRS Site 1 – Identified Features and Refuse Concentrations

Feature and Concentration Designation:	Approx. Dimensions (Sqft)	Description:
F1	--	Seven standing large beam fence posts. Possibly associated with mid-20th century structure.
F2	2,975 sqft	Small reservoir or holding area with ramp.
F3	5,250 sqft	Standing open pole barn of steel beam construction with partially dilapidated sheet metal roofing.
F4	6,250 sqft	Standing open pole barn with partially dilapidated sheet metal roofing.
F5	1,100 sqft	Dual concrete foundation possibly associated with an office building.
C1	8,000 sqft	Light refuse deposit consisting of approx. 100 assorted glass fragments and milled wood scraps. Identifiable refuse includes a 1955 Owens-Illinois bottle base.
C2	19,975 sqft	Dense industrial debris scatter with approx. 300 concrete fragments, 200 glass fragments, 10 tires, 100 milled wood scraps/beams, and one “SPARKLETTS” Owens-Illinois bottle base (c. 1953).

QKRS-SITE -2

This resource consists of a small mid-20th century refuse dump. The site is located south of Willow Springs, and measures 15-ft by 15-ft and is in poor condition. No historic structures are known to be adjacent or near the area. This feature includes approximately five church key opened cans (c.

1935 – Present), two rotary opened cans and fifteen assorted glass fragments. A currently occupied modern/contemporary residence is located just south of the site. The site most likely represents a single use refuse dump.

QKRS-SITE -3

The resource consists of a small mid-20th century refuse dump located south of Willow Springs. It is approximately 4,400 sq ft and is in poor condition. The site is a small refuse dump with domestic and industrial debris likely dating to the mid-20th century. Identified refuse included one Illinois bottle base (1953); 100 assorted glass fragments; five church-key opened cans (1935-1960), 20 condensed milk cans (1900s-1940s), 10 rotary opened cans (1925-present), 20 pieces of milled wood, 20-yards of barbed wire fence, 5 tires, 2 rubber hoses, and 5 gaskets. No historic structures are known to be adjacent or near the area. The site most likely represents a single use refuse dump with no associative context.

QKRS Site – 4

The resource consists of a large and highly dispersed mid- to late-20th century refuse dump. The site is southwest of Willow Springs, and is approximately 560-ft by 330-ft. The site is in poor condition. The refuse on site is highly dispersed and fragmented, is of mixed-age dump and includes domestic and industrial debris. The majority of refuse likely originated from the edge of the dirt road immediately to the west of the project site. Identified refuse included one Roberts Controls Company vintage clock (1960s), 600 assorted glass fragments, 40 church-key opened cans (1935-present), 20 condensed milk cans (1900's – 1940s), 170 rotary opened cans (1925-present), 45 bimetal cans (late 1950s – 1975), 5 coffee cans, 1 one-gallon fuel can (1900s-1940s), 25 paint cans (1906-present), 3 aerosol cans (1948 – present), 50 porcelain, 150 pieces of milled wood, 20-yards of miscellaneous wire, 5 tires, 15 terracotta fragments, 5 cinder blocks, and 10 gaskets.

QKRS Site – 5

The resource consists of a possible mid-20th century wood and domestic refuse scatter located southwest of Willow Springs, CA on the open valley flats. The site is in poor condition. The resource consists of 200 milled wood boards, two small metal bed springs, two barbed wire fence posts, one internal friction can, and one aquamarine insulator fragment. The light domestic refuse scatter dates to the mid-20th century. The milled wood appears to have been part of a structure or structures but no historic buildings are known to have constructed near on or the site area. The site appears to have been pushed into or dumped at its current location, possibly resulting from the construction of a recent solar facility just south of the site.

Newly Recorded Isolates

QKRS-ISO-1

The isolate consists of secondary rhyolite flake. The flake measures 3.5 by 3.0 by 1.2-cm and is in good condition.

QKRS-ISO-2

The isolate consists of an assayed cryptocrystalline silicate (CCS) core with at least four visible flake scars. The core measures 9.0 by 7.5 by 4.5-cm and is in good condition.

QKRS-ISO-3

The isolate consists of a secondary rhyolite flake. The flake measures 6.5 by 3.0 by 2.0-cm and is in good condition.

QKRS-ISO-4

The isolate consists of an assayed quartzite core with at least four visible flake scars. The core measures 10.0 by 6.0 by 4.5-cm and is in good condition.

QKRS-ISO-5

The isolate consists of a secondary CCS flake. The flake measures 3.0 by 2.0 by 0.2-cm and is in good condition.

QKRS-ISO-6

The isolate consists of a secondary CCS flake. The flake measures 4.0 by 3.0 by 0.2-cm and is in good condition.

QKRS-ISO-7

The isolate consists of a secondary CCS flake. The flake measures 4.5 by 4.5 by 1.0-cm and is in good condition.

QKRS-ISO-8

The isolate consists of a fragment of CCS shatter. The flake measures 4.0 by 2.8 by 1.2-cm and is in good condition.

Off-Site Resources

Additionally, records indicate that 23 previous studies had been completed within 0.5-miles (mi) of but outside the study area. These surveys revealed 59 previously recorded cultural resources known within that same radius. Four of these are prehistoric/Native American archaeological sites, 17 are isolated prehistoric artifacts, and the remainder are historical/Euro-American sites and isolated artifacts. prehistoric/Native American in origin. Four of the 21 prehistoric/Native American resources are archaeological sites; the remaining 17 are isolated artifacts *Table 4.5-2 – Previously Recorded Cultural Resources within 0.5 Mile Radius*. The 38 additional previously recorded cultural resources within the 0.5-mi radius are all historical/Euro-American in age and origin.

Table 4.5-3: Previously Recorded Cultural Resources within 0.5 Mile Radius

Resource Number	Description	Resource Number	Description
P-15-002714	Lithic & Groundstone scatter	P-15-016245	2 isolated flakes
P-15-006013	Isolated mano	P-15-016246	Isolated core
P-15-006014	Isolated flake	P-15-016662	Isolated flake
P-15-006015	Isolated flake	P-15-017488	Isolated groundstone
P-15-006016	Isolated flake	P-15-018680	Lithic & groundstone scatter
P-15-006017	Isolated flake	P-15-018734	Isolated flake
P-15-007739	Isolated flake	P-15-018736	Isolated flakes
P-15-012781	Isolated flake & core	P-15-019594	Isolated flake
P-15-013655	Lithic scatter/campsite	P-15-019848	Isolated projectile point
P-15-013703	Isolated flake	P-15-019849	Isolated flake
P-15-014594	Lithic & groundstone scatter		

Source, ASM, 2021

Potential for Unknown Buried Cultural Resources

The Antelope Valley floor is covered in thick deposits of Quaternary alluvial sediments. The alluvium is subdivided 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 several hundred feet thick in valley areas, and thinner on slopes at the valley margins. The precise thickness of the younger alluvial deposits within the project area is unknown.

In many places, the interface between older land surfaces and newer alluvial depositions is marked by a well-developed buried soil profile, or 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).

SCE Interconnection Facilities

The SCE property is developed with the existing Whirlwind power station. The SCE interconnection facilities would be constructed within the existing power station and would not have the potential to impact cultural resources

4.5.3 Regulatory Setting

Federal

Section 106 of the National Historic Preservation Act (NHPA)

The NHPA of 1966, as amended (16 USC 470f), and its implementing regulation- Protection of Historic Properties (36 CFR Part 800), the Archaeological and Historic Preservation Act of 1974, and the Archaeological Resources Protection Act of 1979- legislates the protection of archaeological resources. Prior to implementing an "undertaking" (e.g., issuing a federal permit), Section 106 of the NHPA requires federal agencies to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation and the State Historic Preservation Officer a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the NRHP. As indicated in Section 101(d)(6)(A) of the NHPA, properties of traditional religious and cultural importance to a tribe are eligible for inclusion in the NRHP. Under the NHPA, a resource is considered significant if it meets the NRHP listing criteria in 36 Code of Federal Regulations [CFR] 60.4.

National Register of Historic Places

The NRHP was established by the NHPA of 1966, as "an authoritative guide to be used by federal, State, and local governments, private groups and citizens to identify the Nation's historic resources and to indicate what properties should be considered for protection from destruction or impairment" (36 CFR 60.2). The NRHP recognizes both historical-period and prehistoric archaeological properties that are significant at the national, state, and local levels.

To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria established by the U.S. Department of the Interior:

A. Are associated with events that have made a significant contribution to the broad patterns of our history;
B. Are associated with the lives of persons significant in our past;
C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. Have yielded, or may be likely to yield, information important in prehistory or history.

Unless the property possesses exceptional significance, it must be at least 50 years old to be eligible for NRHP listing (U.S. Department of the Interior 1995). In addition to meeting the criteria of significance, a property must have integrity. Integrity is defined as "the ability of a property to convey its significance" (U.S. Department of the Interior 1995). The NRHP recognizes seven qualities that, in various combinations, define integrity: location, design, setting, materials, workmanship, feeling, and association. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance.

State

California Register of Historical Resources (CRHR)

Created in 1992 and implemented in 1998, the California Register 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 of Historic Places (NRHP) and California Historical Landmarks numbered 770 and higher, are automatically included in the CRHR (also referred to as 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 in our past.
3. It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.
4. It has yielded, or may be likely to yield, information important in history or prehistory.

Furthermore, under PRC Section 5024.1, Title 14 California Code of Regulations [CCR], Section 4852(c), a cultural resource must retain integrity to be considered eligible for the California Register. Specifically, it must retain sufficient character or appearance to be recognizable as a historical resource and convey reasons of significance. Integrity is evaluated with regard to retention of such factors as location, design, setting, materials, workmanship, feeling, and association.

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 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

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); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not

preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of CEQA Section 21084.1 and CEQA *Guidelines* Section 15064.5 apply. If a project may cause a substantial adverse change (defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired) in the significance of an historical resource, the lead agency must identify potentially feasible measures to mitigate these effects (CEQA *Guidelines* Sections 15064.5(b)(1), 15064.5(b)(4)).

If an archaeological site does not meet the historical resource criteria contained in the CEQA *Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is a unique archaeological resource. As defined in CEQA Section 21083.2, a "unique" archaeological resource is an archaeological artifact, object, or site, for which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.2(b)). If preservation in place is not feasible, mitigation measures shall be required.

The CEQA *Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (CEQA *Guidelines* Section 15064.5(c)(4)).

Native American Heritage Commission

PRC Section 5097.91 established the Native American Heritage Commission (NAHC), the duties of which include inventorying places of religious or social significance to Native Americans and identifying known graves and cemeteries of Native Americans on private lands. PRC Section 5097.98 specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

California Public Records Act

California Public Records Act Sections 6254(r) and 6254.10 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

Health and Safety Code Section 7050.5 declares that, in the event of the discovery of human remains outside of a dedicated cemetery, all ground disturbance must cease and the county coroner must be notified. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

California Penal Code Section 622.5

California Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historic or archaeological interest located on public or private lands but specifically excludes the landowner.

Public Resources Code Section 5097.5

PRC Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands.

Local

Kern County General Plan

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

Chapter1. Land Use, Open Space and Conservation Element

1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation

Policy

Policy 25: The County will promote the preservation of cultural and historic resources that provide ties with the past and constitute a heritage value to residents and visitors.

Implementation Measures

Measure K: Coordinate with the California State University, Bakersfield's Archaeology Inventory Center.

Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.

Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.

Measure N: The County shall develop a list of Native American organizations and individuals who desire to be notified of proposed discretionary projects. This notification will be accomplished through the established procedures for discretionary projects and CEQA documents.

Measure O: On a project-specific basis, the County Planning Department shall evaluate the necessity for the involvement of a qualified Native American monitor for grading or other construction activities on discretionary projects that are subject to a CEQA document.

Willow Springs Specific Plan

The project is subject to the provisions of the Willow Springs Specific Plan (WSSP) (Kern County, 2008), which 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 Willow Springs Area. The policies, goals, and implementation measures for cultural resources in Kern County's Willow Springs Specific Plan are provided below.

Goal

Goal 1 To preserve cultural resources contained on sensitive sites located within the Willow Springs Specific Plan area.

Policies

Policy 1: Archaeological investigations shall be required of specific properties proposed for development. These sites are identified in the Environmental Impact Report under Cultural Resources - Literature and Records Search, page 77, and are listed as: CA-KER-2819, 2820, 2821; CA-KER-522, 1969, 2592,2593, 2599, 2595 and 2714; CA-KER-129, 273, 298, 302, 303.

Policy 2: Recorded archaeological sites shall be subjected to individual studies prior to development.

Mitigation/Implementation Measures

Measure 1: Prior to issuance of grading permits, archaeological investigations shall be required of specific properties proposed for development. This approach will eventually produce a complete record of all of the cultural resources present within the study area and should constitute a major contribution to the reconstruction of the Kitanemuk settlement pattern.

Measure 2: Prior to grading permit issuance, a recorded archaeological site found on a specific property proposed for development shall be subjected to individual study prepared at the expense of the developer by a qualified historian. Surface collection, text

excavation, and laboratory analysis constitute procedures necessary to properly assess both the significance and the research potential of each individual resource.

Measure 3: Larger "village" sites, such as CA-KER-129, cemeteries, and other sites of religious significance, may be found within the study area and shall require more intensive investigation and more complete preservation.

Mitigation/Implementation Measures 1, 2, and 3 require archaeological investigations for site-specific development projects throughout the plan area. Individual studies shall be required for recorded archaeological sites and intensive investigation of larger "village" sites, cemeteries, and other sites of religious significance. Verification of these investigations and studies shall be provided for by the developer and submitted to Kern County Department of Planning and Development Services prior to the issuance of grading permits.

4.5.4 Impacts and Mitigation Measures

Methodology

Impacts on cultural resources could result from ground-disturbing activities in conjunction with the proposed project. 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 surficial or buried cultural resources including prehistoric or historic-period archaeological resources or human burials. To evaluate the project's potential effects on significant cultural resources, ASM conducted a cultural resources study of the project site which included archival research and a pedestrian survey (ASM, 2021). Using these 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 *CEQA Guidelines* Appendix G, 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 have been addressed in Section 4.15, *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.

Through the records search conducted by ASM, it was found that 29 previous surveys had been conducted within the project site and that covered portions of the project area. These previous surveys had located 13 cultural resources (11 archaeological sites, structures or features; and 2 isolated artifacts), all historical/Euro-American in origin. A Phase I field survey to support the project was conducted and six of the 11 previously recorded sites/structures/features and the two isolated artifacts could not be relocated and are assumed to have been destroyed since originally documented. The site records for the five extant previously recorded sites were also were updated and the conditions of the sites assessed. At these locations, no resources were found to be present, and the sites were assumed to have been destroyed. These sites, therefore, lack archaeological context and do not provide sufficient information to qualify as historical resources.

Five new sites and eight isolated artifacts were also identified and recorded during the survey. The five newly identified sites are all historical/Euro-American in origin. They include one alfalfa farm field complex and four refuse scatters. The eight isolated artifacts are all single prehistoric/Native American lithic flakes/debitage. There are, accordingly, a total of 10 extant archaeological sites within the Project study area, all of which are historical/Euro-American in origin. These include six refuse scatters (P-15-14593, -14597 and QKRS-SITE-2, -3, -4 and -5), one burned-down building (P-15-14902), one concrete equipment foundation (P-15-14907), one mid-to late-twentieth century alfalfa farm (QKRS-SITE-1), and one dirt two-track road (P-15-14598).

The isolated artifacts recorded previously and during the survey are categorically not eligible to the CRHR and do not constitute significant cultural resources. The six refuse scatters are common property types, of mixed ages, that lack associative context and are thus are not significant cultural resources. They are recommended as not eligible for the California Register of Historical Resources (CRHR). Although recorded as a cultural resource, the concrete equipment foundation, a contemporary/modern electrical box foundation, does not constitute a cultural resource and is not CRHR eligible. The two-track dirt road is contemporary/modern in age and is not CRHR eligible. The mid-twentieth century alfalfa farm field complex is a common property type that lacks context and significance and is recommended as not CRHR eligible. Thus, similar to the above, these sites lack archaeological context and, therefore, do not provide sufficient information to qualify as historical resources.

Site P-15-14902, the vernacular house foundation with partial walls is located within a gen-tie route, and dates to the 1930 - 1940s. This structure may be associated with the 1926 homestead of James H. Hill and although Hill is not a historically prominent individual, the homestead itself and the construction of the structure reflect a significant historical event: the Depression-era settlement of the western Mojave Desert. Although the structure has been burned down and no longer retains architectural integrity, the archaeological component of this site has the potential to contribute to our knowledge of this early period of regional history, and it may be CRHR eligible for that possibility. Loss of this structure would represent a potentially significant impact and mitigation is proposed. Implementation of MM 4.5-2, would reduce potential impacts to less than significant. P-

15-14902 may be protected by avoidance of the site, If avoidance is not feasible, implementation of MM 4.5-1 and MM 4.5-2 ensures impacts would be less than significant.

Based on the records search results, field survey, and NAHC Sacred Lands File, appears to have a low sensitivity for prehistoric/Native American cultural resources. The majority of resources are expected to be isolated artifacts rather than archaeological sites. Nonetheless, the proposed project could impact previously unknown and buried archaeological deposits that have the potential to qualify as historical resources. Buried archaeological sites may be encountered during project-related excavation. In the event that unknown archaeological resources that qualify as historical resources are discovered during project construction, significant impacts could occur. Mitigation Measures MM 4.5-1 and MM 4.5-2 would require cultural resources sensitivity training for construction workers, avoidance of prehistoric archaeological sites P-15-14902, archaeological and Native American monitoring during construction, and appropriate treatment of unearthed archaeological resources during construction. Implementation of these measures would reduce impacts to unknown resources to less than significant.

SCE Interconnection Facilities

Impacts associated with construction of the SCE Interconnection Facilities are expected to encompass a relatively small footprint and minimal ground disturbance within the existing Whirlwind power station. 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 historical 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

Mitigation Measures

MM 4.5-1: The project proponent/operator shall retain a Lead Archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (U.S. Department of the Interior, 2011), to carry out all mitigation measures related to archaeological and historical resources. The contact information for this Lead Archaeologist shall be provided to the Kern County Planning and Natural Resources Department prior to the commencement of any construction activities on-site. Further, the Lead Archaeologist shall be responsible for ensuring the following employee training provisions are implemented during implementation of the project:

a. Prior to commencement of any ground disturbing activities, the Lead Archaeologist, in consultation with the Native American monitor(s), shall prepare Cultural Resources Sensitivity Training materials to be used in orientation program given to all personnel working on the proposed project. A Cultural Resources Sensitivity Training Guide approved by the Lead Archaeologist shall be provided to all personnel. A copy of the Cultural Resources Sensitivity Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form. 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 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 on-site 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 commencing work on-site.

e. During implementation of the project, the services of Native American tribal monitors, as identified through consultation with appropriate Native American tribes under Public Resources Code Section 21080.3.1 and 21080.3.2, working under the supervision of the Lead Archaeologist, shall be retained by the project to monitor project-related construction activities as identified in Mitigation Measures MM 4.5-2 through MM 4.5-4.

MM 4.5-2: Prior to the issuance of any grading or building permit, the project operator shall submit to the Kern County Planning and Natural Resources Department a Cultural Resources Treatment Plan, if avoidance of P-15-14902 is not feasible.

If the site (P-15-14902) can be avoided, it shall be preserved and buffered by a 25-foot preservation boundary temporarily marked with exclusion markers or protective fencing. No work shall occur within boundaries of the site and the gen-tie line and associated construction process shall string wires over the site so ground disturbance or damage to the resource does not occur. If avoidance of P-15-14902 can be achieved, no further action is necessary.

If avoidance cannot be achieved, a Treatment Plan shall be drafted to include:

a. Require that prior to conducting initial ground disturbance in the vicinity of the archaeological site P-15-14902, the County, in coordination with the Lead Archaeologist shall develop a treatment plan for the site. The treatment plan shall be adopted and implemented prior any ground disturbance within an exclusion area surrounding to include the recorded boundaries of the archaeological site (P-15-14902) and all areas within 25 feet thereof. The treatment plan shall consist of one of the following methodologies to the satisfaction of the County and archaeologist:

1. The site (P-15-14902) shall be preserved and buffered by a 25-foot preservation boundary temporarily marked with exclusion markers or protective fencing. No work shall occur within boundaries of the site and the

gen-tie line and associated construction process shall string wires over the site so ground disturbance or damage to the resource does not occur. Final project design shall preclude the area from being used or needed as a stringing set-up or splicing location. If work is required within the site, it shall require approval by the qualified archaeologist and County to ensure damage to the resource does not occur. All work within the area shall be monitored by a qualified archaeologist; or

2. A qualified archaeologist shall conduct a Phase II testing/excavation of the site (P-15-14902) to determine the significance of the resource and potential additional protection measures. The Phase II testing shall consist of the following:

    i. Further define the spatial boundaries of the site;

    ii. Perform further surface and subsurface investigations to more fully understand the potential of the site to produce significant archaeological data.

    iii. Determine if the site meets Criteria 1, 2, 3, or 4 to be designated as a California Historic Resource;

    iv. Development of a resource/data recovery plan, if needed, for the resource that would include but not be limited to:

        1. Monitoring of removal activities;
        2. Photo documentation,
        3. Preservation of important materials;

MM 4.5-3: During implementation of the project, the services of both Archaeological and Native American Tribal Monitors, 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, ground-disturbing activities associated with project-related construction activities, as follows:

a. All initial excavation or ground-disturbing activities shall be monitored by Archaeological and Native American monitors. During the course of this initial monitoring, if the Lead Archaeologist can demonstrate that the level of monitoring should be reduced or discontinued, or if the Lead Archaeologist can demonstrate 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.

b. The Archaeological monitors and Native American monitors shall work under the supervision of the Lead Archaeologist. The Lead Archaeologist, Archaeological monitors, and Native American monitors shall be provided all project documentation related to cultural resources within the project site prior to commencement of ground disturbance activities. 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.

c. The Archaeological monitor shall keep daily logs and the Lead Archaeologist shall submit monthly written updates to the Kern County Planning and Natural Resources Department and to the San Manuel Band of Mission Indians. After monitoring has been completed, the Lead Archaeologist shall prepare a monitoring report detailing the results of monitoring, which shall be submitted to the Kern County Planning and Natural Resources Department, the San Manuel Band of Mission Indians, and to the southern San Joaquin Valley Information Center at California State University, Bakersfield.

MM 4.5-4: During implementation of the project, in the event archaeological materials are encountered during the course of grading or construction, the project contractor shall cease any ground disturbing activities within 50 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 50-foot radius from the location of discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area and all entrance to the area shall be avoided until the discovery is assessed by a qualified archaeologist, as well as the San Manuel Band of Mission Indians if the discovery involves resources of interest to the San Manuel Band of Mission Indians, including but not limited to prehistoric archaeological sites or tribal cultural resources. The Lead Archaeologist in consultation with the San Manuel Band of Mission Indians, if appropriate, shall evaluate the significance of the resources and recommend appropriate treatment measures. If further treatment of the discovery is necessary, the Environmentally Sensitive Area shall remain in place until all work is completed. Per California Environmental Quality Act (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 the San Manuel Band of Mission Indians shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. All resources of concern/interest to Native American tribes that cannot be avoided shall be reburied on site as close to the original find location as possible, and within an area that will not be subjected to disturbance in the future. Archaeological materials not of concern/interest to Native American tribes recovered during any investigation shall be curated at an accredited curation facility. The Lead Archaeologist, in consultation with the San Manuel Band of Mission Indians, 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, the San Manuel Band of Mission Indians, and to the southern San Joaquin Valley Information Center at California State University, Bakersfield.

Level of Significance after Mitigation

With implementation of the Mitigation Measures MM 4.5-1 through MM 4.5-4, impacts would be less than significant. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's best management practices and APMs, and no mitigation is required for the SCE Interconnection Facilities.

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, 29 previous surveys had been conducted within the project site and that covered portions of the project area. These surveys located 13 cultural resources (11 archaeological sites, structures or features; and 2 isolated artifacts), all historical/Euro-American in origin. In addition, a subsequent Phase I field survey was conducted and six of the 11 previously recorded sites/structures/features and the two isolated artifacts could not be relocated and are assumed to have been destroyed since originally documented. At these locations, no resources were found to be present, and the sites were assumed to have been destroyed. These sites, therefore, lack archaeological context and do not provide sufficient information to qualify as historical resources.

Five new sites (all historical/Euro-Americana in origin) and eight isolated artifacts [consisting of ryolite flake, cryptocrystalline silicate (CCS) core, quartzite core with at least four visible flake scars, secondary CCS flakes (in three separate locations), and fragment of CCS shatter), were also identified and recorded during the survey and are considered single prehistoric/Native American lithic flakes/debitage. As indicated above, in the absence of mitigation, impacts to additional unknown resources could constitute a significant impact to the unidentified resource. However, with implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4, which require cultural resources sensitivity training for construction workers, archaeological and Native American monitoring during construction, and appropriate treatment of unearthed archaeological resources during construction, potential impacts would be reduced to less than significant.

SCE Interconnection Facilities

Impacts associated with construction of the SCE Interconnection Facilities are expected to encompass a relatively small footprint and minimal ground disturbance within the existing Whirlwind power station. 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

Mitigation Measures

Implement Mitigation Measures MM 4.5-1 through MM 4.5-4.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.5-1 through 4.5-4, impacts would be less than significant. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs for pre-construction study, data recovery, and halting of construction of an archaeological resource is found. No mitigation measures are required for the SCE Interconnection Facilities.

Impact 4.5-3: The project would disturb any human remains, including those interred outside of formal cemeteries.

There is no indication, either from the archival research results of the archaeological survey, that any particular location in the project area has been used for human burial purposes in the recent or distant past. However, given he sensitivity for buried archaeological resources, the project could inadvertently uncover, or damage human remains, which would be a significant impact. Implementation of MM 4.5-5, would ensure that any human remains encountered are appropriately addressed, thus reducing impacts to less than significant.

Mitigation Measures

MM 4.5-5: 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 of the California Environmental Quality Act *Guidelines* Section 15064.4(e)(1). 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 (PRC) Section 5097.98 (as amended by Assembly Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendent for the remains per PRC Section 5097.98. Per PRC Section 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. If the remains are determined to be neither of forensic value to the Coroner, nor of Native American origin, provisions of the California Health and Safety Code (Section 7100 et. seq.) directing identification of the next-of-kin will apply.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.5-5, impacts would be less than significant. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard

best management practices and APMs. No mitigation measures are required for the SCE Interconnection Facilities.

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*, and as shown in **Table 3-4**, *Cumulative Projects List*, of this EIR, would have on cultural resources. The geographic area of analysis of cumulative impacts for cultural resources includes the western Antelope Valley. The western Antelope Valley includes portions of the southeast corner of Kern County and portions of northern Los Angeles County. 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. Similar geology within this vicinity would likely yield fossils of similar sensitivity and quantity. 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 related projects, in conjunction with the proposed project, had or would have impacts on cultural resources that, when considered together, would be significant.

Development of the proposed project, in combination with other projects in the area, has the potential to contribute to a cumulatively significant cultural resources impact due to the potential loss of historical and archaeological resources unique to the region. However, mitigation measures are included in this EIR to reduce potentially significant project impacts to cultural resources during construction of the proposed project, which would reduce the project's incremental contribution to cumulative impacts. Implementation of Mitigation Measure MM 4.5-1 requires cultural resources sensitivity training for construction workers. Mitigation Measures MM 4.5-2 requires avoidance of archaeological site P15-14902, if feasible. MM 4.5-3 and Mitigation Measure MM 4.5-4 requires archaeological monitoring and appropriate treatment and protection of unearthed archaeological resources, should be located during construction. This would include those that qualify as historical resources. Implementation of these four mitigation measures would reduce potential impacts to historical and archaeological resources to a less-than-significant level. Although project construction his not anticipated to disturb human remains, the implementation of Mitigation Measures MM 4.5-5 would ensure the appropriate protocol is followed with regard to identifying and handling remains should they be inadvertently discovered.

With implementation of Mitigation Measures MM 4.5-1 through MM 4.5-5 as described above, the project site would not result in significant impacts to cultural resources. Given this minimal impact and similar mitigation requirements for other projects in the western Antelope Valley, cumulative impacts to cultural resources would be less than significant.

SCE Interconnection Facilities

Work at the Interconnection Facilities has the potential to cause impacts to archeological and paleontological resources that could become cumulatively considerable in combination with other excavation occurring throughout the rest of the analysis area; however, implementation of SCE's

standard best management practices and APMs would reduce these impacts and the impacts from decommissioning of these facilities to less than significant levels. Therefore, cumulative impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.5-1 through MM 4.5-5.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.5-1 through 4.5-5, cumulative impacts would be less than significant. Cumulative impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs for pre-construction study, data recovery, and halting of construction if resources are discovered. No mitigation is required for the SCE Interconnection Facilities

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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 energy resources: electricity and transportation-related energy (petroleum-based fuels). This energy section also includes general information relating to natural gas; however, no natural gas is proposed to be used in conjunction with the proposed project. This section includes a summary of the project's anticipated energy needs (detailed energy calculations are based on air quality outputs provided in the Air Quality/Greenhouse Gas Assessment provided in Appendix B of this EIR), and conservation measures. Information in this section is primarily based on the *Rosamond South Solar Project – Energy Consumption Technical Memorandum* (Energy Technical Memorandum) prepared by QK (QK, August 2021), provided in Appendix E of this EIR. In addition, the information found herein, as well as other aspects of the project's environmental-related energy impacts, are discussed in greater detail elsewhere in this EIR, including in Chapter 3, *Project Description*, Section 4.3, *Air Quality*, and Section 4.8, *Greenhouse Gas Emissions* of this EIR.

This section provides the content and analysis required by Public Resources Code, Section 21100(b)(3), and described in Section 15126.2(b) and Appendix F of the *CEQA Guidelines* (AEP, 2021). 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. Section 15126.2(b) and Appendix F state that the potential energy implications of a project shall be considered in an EIR, to the extent relevant and applicable to the project. Appendix F further states that a project's energy consumption and proposed conservation measures may be addressed, as relevant and applicable, in the Project Description, Environmental Setting and Impact Analysis portions of technical sections, as well as through mitigation measures and alternatives.

In late 2018, the California Natural Resources Agency finalized updates to the 2018 *CEQA Guidelines* (California Natural Resources Agency, 2018). Appendix G was amended to now include the analysis of energy. Previously included in Appendix F, the Appendix G Checklist now provides energy criteria for the analysis of wasteful energy consumption and conflicts with state or local energy efficiency plans (California Natural Resources Agency, 2018).

4.6.2 Environmental Setting

Electricity

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of

system components for distribution and use. The electricity generated is distributed through a network of transmission and distribution lines, commonly called a power grid.

Energy capacity, or electrical power, is generally measured in watts (W), while energy use is measured in watt-hours (Wh). For example, if a light bulb has a capacity rating of 100 W, the energy required to keep the bulb on for 1 hour would be 100 Wh. If ten 100 W bulbs were on for 1 hour, the energy required would be 1,000 Wh or 1 kilowatt-hour (kWh). On a utility scale, a generator's capacity is typically rated in megawatts (MW), which is one million watts, while energy usage is measured in megawatt-hours (MWh) or gigawatt-hours (GWh), which is one billion watt-hours.

Electrical services in the project area are provided by Southern California Edison (SCE). SCE obtains its energy supplies from power plants and natural gas fields in Northern California, as well as from energy purchased outside its service area and delivered through high-voltage transmission lines and pipelines. Power is generated from various sources, including fossil fuel, hydroelectric, nuclear, wind, and geothermal plants, and is fed into the electrical grid system serving Southern California.

SCE updates all load forecasts for gas and electricity services every year. Load growth forecasts for the project area are currently determined using load growth projection tools that use a number of sources of data, including past peak loading, population, development characteristics, and temperature history information. **Table 4.6-1**, *Electric Power Mix Delivered to Retail Customers in 2019*, shows the electric power mix that was delivered to retail customers of SCE compared to the Statewide power mix for 2019, the most recent year in which data is available.

SCE Interconnection Facilities

The SCE property is developed currently with an electrical substation and electrical transmission facilities used to transmit to the grid energy generated by renewable energy projects in vicinity of the project

Table 4.6-1: Electric Power Mix Delivered to Retail Customers in 2019 and 2020

Energy Resource	2019 SCE	2019 CA Power Mix (for comparison) [a]	2020 CA Power Mix (for comparison)[a]
Eligible Renewable	**35.1%**	**31.7%**	**33.09%**
Biomass & bio-waste	0.6%	2.44%	2.45%
Geothermal	5.9%	4.77%	4.89%
Eligible hydroelectric	1%	2.03%	1.39%
Solar	16%	12.28%	13.23%
Wind	11.5%	10.17%	11.13%
Coal	**0%**	**2.96%**	**2.74%**
Large Hydroelectric	**7.9%**	**14.62%**	**12.21%**
Natural Gas	**16.1%**	**34.23%**	**37.06%**
Nuclear	**8.2%**	**8.98%**	**9.33%**

Table 4.6-1: Electric Power Mix Delivered to Retail Customers in 2019 and 2020

Energy Resource	2019 SCE	2019 CA Power Mix (for comparison) [a]	2020 CA Power Mix (for comparison)[a]
Other	0.1%	<1%	<1%
Unspecified sources of power[c]	32.6%	7.34%	5.36%
Total	100%	100%	100%

[a] Percentages are estimated annually by the California Energy Commission based on the electricity generated in California and net imports as reported to the Quarterly Fuel and Energy Report database and the Power Source Disclosure program.

[b] The Eligible Renewables category is further delineated into the specific sources: biomass & waste, geothermal, small hydroelectric, solar, and wind.

[c] "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.

SOURCE: SCE, 2019, California Energy Commission, 2019 and 2020.

Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs and delivered through high-pressure transmission pipelines. Natural gas provides almost one-third of the state's total energy requirements. Natural gas is measured in terms of cubic feet (cf). Southern California Gas Company is the natural gas provider in Kern County; however, there is not a known natural gas service for the project site.

Transportation

According to the California Energy Commission (CEC), transportation accounted for approximately 40 percent of California's total energy consumption in 2019 (CEC, 2019a). In 2020, California consumed 14.0 billion gallons of gasoline and 3.0 billion gallons of diesel fuel (California Department of Tax and Fee Administration 2020a and 2020b). Petroleum-based fuels currently account for more than 90 percent of California's transportation fuel use (CEC, 2021). However, the State is now working on developing flexible strategies to reduce petroleum use. Over the last decade, California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and greenhouse gas (GHG) from the transportation sector, and reduce vehicle miles traveled (CEC, 2016a). The CEC predicts that the demand for gasoline will continue to decline over the next 10 years, and there will be an increase in the use of alternative fuels (CEC, 2021). According to CARB's EMFAC2017 Web Database, Kern County on-road transportation sources consumed approximately 445 million gallons of gasoline and 311 million gallons of diesel fuel in 2019 (CARB, 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 United States Environmental Protection Agency (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, 2021).

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).

Current Fuel standards are set to the year 2035 with a CAFÉ standard of 57.6 mpg for passenger cars and 40.4 mpg for light trucks (NHTSA, 2021). In August, of 2021, The U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced today that it will soon propose robust new fuel economy standards. The reconsideration of the fuel economy standards set in 2020 is in direct response to President Biden's Executive Order 13990 and the Biden-Harris Administration's commitment to promote and protect public health and the environment (NHSTA, 2021).

Energy Independence and Security Act of 2007

Signed into law in December 2007, the Energy Independence and Security Act was passed to increase the production of clean renewable fuels; increase the efficiency of products, buildings, and vehicles; improve the energy performance of the federal government; and increase U.S. energy security, develop renewable fuel production, and improve vehicle fuel economy. The act included the first increase in fuel economy standards for passenger cars since 1975, and also included a new energy grant program for use by local governments in implemented energy-efficiency initiatives, as well as a variety of green building incentives and programs.

State

Senate Bill 1389

Senate Bill (SB) 1389 (Public Resources Code Sections 25300–25323; SB 1389) requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy

recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code Section 25301[a]). The 2016 Integrated Energy Policy Report provides the results of the CEC's assessments of a variety of energy issues facing California including energy efficiency, strategies related to data for improved decisions in the Existing Buildings Energy Efficiency Action Plan, building energy efficiency standards, the impact of drought on California's energy system, achieving 50 percent renewables by 2030, the California Energy Demand Forecast, the Natural Gas Outlook, the Transportation Energy Demand Forecast, Alternative and Renewable Fuel and Vehicle Technology Program benefits updates, update on electricity infrastructure in Southern California, an update on trends in California's sources of crude oil, an update on California's nuclear plants, and other energy issues.

California's Renewables Portfolio Standard

First established in 2002 under SB 1078, California's Renewables Portfolio Standards (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent by 2020 and 50 percent by 2030 (CPUC, 2021).

In 2018, SB 100 further increased California's RPS and required retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by the end of 2024, 52 percent by the end of 2027, and 60 percent by the end of 2030; and that the California Air Resources Board (CARB) should plan for 100 percent eligible renewable energy resources and zero-carbon resources by the end of 2045. The California Public Utilities Commission (CPUC) and the CEC jointly implement the RPS program. The CPUC's responsibilities include: (1) determining annual procurement targets and enforcing compliance; (2) reviewing and approving each investor-owned utility's renewable energy procurement plan; (3) reviewing contracts for RPS-eligible energy; and (4) establishing the standard terms and conditions used in contracts for eligible renewable energy. Refer to Section 4.8, *Greenhouse Gas Emissions*, of this EIR for additional details regarding this regulation.

California Assembly Bill 1493 (AB 1493, Pavley)

In response to the transportation sector accounting for more than half of California's CO2 emissions, Assembly Bill (AB) 1493 (commonly referred to as CARB's Pavley regulations), enacted in 2002, requires CARB to set GHG emission standards for new passenger vehicles, light-duty trucks, and other vehicles manufactured in and after 2009 whose primary use is non-commercial personal transportation. Phase I of the legislation established standards for model years 2009–2016 and Phase II established standards for model years 2017–2025 (CARB,2017). Refer to Section 4.8, *Greenhouse Gas Emissions*, of this EIR for additional details regarding this regulation.

California Health and Safety Code (HSC), Division 25.5/California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted AB 32 (codified in the California HSC, Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. Under HSC Division 25.5, CARB has the primary responsibility for reducing the State's GHG emissions; however, AB 32 also tasked the CEC and the CPUC with providing information, analysis, and recommendations to CARB regarding strategies to reduce GHG emissions in the energy sector.

In 2016, SB 32 and its companion bill AB 197 amended HSC Division 25.5, established a new climate pollution reduction target of 40 percent below 1990 levels by 2030, and included provisions to ensure that the benefits of state climate policies reach into disadvantaged communities. Refer to Section 4.8, *Greenhouse Gas Emissions*, of this EIR for additional details regarding these regulations.

Low Carbon Fuel Standard

The Low Carbon Fuel Standard (LCFS), established in 2007 through Executive Order S-1-07 and administered by CARB, requires producers of petroleum-based fuels to reduce the carbon intensity of their products, starting with 0.25 percent in 2011 and culminating in a 10-percent total reduction in 2020. Petroleum importers, refiners and wholesalers can either develop their own low carbon fuel products, or buy LCFS credits from other companies that develop and sell low carbon alternative fuels, such as biofuels, electricity, natural gas and hydrogen.

California Air Resources Board

CARB's Advanced Clean Car Program

The Advanced Clean Cars emissions-control program was approved by CARB in 2012 and is closely associated with the Pavley regulations. The program requires a greater number of zero-emission vehicle models for years 2015 through 2025 to control smog, soot and GHG emissions. This program includes the Low-Emissions Vehicle (LEV) regulations to reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles; and the Zero-Emissions Vehicle regulations (ZEV) to require manufactures to produce an increasing number of pure ZEV's (meaning battery and fuel cell electric vehicles) with the provision to produce plug-in hybrid electric vehicles (PHEV) between 2018 and 2025.

Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

In 2004, CARB adopted an Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling in order to reduce public exposure to diesel particulate matter emissions (Title 13 California Code of Regulations [CCR] Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given location. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling.

Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles.

In addition to limiting exhaust from idling trucks, in 2008, CARB approved the Truck and Bus regulation to reduce NO_X, PM10, and PM2.5 emissions from existing diesel vehicles operating in California (13 CCR, Section 2025). The phased regulation aims to reduce emissions by requiring installation of diesel soot filters and encouraging the retirement, replacement, or retrofit of older engines with newer emission-controlled models. The phasing of this regulation has full implementation by 2023.

CARB also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower (hp) such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The In-Use Off-Road Diesel-Fueled Fleets regulation adopted by CARB on July 26, 2007 aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models (13 CCR Section 2449). The compliance schedule requires full implementation by 2023 in all equipment for large and medium fleets and by 2028 for small fleets.

While the goals of these measures are primarily to reduce public health impacts from diesel emissions, compliance with the regulation has shown an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines.

California Environmental Quality Act

In accordance with CEQA and Appendix F, Energy Conservation, of the 2018 *CEQA Guidelines*, and to assure that energy implications are considered in project decisions, EIRs are required to include a discussion of the potential significant energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the *CEQA Guidelines* provides a list of energy-related topics to be analyzed in the EIR. In addition, while not described or required as significance thresholds for determining the significance of impacts related to energy, Appendix F provides the following topics for consideration in the discussion of energy use in an EIR, to the extent the topics are applicable or relevant to the project:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed;
- The effects of the project on local and regional energy supplies and on requirements for additional capacity;
- The effects of the project on peak and base period demands for electricity and other forms of energy;
- The degree to which the project complies with existing energy standards;
- The effects of the project on energy resources; and
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

In late 2018, the California Natural Resources Agency finalized updates to the 2018 *CEQA Guidelines* (California Natural Resources Agency, 2018). Appendix G was amended to now include the analysis of energy. Previously included in Appendix F, the Appendix G Checklist now provides energy criteria for the analysis of wasteful energy consumption and conflicts with state or local energy efficiency plans (California Natural Resources Agency, 2018). Appendix F did not describe or require significance thresholds for determining the significance of impacts related to energy. According to the updated Appendix G Checklist, Issue VI. Energy, a project would have a significant impact on energy and energy resources if it would:

a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Local

Kern County General Plan

The goals, policies, and implementation measures in the Energy Element of the Kern County General Plan (Kern County 2009) applicable to energy, as related to the project, are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the project. Therefore, they are not listed below.

Chapter 5. Energy Element

5.4.5. Solar Energy Development

Goal

Goal 1: Encourage safe and orderly commercial solar development.

Policies

Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.

Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

Willow Springs Specific Plan

The project site is located within the Willow Springs Specific Plan area. The Willow Springs Specific Plan was adopted in 1992 (most recently revised on April 1, 2008) 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 Willow Springs Specific Plan area. There are no specific energy-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project.

4.6.4 Impacts and Mitigation Measures

Methodology

This analysis addresses the project's potential energy usage, including electricity 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 (QK, 2021) prepared for the project. A full copy of the report is provided in Appendix E of this EIR.

Construction

Electricity is not expected to be consumed in large quantity during project construction, as construction equipment and vehicles are not electric (diesel- or gas-powered). While construction may include construction trailers that will connect to electricity, electricity consumption by these trailers was not estimated in the Energy Technical Memorandum (QK, 2021) since the size of these trailers is unknown at this time, and any electricity consumption to power basic office needs would be negligible. However, electricity is expected to be consumed for the conveyance, treatment, and distribution of water for the project site during construction. This electricity consumption was estimated in the Energy Technical Memorandum (QK, 2021) for the proposed project using water usage assumptions provided by the project applicant in combination with CalEEMod defaults for electricity intensity factors.

Natural gas is not proposed to be consumed during project construction (i.e., no natural gas-powered equipment or vehicles). Therefore, natural gas associated with construction activities was not calculated.

Regarding transportation-related fuel consumption during construction, the project construction equipment and haul trucks would likely be diesel-fueled, while the construction worker commute vehicles would primarily be gasoline-fueled. Construction activity durations, off-road equipment, horsepower ratings, hours of use, and load factors provided by the applicant and default assumptions from California Emissions Estimator Model (CalEEMod) version 2016.3.1 were used to calculate construction-related fuel use. The estimated fuel economy for haul trucks and worker commute vehicles (on-road sources) is based on fuel consumption factors from the CARB EMFAC emissions model, which is a state-approved model for estimating emissions on-road vehicles and trucks. Both OFFROAD and EMFAC are incorporated into CalEEMod, which is a state-approved emissions model used for the project's air quality and GHG emissions assessment.

Operation

Electricity would be used by the project for pumping water to the CUP Areas as well as by the proposed O&M building(s). As with construction, the water-related emissions during project operation were calculated using water usage assumptions provided by the project applicant in combination outputs from the CalEEMod defaults for electricity intensity factors associated with water conveyance, treatment, and distribution. The emissions associated with operation of the O&M building(s) (i.e., electricity consumption from staff use of lighting, space heating and cooling units, general appliances, water heating) were calculated based on the square footage of the facility in combination with CalEEMod defaults for energy intensity values (electricity usage per square foot per year).

Natural gas is not proposed to be consumed during project operation. Therefore, natural gas associated with operations was not calculated.

Energy for transportation from employees to the project site was estimated based on the predicted number of trips to and from the project and the estimated VMT. The analysis assumed two full-time personnel. Pick-up trucks as well as the vehicles used by workers commuting to and from the project site are assumed to likely use gasoline. On-site operational equipment is likely to use diesel. The energy use associated with fuel consumption during project operation was derived the same way as fuel consumption during construction of the project.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify, per Appendix G of the *CEQA Guidelines*, a project would have a significant impact on energy and energy resources if it would:

a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Project Impacts

Impact 4.6-1: The project would result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

Construction

Construction and decommissioning of the new solar energy generation facility is expected to require the use of non-renewable resources in the form of gasoline and diesel to power off-road construction equipment and on-road vehicles as well as electricity consumed from water conveyance, treatment, and distribution during construction of the project. As shown in **Table 4.6-2**, *Project Construction Energy Usage*, construction activities are expected to consume approximately 17,570 gallons of gasoline, 336,090 gallons of diesel and 14,151,754 kWh of electricity. This would represent 0.0039 percent of Kern County's annual gasoline fuel use in 2019, 0.11 percent of Kern County's annual diesel fuel use in 2019, and 0.017 percent of the total electricity consumption in the Kern County SCE service area in 2019, respectively.

As noted above, construction of the project would not result in any natural gas consumption on the site (similarly, decommissioning of the project would not result in any natural gas consumption on the site). Therefore, the project would not result in wasteful, inefficient, or unnecessary consumption of natural gas, and impacts would be less than significant.

Energy consumption associated with decommissioning activities is anticipated to be similar to construction activities but would be expected to result in lower fuel demand as technology improves and equipment becomes more fuel efficient.

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. However, the consumption of fuels during construction and decommissioning would be irreversible and the project could result in a wasteful, inefficient, or unnecessary consumption of energy resources if available control measures are not implemented. The project does not propose any energy control measures during construction. As a result, this impact would be potentially significant. Implementation of Mitigation Measure MM 4.3-1, as provided in Section 4.3, Air Quality, of this EIR, would require the use of energy-efficient and alternatively-fueled equipment during project construction and would also ensure compliance with Title 13, California Code of

Regulations, Section 2449 et seq., which imposes construction equipment idling restrictions. Compliance with Title 13 would also help to reduce unnecessary fuel consumption during project construction. With implementation of this mitigation, the project would not result in the wasteful, inefficient, or unnecessary consumption of transportation fuels and impacts would be reduced to less than significant.

Table 4.6-2: Project Construction Energy Usage

Source	Total Gallons of Gasoline Fuel	Total Gallons of Diesel Fuel	Total Electricity (kWh)
Kern County (2019); SCE (2019)	**445,000,000**	**311,000,000**	**82,823,000,000**
Construction:	**17,570**	**336,090**	**14,151,754**
% of County	**0.0039%**	**0.11%**	**0.017%**

SOURCE: QK, 2021; California Energy Commission, 2021.

Operation

Operational energy consumption in the form of electricity would occur as a result of the general office use of and HVAC for the O&M building(s). However, electricity use would be offset by the power produced by the proposed solar panels. In addition, the use of transportation fuel would be minimal and is predominately associated with worker commute trips and occasional panel washing activities. Energy use associated with long-term operational activities is summarized in **Table 4.6-3**, *Project Operational Energy Usage*. As shown, operation of the project would consume approximately 63 gallons of gasoline, 385 gallons of diesel and 17,529 kWh of electricity annually. This would be 0.000014 percent of Kern County's annual gasoline fuel use in 2019, 0.00012 percent of Kern County's annual diesel fuel use in 2019, and 0.0000000012 percent of the total electricity consumption in the Kern County SCE service area in 2019, respectively.

Table 4.6-3: Project Operational Energy Usage

Source	Total Gallons of Gasoline Fuel	Total Gallons of Diesel Fuel	Total Electricity (kWh)
Kern County (2019); SCE (2019)	**445,000,000**	**311,000,000**	**82,823,000,000**
Total	**63**	**385**	**17,529**
Percent of County	**0.000014%**	**0.00012%**	**0.0000000012%**

SOURCES: QK, 2021; California Energy Commission, 2019, CARB, 2020

Operation of the project would not result in any natural gas consumption on the site. Therefore, the project would not result in wasteful, inefficient, or unnecessary consumption of natural gas, and impacts would be less than significant.

Total annual electricity generation by the proposed project is estimated to be 471,775,074 kWh annually (or 14,153,252,220 kWh over the life of the project), which more than offsets the energy consumed annually to operate the project (as shown in **Table 4.6-3,** *Project Operational Energy Usage*. This production is anticipated to remain relatively constant throughout operation of the project. This electricity generation would assist State investor-owned utilities in meeting their

obligations under State RPS guidelines by providing a renewable energy alternative to the utilities' existing power mix. In addition, operation of the project would not result in any natural gas consumption on the site. Therefore, the project would not result in wasteful, inefficient, or unnecessary consumption of electricity or natural gas, and impacts would be less than significant.

As shown in **Table 4.6-3**, *Project Operational Energy Usage*, the project is anticipated to consume approximately 63 gallons of gasoline and 385 gallons of diesel per year, representing a fraction of a percent of the County's annual gasoline and diesel use, respectively. As stated in Section 4.15, *Transportation and Traffic*, trips to the project site would be minimal and panel cleaning would happen periodically. Based on the minimal number of trips, the negligible fuel use, and the cleaning of panels on an as-needed basis, the project would not result in wasteful, inefficient, or unnecessary consumption of transportation fuels. Overall, impacts would be less than significant.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy is not expected to result the wasteful, inefficient or unnecessary consumption of energy. SCE's best management practices and APMs would ensure the Facilities are constructed and operated in an energy-efficient way.

Mitigation Measures

Implement Mitigation Measure MM 4.3-1 as provided in Section 4.3, *Air Quality*, of this EIR.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.3-1, impacts would be less than significant. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

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. 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 five minutes at a location and the phase-in of off-road emission standards that result in an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines. Although these regulations are intended to reduce criteria pollutant emissions, compliance with the anti-idling and emissions regulations would also result in the efficient use of construction-related energy.

Operation

In order to meet the AB 32 GHG emissions reduction mandate, the Climate Change Scoping Plan relies on achievement of the 33 percent RPS by 2020 and 50 percent by 2030. The project and other similar projects are essential to achieving the RPS. Further, as discussed previously, the project is reasonably expected to displace region-wide and statewide emissions of GHGs over the expected life of the project. The reduction in GHG emissions are a direct result of increasing the share of renewable energy available to investor-owned utilities required to meet RPS. The project directly aligns with the goals of RPS by generating 471,775,074 kWh of renewable electricity annually.

Furthermore, as the project would have an electric power generating capacity of approximately 154 MW of renewable electrical energy and up to 200 MW of battery energy storage capacity annually over a 30-year life span, the project would be consistent with the Attorney General's recommended measures to reduce GHG emissions. Specifically, the project complies with the Attorney General's Recommended Measure to "Install solar and wind power systems, solar and tank less hot water heaters, and energy-efficient heating ventilation and air conditioning." Therefore, the project would be compliant with the Attorney General's Recommended Measure regarding renewable energy. Because the project is below regional regulatory thresholds and could result in a reduction of GHG emissions, no mitigation measures are required.

With regard to the proposed O&M building(s), the building(s) would be subject to the Building Energy Efficiency Standards as required by the California Code of Regulations, Title 24, Part 6. The Building Energy Efficiency Standards are intended to save energy, increase electricity supply reliability, and avoid the need to construct new power plants. Pursuant to the California Building Standards Code and the Energy Efficiency Standards, the County would review the design components of the project's energy conservation measures when the project's building plans are submitted. These measures could include insulation; use of energy-efficient heating, ventilation, and air conditioning equipment (HVAC); solar-reflective roofing materials; energy-efficient indoor and outdoor lighting systems; reclamation of heat rejection from refrigeration equipment to generate hot water; incorporation of skylights; and other measures. The project would also be subject to CALGreen, which requires 65 percent construction solid waste diversion.

Overall, because the main objectives of the project are to assist California Investor-Owned utilities in meeting their obligations under California's RPS Program and assist California in meeting the GHG emissions reduction goal of 1990 level GHG emissions by 2020, as required by AB 32, and the future reduction goal of 40 percent below 1990 levels by 2030, the project would be compliant with the applicable recommended actions of the CARB Climate Change Scoping Plan as well as applicable federal, State and local policies. Specifically, the project would assist the State and regulated utility providers to generate a greater portion of energy from renewable sources consistent with the 2020 and 2030 RPS. Therefore, the project impact would be less than significant.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would contribute to the State of California's ability to meet its renewable energy generation and GHG emission reduction goals.

Mitigation Measures

No mitigation would be required.

Level of Significance after Mitigation

Impacts would be less than significant for the project and SCE Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative impacts occur when the incremental effects of a project are significant when combined with similar impacts from other past, present, or reasonably foreseeable projects in a similar geographic area. As presented in Chapter 3, *Project Description*, of this EIR, there are 16 related projects located within the vicinity of the project site The geographic context for the analysis of cumulative impacts on electricity is SCE's service area because the project and related projects are located within the service boundaries of SCE.

Cumulative projects in the project area listed in **Table 3-4**, *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 AB 32 GHG emissions reduction mandate, the Climate Change Scoping Plan relies on achievement of the RPS target of 33 percent of California's energy coming from renewable sources by 2020. In order to meet the SB 32 GHG emissions reduction mandate, the 2017 Scoping Plan relies on achievement of the RPS target of 60 percent of California's energy coming from renewable sources by 2030 and 100 percent renewable sources by 2045. The project and other similar projects are essential to achieving the RPS.

The main source of energy consumption from the project would be construction equipment usage, haul truck trips, and employee trips during the construction phase and panel washing activities, maintenance trips, and employee trips during project operation of the project as well as electricity used for the O&M building(s). The project's emissions would, therefore, contribute to the increase in emissions in the transportation sector as well as electricity generation sector. Construction emissions would be finite and temporary and would cease at the end of construction activities.

Although the project would contribute to cumulative energy consumption in California, the project 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. In addition, operation of the project could offset emissions from the electricity generation sector by producing approximately 471,775,074 kWh of renewable electricity annually. As stated above, a majority of the related projects are solar or wind farms that would have similar energy use that would be offset by renewable energy generation and would have minimal operational trips to and from the sites. Overall, the project clearly would not contribute to cumulative energy consumption in California because operation of the project would provide

electric power with negligible operational energy consumption over the long term when compared to traditional fossil-fueled generation technologies. Thus, the project would not have a cumulatively considerable impact on energy consumption, would not conflict with any renewable energy plans, and cumulative impacts would be less than significant.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy is not expected to result the wasteful, inefficient or unnecessary consumption of energy. SCE's best management practices and APMs would ensure the Facilities are constructed and operated in an energy-efficient way. The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would also contribute to the State of California's ability to meet its renewable energy generation and GHG emission reduction goals.

Mitigation Measures

Implement Mitigation Measure MM 4.3-1, as provided in Section 4.3, *Air Quality*, of this EIR.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.3-1, cumulative impacts would be less than significant. Cumulative impacts would be less than significant for the SCE Interconnection Facilities with SCE's best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities

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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 *Report of Expected Geotechnical Conditions, Rosamond South Solar* (Terracon, 2020) (Appendix F-1), and the *Paleontological Resources Technical Report* (San Diego Natural History Museum Department of PaleoServices, 2020) (Appendix F-2), that were prepared for the project.

4.7.2 Environmental Setting

Regional Geologic Setting

The project is located within the Antelope Valley, which is approximate 2,200 square miles and is in the western portion of what is the Mojave Desert geomorphic province. The geologic features of this province are characterized by isolated mountains separated by vast desert plains that enclose the basin (no drainage outlet to the ocean). The project site is within the northwesterly portion of this area and is characteristic of the geologic conditions within the Willow Springs and Rosamond quadrangles. Combined, these encompass an area of over 490 square miles and include the northern part of Antelope Valley and a small part of the southeastern slope of the Tehachapi Mountains. Elevations range from 2,271 feet at Rosamond Lake (dry) to 6,900 feet in the Tehachapi Mountains. The rock units of the area may be divided into three groups separated by unconformities. These groups are: pre-Tertiary crystalline rocks; Tertiary volcanic, pyroclastic, and sedimentary rocks; and Quaternary sedimentary deposits (Dibble, Jr., 1963).

The area is strongly influenced by the prominent northwest to southeast trending San Andreas fault and the Garlock fault that trends east and west. These faults help form the Mojave province, which is wedged in a sharp angle between the two faults. 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, 2021a). The San Andreas Fault is part of a larger fault network that cuts through the California coastal region and extends from northern California to the San Bernardino area of southern California (SCEDC, 2021b).

The nearest segment of the Garlock fault is located approximately 10 miles northwest of the project site and the nearest segment San Andreas fault is located approximately 11.5 miles southwest of the site. California Geological Survey (CGS) indicates the Willow Springs fault mapped approximately 2 miles north of the eastern portion of the site. Similarly, the CGS mapped an unnamed fault approximately 2 miles northwest of the western portion of the site. An unnamed fault strand containing Alquist Priolo zoning exists approximately 7.5 miles south of the western portion of the project site. Geologic mapping, however, indicates that none of the project CUP areas are intersected by any known faults (Terracon, 2021).

San Andreas Fault

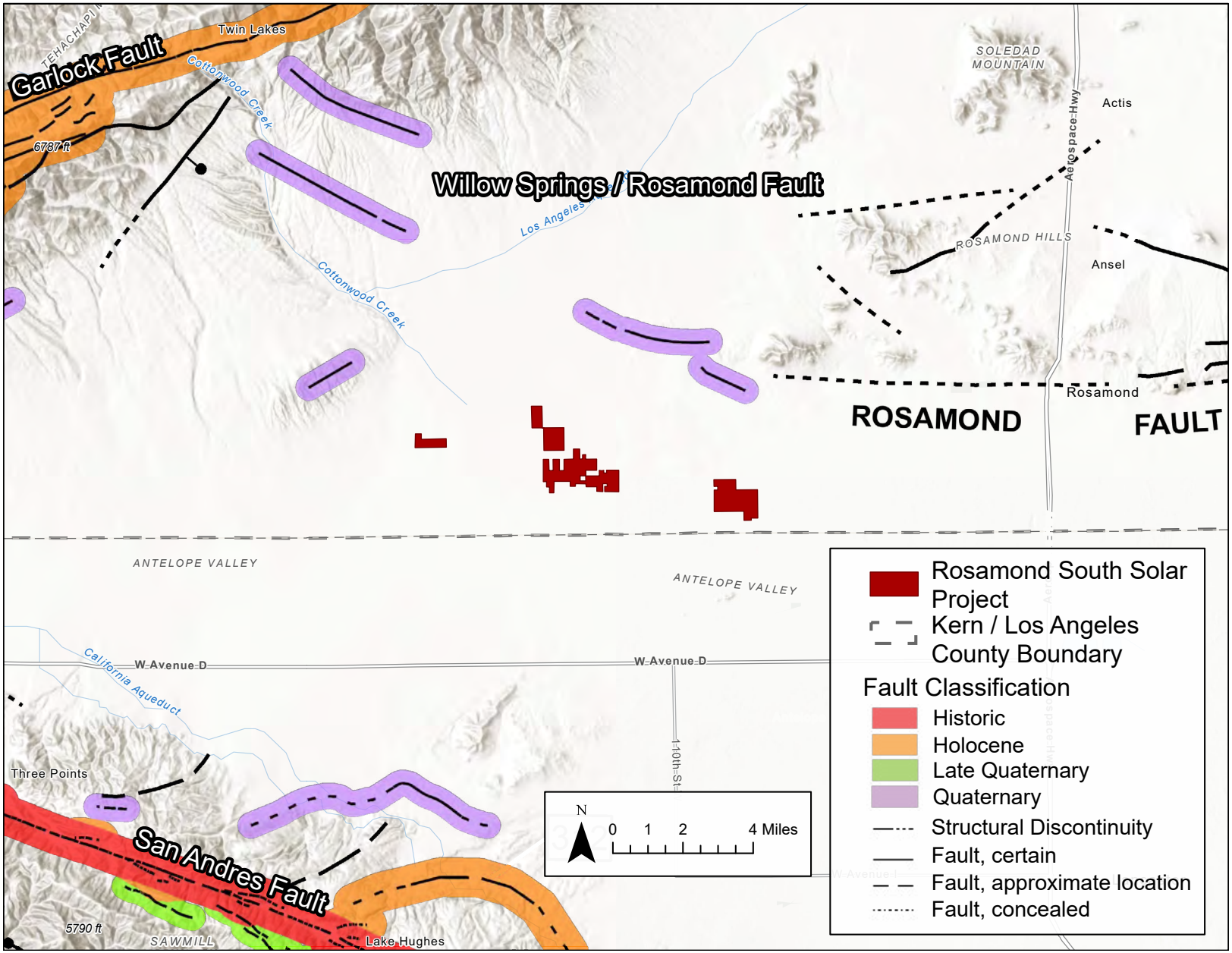
The San Andreas Fault is a right-lateral, strike-slip fault that extends more than 700 miles from the Gulf of California to Cape Mendocino in Northern California. The segment of the San Andreas Fault within Kern County is relatively short compared to its overall 700-mile length. However, it is important because this segment breaks from the system's predominantly 350-degree trending direction between the San Luis Obispo County and Los Angeles County line. This is an active fault capable of damaging the project area. Areas along this fault have been designated by the State of California as Alquist-Priolo Special Studies Zones. Several historical earthquakes on the San Andreas Fault Zone have produced significant seismic shaking within the vicinity of the proposed project. The San Andreas Fault is located approximately 11.5 miles southwest of the project site.

Garlock Fault

The Garlock Fault extends eastward from its point of intersection with the San Andreas Fault, near Lebec, for a distance of nearly 150 miles. The fault is located nearly 10 miles northwest of the project site. The Garlock Fault Zone is one of the most obvious geologic features in Southern California, clearly marking the northern boundary of the area known as the Mojave Block, as well as the southern ends of the Sierra Nevada Mountain Range and the valleys of the westernmost Basin and Range Province. While no earthquake has produced surface rupture on the Garlock Fault in historic times, there have been a few sizable quakes recorded along the Garlock Fault Zone. The most recent was a magnitude 5.7 event near the town of Mojave on July 11, 1992. It was believed to have been triggered by the Landers earthquake just two weeks earlier. At least one section of the fault has shown movement in recent years. This is an active fault capable of damaging the area.

Willow Springs (Rosamond) Fault

The Willow Springs Fault is a northwest to southeast trending fault and is located approximately one mile north of CUP Area 4 and two to three miles north of CUP Areas 1, 2, and 3. The fault is approximately 6 miles in total length and is the closest fault to the project site. The fault is quaternary aged and exhibits vertical displacement that is evidence by an approximately three-mile scrap/cliff and is considered normal. The fault is aligned with the Cottonwood Fault which is approximately 6 miles northwest of CUP Area 1. There is an approximately four miles gap between the two faults where no faults are mapped. The Willow Springs fault also may be inferred to extend eastward under Quaternary alluvium along the southern bases of Willow Springs Mountain, Tropico Hill, and the Rosamond Hills to Rosamond Lake. While the amount of total vertical displacement is not known, the fault does not show great displacement. **Figure 4.7-1 –** *Fault Location Map*, shows the project site in relation to the above listed faults.



SOURCE: ArcGIS Pro, California Department of Conservation (CDOC), 2010

FIGURE 4.7-1: Fault Location Map

Local Geologic Setting

The project site is generally underlain by Holocene- and Pleistocene-age alluvial deposits derived from regional erosion of the surrounding highlands. Extensive alluvial fan complexes originating from the mouths of numerous deeply incised canyons on the southeastern flanks of the Tehachapi Mountains and northeastern flanks of the San Gabriel Mountains extend out into Antelope Valley. These alluvial fan complexes have been depositing sediment since at least the early Pleistocene, with younger, Holocene-age alluvial fan complexes building on top of older, Pleistocene-age complexes. Alluvial fan complexes generally consist of coarser-grained fan deposits, originating as overland sheetwash flows from the flanks of the uplands, and finer-grained alluvial valley deposits originating in distributary alluvial channels on the distal fringes of the fans.

Within the project site, CUP Area 1 is underlain by late Holocene-age alluvial fan deposits and Holocene- to late Pleistocene-age young alluvial fan deposits; CUP Area 2 is underlain by late Holocene-age alluvial fan deposits, late Holocene-age alluvial wash deposits, and Holocene- to late Pleistocene-age young alluvial fan deposits; CUP Area 3 is underlain by late Holocene-age eolian deposits, Holocene- to late Pleistocene-age young alluvial valley deposits, and Holocene- to late Pleistocene-age young alluvial fan deposits; and CUP Area 4 is underlain by late Holocene-age alluvial valley deposits and Holocene- to late Pleistocene-age young alluvial valley deposits. The alluvial deposits are generally derived from erosion of the surrounding highlands (e.g., Tehachapi Mountains, San Gabriel Mountains). Presumably, the Holocene-age deposits transition downsection (i.e., at depth) into older, Pleistocene age deposits.

Paleontological Resources

Paleontological resources (i.e., fossils) are the buried remains and/or traces of prehistoric organisms (i.e., animals, plants, and microbes). Resources can be persistent through many years if undisturbed, or may be destroyed through natural or human disturbance such as construction. Body fossils such as bones, teeth, shells leaves, and wood, as well as trace fossils such as tracks, trails, burrows, and footprints, are found in the geologic units/formations within which they were originally buried. The primary factor determining whether an object is a fossil or not is the age of the organic remain or trace. Although it is typical that fossils must be older than approximately 11,700 years, materials as young as 5,000 years can also be considered. One other consideration is the geologic units in which a project occurs because some localities and the geologic units are considered to have a greater paleontological sensitivity, or potential to contain fossils. Accordingly, paleontological resources can also include these localities and the geologic units in which the resources may be located. Ultimately, the paleontological potential is determined based on the existence of known fossil localities within a given geologic unit, and/or the potential for future fossil discoveries, given the age and depositional environment of a particular geologic unit, and are discussed in more detail below.

High Potential Areas

Geologic units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Geologic units classified as having high potential include, but are not limited to, some volcaniclastic formations (e. g., ashes or tephras), some low-grade metamorphic

rocks which contain significant paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Geologic units which contain potentially datable organic remains older than late Holocene, including deposits associated with animal nests or middens, and geologic units which may contain new vertebrate deposits, traces, or trackways are also classified as having high potential.

Undetermined Potential

Areas with undetermined potential for the purpose of this report are geologic units where there is little information available concerning their paleontological content, geologic age, and depositional environment. Additional study is needed in these areas to determine if these geologic units have high or low potential (discussed below) to contain significant paleontological resources. For planning purposes, this class of resource potential represents a conservative assessment that assumes an undetermined geologic unit is fossil-bearing until proven otherwise. To determine the potential of an area, and an often-used mitigation strategy, is the use of field surveys such as pre-construction survey or monitoring during ground disturbance and excavation that expose geologic units that allow for a physical search for fossils while also studying the stratigraphy of the unit. These strategies allow for refinement of the resource potential of the unit over the course of the program and can be used to reevaluate or evaluate the resource potential of other areas within or with similar geologic characteristics.

Low Potential

Areas with a low potential for yielding significant fossils are those that are poorly represented by fossil specimens in institutional collections, or based on general scientific consensus, only preserve fossils in rare circumstances where the presence of fossils is an exception not the rule, e. g. basalt flows or recent colluvium.

No Potential

Geologic units with no potential are either entirely igneous in origin and therefore do not contain fossil remains, or are moderately to highly metamorphosed and thus any previously present resources would have been destroyed. Artificial fill materials also have no potential, because the stratigraphic and geologic context of any contained organic remains (i.e., fossils) has been lost. For projects encountering only these types of geologic units, paleontological resources can generally be eliminated as a concern.

Existing Paleontological Resources

Records searches of the paleontological collections at the San Diego Natural History Museum (SDNHM), San Bernardino County Museum (SBCM), and Los Angeles County Museum (LACM) indicate that there are no known fossil collection localities within a 1-mile radius of the project site. However, fossil localities are known from Pleistocene-age alluvial and lacustrine deposits elsewhere in the Antelope Valley and the greater western Mojave Desert region. In addition, the SDNHM does not have any are recorded finds within the region, the SBCM and LACM have reports of several localities with discoveries in Quaternary alluvial and lacustrine deposits of the western Mojave Desert. Other areas in localities within Quaternary alluvial and lacustrine deposits have yielded fossil remains such as mammoth, horse, antilocaprid antelope, camel, bison, dog),

small mammals (e.g., rodents, bats, shrews, rabbits), and other terrestrial vertebrates (e.g., snakes, lizards, tortoises, birds).

Some of the most significant Pleistocene-age fossil assemblages from the greater Antelope Valley have been discovered in ancient lake deposits. While there are no lake deposits mapped at the surface within the project site, it is possible that lake deposits may be present at depth (15 feet bgs or deeper). Most notable among the lakes was Lake Thompson, and although it did not occupy an area within the project site, the high shoreline was located to the east of the area.

Local Geologic Setting

Soils and Topography

Based on a review of the United States Department of Agriculture Natural Resources Conservation Service, there are five different types of soils within the project site. The soils, the approximate area of the site which they cover, and soil characteristics are shown in **Table 4.7-1** – *Project Soils*.

Table 4.7-1: Project Soils

NRCS Soil Series	% of site	Corrosivity		Soil Classification		
		Concrete	Steel	% Silt and Clay	Liquid Limit	USCS
Hesperia Fine Sandy Loam	40	Moderate	Moderate	16.5/13	22.5	SM
Hesperia Loamy Fine Sand	45	Moderate	Moderate	14.9/11.8	20.2	SM
Rosamond Fine Sandy Loam	10	Moderate	High	46.8/24	31.5	SM
Rosamond Loam	3	Moderate	High	51.9/24.5	32.2	ML
Cajon Loamy Sand	2	Low	Moderate	54/2.9	Not Mapped	Not Mapped

Source: Terracon, 2020

Groundwater

The project site is located within the Antelope Valley Groundwater Basin, which generally includes the area south of the Tehachapi Mountains and north of the San Gabriel Mountains. The primary water-bearing materials are Pleistocene and Holocene age unconsolidated alluvial and lacustrine deposits that consist of compact gravels, sand, silt, and clay. These clays are interbedded with lenses of coarser water bearing material as thick as 20 feet; in contrast, the clay beds are as thick as 400 feet. The upper aquifer, which is the primary source of groundwater for the valley, is generally unconfined whereas the lower aquifer is generally confined and specific yield of these deposits' ranges from 1 to 30 percent and wells typically have a moderate to high ability for water well production. Average groundwater depths were recorded at approximately 118 feet below ground surface. Based on review of the SWRCB well records as part of the expected geotechnical

conditions for the proposed project, the depth to groundwater under the project site is approximately 200 feet (Terracon, 2020).

Fault Rupture

Ground surface rupture can occur along an earthquake fault and may cause damage to aboveground infrastructure and other features. Fault rupture typically occurs when movement on a fault breaks through to the ground surface and almost always follow preexisting faults that are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by shaking. Accordingly, 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 (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 sites nor are any located within the immediate vicinity of the project site (Terracon, 2020). The nearest Earthquake Fault Zone as delineated by the Alquist-Priolo Earthquake Fault Zoning Act, is associated with the Garlock fault which is approximately 12 miles north of the project site.

Ground Shaking

Faults located within the project site vicinity have the potential to cause ground shaking to occur on the project site; the magnitude of ground shaking experienced onsite is dependent on the distance to causative faults and the earthquake magnitude (or measure of the amount of energy released during an earthquake event). Strong ground shaking from an earthquake can result in damage associated with landslides, ground lurching, structural damage, and liquefaction. The Southern California region is characterized by, and has a history of, fault stress and associated seismic activity. Earthquakes are classified by their magnitude, a measure of the amount of energy released during an event. During a seismic event, the project site may be subjected to high levels of ground shaking due to proximity to active faults in the area. The largest fault in the area is the San Andreas Fault, which is considered active. Strong ground shaking can be expected at the site during moderate to severe earthquakes in the general region. However, this phenomenon is common to most areas in Southern California. While the Willow Springs fault is located approximately 2 to 3 miles from the CUP Areas, the fault with the most potential to effect the site from a design standpoint, is the San Andreas fault which could cause substantial ground shaking at CUP areas.

Landslides

The topography of the project area is relatively flat with slight slopes to the south and southeast. Therefore, the potential for landslides on the project site is considered low.

Liquefaction and Lateral Spreading

Liquefaction is a type of ground failure resulting from the generation of high pore water pressures during earthquake ground shaking, causing loss of shear strength. Liquefaction is typically a hazard where loose sandy soils exist below groundwater. Liquefaction of saturated sandy soils is generally caused by the sudden decrease in soil shear strength due to vibration. During seismic shaking, typically caused by an earthquake, the soil mass is distorted, and interparticle stresses are

transferred from the soil particles to the pore water. As pore pressure increases the bearing capacity decreases and the soil may behave temporarily as a viscous fluid (liquefaction) and, consequently, loses its capacity to support the structures founded thereon.

Engineering research of soil liquefaction potential indicates that generally three basic factors must exist concurrently in order for liquefaction to occur, namely:

• A source of ground shaking, such as an earthquake, capable of generating soil mass distortions.

• A relatively loose sandy soil fabric exhibiting a potential for volume reduction.

• A relative shallow groundwater table (within approximately 50 feet below ground surface [bgs]) or completely saturated soil conditions that will allow positive pore pressure generation.

The project site is not located within a current, mapped California Liquefaction Hazard Zone. Groundwater in the site vicinity is expected to be approximately 200 feet bgs (Terracon, 2020). Based on the near surface soil conditions and depth to groundwater, the potential for liquefaction related ground failure at the project site, including liquefaction, is low.

Lateral Spreading

Lateral spreading typically occurs as a form of horizontal displacement of relatively flat-lying alluvial material toward an open or "free" face such as an open body of water, channel, or excavation. This movement is generally due to failure along a weak plane and may often be associated with liquefaction. As cracks develop within the weakened material, blocks of soil displace laterally toward the open face. The site is not mapped within an area designated by the California Geologic Survey as having liquefaction potential.

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 temporary 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. 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, 2021). Coarse textured soils, or sandy soils, are easily detached but typically do not produce a lot of runoff, so they have low soil erodibility.

As discussed above, soils on the project site were mapped by the Natural Resources Conservation Service (NRCS); and consist of the following

Hesperia Series - The Hesperia series consists of very deep, well drained soils that formed in alluvium derived primarily from granite and related rocks. Hesperia soils are on alluvial fans, valley plains and stream terraces and have slopes of 0 to 9 percent. The mean annual precipitation is about 8 inches and the mean annual air temperature is about 64 degrees Fahrenheit.

Rosamond Series - The Rosamond series consists of deep, well drained soils that formed in material weathered mainly from granitic alluvium. Rosamond soils are on the lower margin of the alluvial fans between the sloping fans and the playas and have slopes of 0 to 2 percent. The mean annual precipitation is about 5 inches and the mean annual air temperature is about 63 degrees Fahrenheit.

Cajon Series - The Cajon series consists of very deep, somewhat excessively drained soils that formed in sandy alluvium from dominantly granitic rocks. Cajon soils are on alluvial fans, fan aprons, fan skirts, inset fans and river terraces. Slopes are 0 to 15 percent. The average annual precipitation is about 6 inches and the mean annual temperature is about 65 degrees Fahrenheit.

The onsite soils within the project site are generally well drained and largely consist of sands and loams. The project site has little slope and vegetation is sparse consistent with the desert environment. Generally, long slope length and high slope steepness contribute to higher erosion rates. Thus, since the site is relatively flat, erosion potential related to slope length and slope steepness is low. The also contains minimal vegetation and therefore has a low to moderate erosion potential depending on the specific location within the CUP Areas.

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. Groundwater levels in the Antelope Valley have declined more than 270 feet since the 1970s in some parts of the groundwater basin, especially near the City of Lancaster. These groundwater level declines have caused the aquifer system to compact, resulting in land subsidence. Land subsidence within the Antelope Valley has been most recently evaluated by the United States Geologic Survey (USGS) through the use of Interferometric Synthetic Aperture Radar between 1992 and 2009.

The project site is located in an area that has experienced land subsidence due to ground water pumping (Terracon, 2020). However, there are no mines or karst topography or known caves and no subsidence risk from these conditions.

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 (IDT, 2012). A sudden reduction in subgrade support when water is introduced to soils can cause soil collapse. There is a higher risk to ancillary structures supported on mat foundations. The likelihood of soil collapse within the project site is low to moderate (Terracon, 2020).

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 end up causing damage to foundations, retaining walls, sidewalks, and roadways. Expansive

soils generally have a high shrink-swell potential. The near surface soils are expected to have a low expansion potential across the project site (Terracon, 2020).

SCE Interconnection Facilities

The SCE property is improved with the existing Whirlwind power station and has similar surroundings and settings as the project site.

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) establishes a specific process for environmental impact analysis and public review of certain projects on nonfederal lands in California. In addition, the project proponent must comply with other applicable federal, State, and local statutes, regulations, and policies. Relevant and potentially relevant statutes, regulations, and policies are discussed below.

Federal

Clean Water Act (Erosion Control)

The Federal Clean Water Act (CWA) (33 USC 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point-source and certain nonpoint-source discharges to jurisdictional waters of the United States. Such discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). The project site is within the jurisdiction of the Lahontan RWQCB. For purposes of regulating non-point source storm water discharges, projects that disturb one or more acres may be required to obtain NPDES coverage under the Construction General Permit if the project is deemed to discharge to a water of the United States. Because the project is in a terminal drainage area of Kern County (i.e., does not drain to a waters of the United States), NPDES coverage is not expected to be required as discussed further below.

The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), which includes best management practices (BMPs) to regulate stormwater runoff, including measures to prevent soil erosion. Requirements of the CWA and associated SWPPP are described in further detail in Section 4.9, *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. The NEHRP designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities. Programs under NEHRP help inform and guide planning and building code requirements such as emergency evacuation responsibilities and seismic code standards such as those to which the project would be required to adhere.

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 (NEPA), 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 (FLPMA) 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 maps active faults and designates Earthquake Fault Zones along mapped faults. This act groups faults into categories (i.e., active, potentially active, or inactive). Historic and Holocene faults are considered active, Late Quaternary and Quaternary faults are considered potentially active, and pre-Quaternary faults are considered inactive. These classifications are qualified by conditions. For example, a fault must be shown to be "sufficiently active" and "well defined" through detailed site-specific geologic explorations to determine whether building setbacks should be established. Any project that involves the construction of buildings or structures for human occupancy, such as an operations and maintenance building, is subject to review under the Alquist-Priolo Earthquake Fault Zoning Act, and any structures for human occupancy must be located at least 50 feet from any active fault.

The Seismic Hazards Mapping Act of 1990

In accordance with PRC Chapter 7.8, Division 2, the California Geologic Survey (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 California Geological Survey in their land use planning and permitting processes. In accordance with the Seismic Hazards Mapping Act, site-specific geotechnical investigations must be performed prior to permitting most urban development projects within seismic hazard zones.

California Building Code

The California Building Code (CBC), which is codified in Title 24 of the California Code of Regulations, Part 2, was promulgated to safeguard the 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 2019 edition of the CBC is based on the 2018 IBC published by the International Code Council. The code is updated triennially, and the 2019 edition of the CBC was published by the California Building Standards Commission in 2019, and took effect starting January 1, 2020. The 2019 CBC

contains California amendments based on the American Society of Civil Engineers (ASCE) Minimum Design Standard ASCE/SEI 7-10, *Minimum Design Loads for Buildings and Other Structures*, 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 take into account 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 California Building Code (CBC). Chapter 18 of the CBC covers the requirements of geotechnical investigations (Section 1803), excavation, grading, and fills (Section 1804), load-bearing of soils (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

State requirements for paleontological resource management are included in Public Resources Code (PRC) Section 5097.5 and Section 30244; of these two PRC sections, only the latter (Section 30244) applies to the project as the former (Section 5097.5) is only applicable to projects on public land. 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 archaeological or paleontological resources.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, in cooperation with the CWA, established the SWRCB. The SWRCB and the nine RWQCBs are responsible for protecting California's surface water and groundwater supplies. Section 13000 of the act directs each RWQCB to develop Water Quality Control Plans for all areas in its region, to designate the beneficial uses of California's rivers and groundwater basins; these plans are the basis for each board's regulatory program.

The Basin Plan gives direction on the beneficial uses of state waters in Region 6, describes the water quality that must be maintained to support such uses, and includes programs, projects, and other actions necessary to achieve the standards established in the Basin Plan. The Lahontan RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements to individuals, communities, or businesses whose waste discharges may affect water quality. These requirements are State Waste Discharge Requirements for discharge to land or federally delegated NPDES permits for discharges to surface water. Responsibility for implementing CWA Sections 401–402 and Section 303(d) is also outlined in the Porter-Cologne Water Quality Control Act.

State Regional Water Quality Control Board, Stormwater General Construction Permit

The five-member SWRCB allocates water rights, adjudicates water right disputes, develops Statewide water protection plans, establishes water quality standards, and guides the nine RWQCBs in the major watersheds of the State. The joint authority of water allocation and water quality protection enables the SWRCB to provide comprehensive protection for California's waters.

In 1999, the State adopted the NPDES General Permit for Stormwater Discharges Associated with Construction Activities (Construction Activities General Permit) (SWRCB Order No. 2012-0006-DWQ, NPDES No. CAS000002). The General Construction Permit generally requires that construction sites with 1 acre or greater of soil disturbance, or less than 1 acre but part of a greater common plan of development, apply for coverage for discharges under the General Construction Permit by submitting a Notice of Intent for coverage, developing a stormwater pollution prevention plan (SWPPP), and implementing best management practices to address construction site pollutants if the project is deemed to discharge into a water of the United States. However, as the project site

is in a terminal drainage area of Kern County (e.g., does not drain to a waters of the United States), NPDES coverage is not expected to be required as described in further detail in Section 4.10, *Hydrology and Water Quality*.

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 best management practices (BMP) the discharger will use to protect stormwater runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program, a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP. Enrollment under the General Construction Permit is through the Stormwater Multiple Application and Report Tracking System. Additionally, the SWRCB is responsible for implementing the CWA and issues NPDES permits to cities and counties through the individual regional boards.

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 solar facility would be subject to all applicable policies and regulations contained within the general and specific plans, including the Kern County General Plan, Willow Springs Specific Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to geology, geologic hazards, and soils. The policies, goals, 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.

Additionally, the policies, goals, and implementation measures in the Willow Springs Specific Plan related to geology and soils that are applicable to the project are provided below.

Kern County General Plan

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 Measure

Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.

Chapter 4. Safety Element

4.1 Introduction

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 Measures

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.

Willow Springs Specific Plan

The project site (approximately 1,292 acres) is within the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in 1992 and amended in 2008 as part of the Land Use, Open Space, and Conservation Element of the Kern County General Plan. Its goals, policies, and standards are compatible with those of the Kern County General Plan, but are tailored to the particular needs of the expanded Willow Springs area. The geology and soils-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project are outlined below (Kern County Department of Planning and Development Services, 2008). Note that only applicable goals, policies, and standards are included here; those goals, policies, and standards that are not applicable are not included.

Seismic/Safety Element

Goals

Goal 1 To preserve cultural resources contained on sensitive sites located within the Willow Springs Specific Plan area.

Policy

Policy 1 Compliance with site-specific issues, goals, policies, and implementation measures contained in the Seismic/Safety Element of the Kern County General Plan.

Mitigation/Implementation Measures

Measure 4e The slope and foundation designs for all structures shall be based on detailed soils and engineering studies.

Kern County Code of Building Regulations (Title 17 of the Ordinance code of Kern County)

Chapter 17.08, Kern County Building Code

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, 2016 Edition, with some modifications and amendments. The entire County is in Seismic Zone 4, a designation previously used in the Uniform Building Code (UBC) to denote the areas of highest risk for earthquake ground motion. California has an unreinforced masonry program that details seismic safety requirements for Zone 4. Seismic provisions associated with Seismic Zone 4 have been adopted (Kern County, 2017).

Chapter 17.28. Kern County Grading Code

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, 2017). 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

The Kern County Public Works Department requires the completion of an NPDES applicability form for all construction projects disturbing one or more acre. 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 significant impacts associated with the project site were identified based on a review of available online sources, the Report of Expected Geotechnical Conditions for the Rosamond South Solar Project (Appendix F-1; Terracon, 2020), the Paleontological Resources Technical Report (San Diego Department of Paleo Service, 2020; Appendix F-2).

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:

   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;

   Strong seismic ground shaking;

   Seismic-related ground failure, including liquefaction;

   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-site 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 where sewers are not available for the disposal of wastewater;

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

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 (construction workers and periodic maintenance workers) and could thus expose people and structures to seismic risks.

The project site is located in the highly seismic southern California region that is influenced by multiple faults, but it is not located within or in close proximity to a State of California Alquist-Priolo Earthquake Fault Zone. The two largest faults in the region are the San Andreas fault, which is located approximately 11.5 miles to the west, and the Garlock Fault, which is approximately 10 miles to the northwest. The nearest fault to the project site is the Willow Springs fault between 2-3 miles to the north. Due to the distance from the nearest active fault to the project site, the potential for surface fault rupture is considered low.

The proposed project would include an operations and maintenance (O&M) building(s) that would be occupied by two full time employees during normal weekday working hours. The building would include office space and storage space for spare parts and materials for the day-to-day operations and maintenance of the facility. In addition, the project includes solar panels and other electrical equipment, transmission lines, transformers, and related equipment. Construction, operation, and continued maintenance of the proposed project would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08). Kern County has adopted the CBC 2016 Edition (CCR Title 24), which imposes substantially the same requirements as the International Building Code (IBC), 2018 Edition, with some modifications and amendments. These requirements would ensure that project structures comply with minimum standards related to structural strength and general stability.

Thus, given the absence of any known active faults in the project area and required compliance with the Kern County Building Code, impacts related to fault rupture are anticipated to be less than significant. Based on the absence of any known active faults that cross or the project site, and project compliance with applicable ordinances of the Kern County Building Code, personnel present during the construction and operation phases of the proposed project also would not be exposed to hazards from fault rupture. Therefore, impacts related to fault rupture would be less than significant.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. These facilities would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project and SCE Interconnection Facilities.

Impact 4.7-2: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.

As stated previously, the proposed project is in a highly seismic region that could experience one or more substantive seismic events in the future. The region is influenced by several fault systems, most notably the San Andreas and Garlock Fault systems, which are capable of generating strong ground motions that could affect the project site and surrounding areas. Depending on the magnitude, distance to the source, and duration of shaking, damage to the PV modules, O&M Building(s), or other ancillary facilities and injury to workers or visitors could result. As such, the project proponent is required to design project specific infrastructure to withstand substantial ground shaking in accordance with applicable CBC seismic design standards, Kern County Building Code, Chapter 17.08 standards.

In addition, Mitigation Measure MM 4.7-1 would implement the County Building Code by requiring 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 also requires the proponent use a California geotechnical engineer to design the project facilities to withstand probable seismically induced ground shaking.

In regard to construction activities, all grading and construction onsite would adhere to the specifications, procedures, and site conditions as required by, and that would be contained in the final design plans per the requirements of MM 4.7-1. Design plans and associated work 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 or the project would not be approved. The required measures would encompass site preparation, foundation specifications, and protection measures for buried metal to avoid corrosion. The final structural designs would be subject to approval and follow-up inspection by the Kern County Building Inspection Division. Final design requirements would be provided to the onsite construction supervisor and the Kern County Building Inspector to ensure compliance. A copy of the approved design would be submitted to the Kern County Planning and Natural Resources Department.

Further, the facilities would be constructed in accordance with all other applicable codes, such as those that require property line and public roadway setbacks to protect the general public and onsite staff from potential hazards associated with the facilities that could result from an earthquake. Lastly, completion of a geotechnical evaluation and compliance with applicable building codes would ensure that neither the project or any of the project elements would result in substantial changes to the existing geologic conditions such that project implementation would exacerbate any seismic ground shaking. Thus, adherence to the requirements of the Kern County Building Code,

the CBC and Mitigation Measure MM 4.7-1 would ensure that seismic hazards would be minimized; impacts related to ground shaking would be less than significant.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. These facilities would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking

Mitigation Measures

MM 4.7-1: Prior to the issuance of building or grading permits for the project, the project proponent shall conduct a final engineering design specific geotechnical study to evaluate soil conditions and geologic hazards on the project site and submit it to the Kern County Public Works Department for review and approval.

a. The final geotechnical study must be signed by a California-registered and licensed professional geotechnical engineer or engineering geologist and must include, but not be limited to, the following:

   i. Location of fault traces and potential for surface rupture and groundshaking potential;

   ii. Maximum considered earthquake and associated ground acceleration for design;

   iii. Potential for seismically induced liquefaction, landslides, differential settlement, and unstable soils;

   iv. Stability of any existing or proposed cut-and-fill slopes;

   v. Collapsible or expansive soils and shrink swell potential;

   vi. Collapse due to groundwater pumping;

   vii. Foundation material type;

   viii. Potential for wind erosion, water erosion, sedimentation, and flooding;

   ix. Location and description of unprotected drainage that could be impacted by the proposed development; and,

   x. Recommendations for placement and design of facilities, foundations, and remediation of unstable ground.

b. The project proponent shall determine the final siting of project facilities based on the results of the geotechnical study and implement measures to minimize geologic hazards, as approved by the County. The project proponent shall not locate project facilities on or immediately adjacent to an active fault trace. All structures shall be offset at least 100 feet from any mapped fault trace. Alternatively, a detailed fault trenching investigation may be performed to accurately locate the fault trace(s) to avoid sighting improvements on or close to these fault structures and to evaluate the risk of fault rupture. After locating the fault, accurate setback distances can be proposed.

c. The final geotechnical report shall be submitted for review and approval by the Kern County Public Works Department. 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. Final design requirements shall also be provided to the onsite construction supervisor and the Kern County Building Inspector to ensure compliance. A copy of the approved design shall be submitted to the Kern County Planning and Natural Resources Department.

Level of Significance after Mitigation

With implementation Mitigation Measure MM 4.7-1, impacts would be less than significant with mitigation for the project. Impacts would be less than significant for the SCE Interconnection Facilities, which would follow applicable regulatory standards, and no mitigation measures are required for the SCE Interconnection Facilities.

Impact 4.7-3: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving seismic-related ground failure, including liquefaction.

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 site vicinity, groundwater in the area is anticipated to be approximately 200 feet below ground surface (bgs). 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 IBC 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 underling ground could be used to reduce the potential effects. Project conformance with building code requirements also would serve to reduce the potential for liquefaction to affect the proposed project (Terracon, 2020).

In addition, compliance with MM 4.7-1 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.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. These facilities would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction

Mitigation Measures

Implement Mitigation Measures MM 4.7-1.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.7-1 impacts would be less than significant with mitigation incorporated for the project. Impacts would be less than significant for the SCE Interconnection Facilities, which would follow applicable regulatory standards, and no mitigation measures are required for the SCE Interconnection Facilities.

Impact 4.7-4: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving landslides.

The project site is situated within the Antelope Valley, which sits at the western edge of the Mojave Desert. The project lies approximately 12 miles southeast of the Tehachapi Mountains, which extend to approximately 4,000 feet above the valley floor. The topography of the proposed project is relatively flat and all slope very gently from the northwest to the south or southeast. The elevations within each CUP area do not range greater than 100 feet. CUP Area 1 has a high point of approximately 2,730 feet in the northwest corner to a low point of approximately 2,665 feet in the southeast corner and slope of approximately 0.02 percent. CUP Area 2 has a high point of approximately 2,650 feet in the northwest corner and a low point of approximately 2,590 in the southeast corner. This renders a slope of approximately 0.008 percent. CUP Area 3 has a point of approximately 2,600 feet in the north and northwest to a low point of approximate, 2,520 on the east. This renders a slope of approximately 0.08%. Lastly, CUP Area 4 is nearly flat with elevations between 2,330 and 2,340 feet.

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. Therefore, adverse effects related to landslides are not anticipated to occur or pose a hazard to the project or surrounding area and impacts would be less than significant.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. These facilities would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving landslides.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project and SCE Interconnection Facilities.

Impact 4.7-5: The project would result in substantial soil erosion or the loss of topsoil.

Soils within the project site are predominantly composed of fine sandy loam, loamy fine sand, loam, and loamy sand. Site preparation activities for the proposed project would include minor grading activities that would disturb surface soils. Construction of the project sites 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. Clearing of vegetation and grading activities could lead to exposed or stockpiled soils susceptible to peak stormwater runoff flows and wind forces. During rainfall events, particularly during construction activities when surface soils are exposed, there is the potential for increased surface erosion and sediment transport and subsequent deposition to off-site areas. Project grading would be minimized to the extent feasible to reduce unnecessary soil movement that may result in the increased loss of topsoil. Scrapers, excavators, dozers, water trucks, haul vehicles, and/or graders may be used in site preparation and some trenching would be required for installation of the underground cables and circuits on-site. These activities would increase the potential for erosion to occur.

While construction and operation have the potential to increase erosion, as discussed in *Section 4.10 – Hydrology and Water Quality*, the proposed project would implement Mitigation Measure MM 4.10-1 that requires preparation a hydrologic study and final drainage plan per Kern County Development Standards and the Kern County Code of Building Regulations, and MM 4.10-2, that requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP) using best management practices (BMPs) to reduce the potential effects of erosion.

The development of needed SWPPP and BMPs, would be informed by the final hydrologic study and drainage plan. The SWPPP would be prepared and implemented per the requirements of Kern County for projects that disturb more than one acre of soil. The SWPPP would detail that existing vegetation and topography are to be preserved to the maximum extent possible. These documents would include drainage and erosion controls designed to minimize potential increases in runoff from the project site following project implementation. This would include an evaluation and recommendation to minimize the potential for erosion and sedimentation to carry materials off-site. Engineering recommendations would include measures to offset increases in stormwater runoff, as well as identification of design measures to minimize or manage potential flow concentrations or changes in flow depths or velocity so as to minimize erosion, sedimentation, and flooding potential on-site or off-site

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. Preparation of the erosion control plans would be informed by the geotechnical report that would include evaluation of soils. This information would be used to prepare the grading plans and perform drainage calculations pursuant to the Kern County Grading Code (Section 17.28.070). All materials would be submitted to the Kern County Engineering and Survey Services Department prior to approval

and obtaining required grading permits. As a result, project construction would have less-than-significant impacts related to erosion with implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2.

Project operations would include the periodic cleaning of the panels with water; however, this is not expected to result in soil erosion because infrequency of these activities and the 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 entail ground disturbance of area which has not previously been subjected to disturbance. As a result, project operation would have a less than significant impact with relation to soil erosion.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. These facilities would not result in substantial soil erosion or the loss of topsoil

Mitigation Measures

Implement Mitigation Measures MM 4.10-1 and MM 4.10-2.

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 with mitigation incorporated for the project. Impacts would be less than significant for the SCE Interconnection Facilities, and no mitigation measures are required for the SCE Interconnection Facilities.

Impact 4.7-6: 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.

Landslides

As described under Impact 4.7-5, above, the project is in a relatively flat-lying plain where landslides are not anticipated due to the absence of steep slopes. Therefore, adverse effects related to landslides would not pose a hazard to the project or surrounding area and impacts would be less than significant.

Subsidence

Groundwater levels in the Antelope Valley have declined and the project site may experience some subsidence due to groundwater pumping. These effect of reduced groundwater levels can cause the aquifer system to compact, resulting in subsidence of the overlying land areas. There are no mines or caves and karst topography that would lead to an increased potential for subsidence due to these factors. The full geotechnical study required by Mitigation Measure MM 4.7-1 would be prepared for the proposed project to identify and resolve any soil conditions including subsidence. Based on the conclusions of the report, recommended mitigation measures would be implemented to minimize this geologic hazard-related impact. With implementation of Mitigation Measure MM 4.7-1, impacts would be less than significant.

Liquefaction

As discussed in Impact 4.7-3, above, the potential for liquefaction is anticipated to be low, but this would be formally evaluated in the subsequent Geotechnical report as required by MM 4.7-1. Based on the conclusions of the report, recommended mitigation measures would be implemented to minimize this geologic hazard. Impacts would be less than significant.

Lateral Spreading

Due to the low potential for liquefaction, the depth of groundwater, and the fact that the project site is not located near free faces or bodies of water, the potential for impacts due to lateral spreading and is considered low but will be further evaluated pursuant to the requirements of MM 4.7-1.

This site-specific exploration would be included as part of the design level geotechnical investigation. The subsurface data would be used to complete the final design of the proposed 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. Therefore, as required, the geologic hazards, including liquefaction, collapse and subsidence would be fully evaluated and based on the conclusions of the report, site specific design would be implemented that would minimize geologic hazard-related impacts. With implementation of Mitigation Measure MM 4.7-1, impacts would be less than significant.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. These facilities would not be located on a geologic unit or soil that is unstable, or that would become unstable

Mitigation Measures

Implement Mitigation Measure MM 4.7-1.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.7-1 impacts would be less than significant with mitigation incorporated for the project. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Impact 4.7-7: 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.

Expansive soils are fine-grained soils (generally high plasticity clays) that can undergo a significant increase in volume with an increase in water content and a significant decrease in volume with a decrease in water content. Changes in the water content of a highly expansive soil can result in severe distress to structures constructed on or against the soil. The shrink swell behavior of expansive soils can lead to damage of project improvements over time if not addressed appropriately prior to construction.

The expected geotechnical conditions for the site showed that the project site consists of Hesperia fine sandy loam, Hesperia loamy fine sand, Rosamond fine sandy loam, and Cajon loamy sand. The report concluded that fine grained soils associated with expansion and shrink swell potential within the near surface soils are expected to have a low potential to occur across the project site. This results in the determination of a low potential for vertical rise of foundation and roadway subgrade and a low potential risk for cracking of structures. The report also recommended that as part of subsequent geotechnical review, samples of shallow surface soils be obtained and evaluated in a laboratory to determine shrink-swell potential.

Consistent with the above recommendation, MM 4.7-1 requires that a geotechnical study to evaluate soil conditions and geologic hazards including an evaluation for expansive soils and provide recommendations consistent with CBC requirements to reduce potential adverse effects from expansive soils and the shrink swell potential be performed by a qualified geotechnical engineer on the project site. 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. 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 Measure MM 4.7-1, impacts would be less than significant.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. These facilities would not be located on expansive soil

Mitigation Measures

Implement Mitigation Measure MM 4.7-1.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.7-1 impacts would be less than significant with mitigation incorporated for the project. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Impact 4.7-8: 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.

As part of the project, a septic system and leach field would be constructed at the O&M building(s) to accommodate a small number of on-site employees. The wastewater disposal system would comply with applicable requirements of the Kern County Environmental Health Services Division (EHSD). The EHSD *Standards for Land Development* include the aspects of sewage and preservation of environmental health and include measures to demonstrate the adequate drainage

of wastewater prior to project approval. If not designed correctly, septic systems could result in health impacts, adversely affect natural habitat, and pollute groundwater. Any septic system or alternative wastewater disposal system installed as part of the proposed project would be constructed in conformance with all standards intended to safeguard the public health and require all applicable permits. In addition, the proposed septic system and leach field would be located away from surface drainages and protected from potential surface runoff. Proper siting and design of the leach field would minimize the potential for a health or environmental impact. This would include ensuring that on-site soils are suitable to support septic tanks and leach fields such as through an analysis of the on-site soil properties, permeability and percolation test results. Adherence to these County requirements would ensure that soils at the site are capable of adequately supporting the volume of wastewater that would be necessary for project operations. Therefore, impacts related to the onsite soils ability to support the proposed septic system would be less than significant.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. These facilities would not 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

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project and SCE Interconnection Facilities.

Impact 4.7-9: The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, as defined in CEQA Guidelines Section 15064.

The project site is characterized by late Holocene-age and Holocene to late Pleistocene-age alluvial deposits (i.e., Qa, Qe, Qf, Qw, Qya, Qyf). The Holocene-age alluvial deposits transition to older, Pleistocene-age deposits in the subsurface, at a depth of approximately 15 feet bgs. Holocene aged materials are generally assigned a low paleontological potential based on their relatively young age (less than about 11,700 years old), and the lack of known, scientifically significant paleontological resources from Holocene-age deposits in the western Mojave Desert. However, because the contact between the Holocene-age alluvial deposits and Pleistocene-age alluvial deposits may be as shallow as 15 feet bgs, the pleistocene-age alluvial deposits are assigned an undetermined paleontological potential and are therefore considered to be potentially fossil-bearing, as discussed in greater detail below. It also is possible that fine-grained paleosol horizons and overbank deposits from Lake Thompson or its tributaries may be present at depth below the project site.

Impacts to paleontological resources may occur during excavations if disturbance of alluvial deposits extends to the Pleistocene-age deposits. As discussed above, following a conservative approach, these areas are considered to be potentially fossil bearing. Therefore, only excavations that will extend greater than approximately 15 feet bgs have the potential to impact paleontological resources. Although the foundations of buildings would not require excavation to this depth, the drilling for the

foundations of gen-tie line poles is anticipated to extend to depths of more than 15 feet bgs. In addition, foundation poles would involve diameter boreholes approximately 7 to 9 feet in diameter that that could result in disturbance fossil bearing soils. These earthwork activities and other actions that would disturb soils at this depth would require subsequent evaluation to determine the potential to impact paleontological resources.

It should be noted that not all types of earthwork can be feasibly monitored for paleontological resources. For example, it is not practical to monitor post-driving or drilling with a small-diameter auger (less than about 18 inches). ***Table 4.7-2*** *– Paleontological Potential and Monitoring Recommendations*, shows that the potential for presence of resources is low, and provides monitoring recommendations to further reduce the potential for impacts.

Table 4.7-2: Paleontological Potential and Monitoring Recommendation

Geologic Unit	Age	CUP Areas	Paleontological Potential	Monitoring Recommendation
alluvial valley deposits (Qa)	late Holocene	4	low potential, 0 - 15 feet; undetermined potential, >15 feet	No, 0 - 15 feet; Yes, >15 feet
eolian deposits (Qe)	late Holocene	3	low potential, 0 - 15 feet; undetermined potential, >15 feet	No, 0 - 15 feet; Yes, >15 feet
alluvial fan deposits (Qf)	late Holocene	1, 2	low potential, 0 - 15 feet; undetermined potential, >15 feet	No, 0 - 15 feet; Yes, >15 feet
eolian deposits (Qe)	late Holocene	2	low potential, 0 - 15 feet; undetermined potential, >15 feet	No, 0 - 15 feet; Yes, >15 feet
young alluvial valley deposits (Qya)	Holocene - late	3, 4	low potential, 0 - 15 feet; undetermined potential, >15 feet	No, 0 - 15 feet; Yes, >15 feet
young alluvial fan deposits (Qyf)	Pleistocene	1, 2, 3	low potential, 0 - 15 feet; undetermined potential, >15 feet	No, 0 - 15 feet; Yes, >15 feet

Based on the below, two mitigation measures, MM 4.7-2 and MM 4.7-3 would be implemented and would reduce impacts to paleontological resources to less than significant. This would include development and implementation of a project-specific Paleontological Resources Mitigation and Monitoring Plan (PRMMP), and construction monitoring for inadvertent discovery of paleontological resources. Implementation of these measures would reduce impacts to less than significant.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. These facilities would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Mitigation Measures

MM 4.7-2: Prior to the issuance of grading permits, a qualified paleontological monitor shall prepare a Paleontological Resources Mitigation and Monitoring Plan (PRMMP). The PRMMP shall contain monitoring procedures, timing of monitoring, define

areas and types of earthwork to be monitored, provide methods for determining the significance of fossil discoveries, and state that any fossils that are collected should be prepared to the point of curation, identified to the lowest reasonable taxonomic level, and curated into an accredited institutional repository. The PRMMP should emphasize screen washing of bulk matrix samples of potentially fossil-bearing sediment (e.g., paleosol horizons) as a tool for evaluating paleontological potential and should provide appropriate methods.

Included methods, if potentially significant fossils are found, shall be implemented by the Qualified Paleontologist (or paleontological monitor). The Qualified Paleontologist (or paleontological monitor shall be allowed to temporarily divert or redirect grading and excavation activities in the vicinity of the discovery site, as needed, to facilitate evaluation of the fossil and, if necessary, salvage. Salvaged fossils shall be curated and donated to an accredited institutional repository with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the San Bernardino County Museum. Accompanying notes, maps, and photographs shall also be filed at the repository

The PRMMP will include a requirement for a paleontological monitor to monitor excavations and/or grading that occur at a depth of 15 feet or deeper below the ground surface in areas of undetermined paleontological potential. Monitoring of pile-driving and small-diameter drilling (less than 18-inches) excavation methods will not be required. After the initial monitoring of excavation and/or grading, the Qualified Paleontologist in consultation with the Kern County Planning and Natural Resources Department may reduce the level of monitoring based on circumstances and as warranted.

A final mitigation report prepared by the qualified paleontologist shall document the findings of the monitoring activities. This shall include a summary of the results of the PRMMP, including a description of monitoring procedures, a summary of recovered data, and conclusions. If fossils are recovered, the report shall include a description of the salvaged fossils and their significance, and the methods used to salvage, prepare, identify, and curate them. A copy of the report shall be provided to Kern County and to the accredited repository that received any the fossils.

MM 4.7-3: If paleontological resources are encountered during project ground disturbing activities when a Qualified Paleontologist (or paleontological monitor) is not onsite (an inadvertent discovery), all excavation work in the immediate vicinity of the find shall halt until the Qualified Paleontologist can evaluate the find and make recommendations. If the Qualified Paleontologist determines that the discovery represents a potentially significant paleontological resource, additional measures such as fossil salvage may be required to mitigate adverse impacts from project implementation. Ground-disturbance in the vicinity of the discovery site shall not resume until the resource-appropriate measures are implemented or the materials are determined to be less than significant.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.7-2 and MM 4.7-3, impacts would be less than significant with mitigation incorporated for the project. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

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 3-4**, *Cumulative Projects List*, 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 proposed 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 proposed 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.

Mitigation Measure MM 4.7-1 requires a geotechnical study to evaluate soil conditions and geologic hazards be performed by a qualified geotechnical engineer on the project site and to design the project facilities to withstand probable seismically induced ground shaking, liquefaction and subsidence. 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. Erosion impacts of the proposed project during construction would be mitigated through the implementation of an SWPPP and appropriate BMPs. Other individual projects also would be required to comply with applicable codes, standards, and permitting requirements (e.g., preparation of a SWPPP) to mitigate erosion impacts. Mitigation Measure MM 4.10-1 that requires preparation a hydrologic study and final drainage plan per Kern County Development Standards and the Kern

County Code of Building Regulations, and MM 4.10-2, that requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP) using best management practices (BMPs) to reduce the potential effects of erosion. Other cumulative projects would be required to adhere to similar requirements, thereby minimizing cumulative 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 MM 4.7-1, MM 4.10-1 and MM 4.10-2, 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 western portion of the Antelope Valley, which includes the Mojave Desert 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 in the study area could occur if other related projects, in conjunction with the proposed project, had or would have impacts on paleontological resources that, when considered together, would be significant. 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 MM 4.7-2 requires development and implementation of a Paleontological Resources Mitigation and Monitoring Plan (PRMMP) and MM 4.7-3 requires appropriate monitoring by a qualified paleontological monitor of construction activities for potential paleontological resources that may be encountered. Although project construction has the potential to disturb paleontological resources, the implementation of MM 4.7-2 and 4.7-3, 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.

SCE Interconnection Facilities

The SCE property is already developed with an electrical substation. The addition of the SCE Interconnection Facilities would develop improvements and new interconnection-related components such as additional control equipment on property that is already developed with electrical transmission facilities. The SCE Interconnection Facilities would not result in cumulative impacts to geology or soils.

Mitigation Measures

Implement Mitigation Measures MM 4.7-1 through MM 4.7-3, MM 4.10-1 and MM 4.10-2.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.7-1 through 4.7-3, MM 4.10-1, and MM 4.10-2, cumulative impacts would be less than significant for the project. Cumulative impacts would be

less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

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. It 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 project's air quality technical report, Air Quality Impact Analysis Rosamond South Solar Project (Trinity Consultants, 2021) located in Appendix B of this EIR. The impact assessment for the project is also based upon a review of relevant literature and technical reports that include, but are not limited to, information and guidelines by the California Air Resources Board (CARB), the United States Environmental Protection Agency (USEPA), and the applicable provisions of CEQA.

4.8.2 Environmental Setting

GHGs and climate change are a cumulative global issue. CARB and the USEPA regulate GHG emissions within the State of California and the United States, respectively. While CARB has the primary regulatory responsibility within California for GHG emissions, local agencies can also adopt policies for GHG emission reduction. CARB has divided California into regional air basins. The project is located within the western Antelope Valley, approximately 11 miles west of the unincorporated community of Rosamond, in the southeast potion of unincorporated Kern County which is under the jurisdiction of the Eastern Kern Air Pollution Control District (EKAPCD), and is located in the Mojave Desert Air Basin (MDAB).

Greenhouse Gases

GHGs refer to gases that absorb and re-emit infrared radiation in the atmosphere. Many chemical compounds found in Earth's atmosphere act as GHGs, which allow sunlight to enter the atmosphere freely. When sunlight strikes Earth's surface, some of it is reflected back toward space as infrared radiation (heat). GHGs absorb this infrared radiation and trap the heat in the atmosphere. Over time, the amount of energy sent from the sun to Earth's surface should be about the same as the amount of energy radiated back into space, leaving the temperature of Earth's surface roughly constant. Many gases exhibit these "greenhouse" properties. Some of them occur in nature (water vapor, carbon dioxide, methane, and nitrous oxide), while others are exclusively human-made (e.g., gases used for aerosols). The principal GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs), are listed below (USEPA, 2020).

- **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 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 MT of CO_2e (IPCC, 2007). Large emissions sources are reported in million MT of CO_2e (MMT CO_2e).

Greenhouse Gas Emissions Inventories

California produced approximately 418.4 gross $MMTCO_2e$ in 2019, which is below the State's GHG reduction target of 1990 level GHG emissions (i.e., 431 $MMTCO_2e$) by 2020. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2019, accounting for approximately 39.7 percent of total GHG emissions in the State. This sector was followed by the industrial sector at approximately 21.08 percent and the electric power sector (including both in-state and out-of-state sources) at approximately 14.1 percent (CARB, 2021). In 2014, CARB had projected that, unregulated, statewide GHG emissions for the year 2020 will be approximately 509 $MMTCO_2e$ (CARB, 2014a). These projections represent the emissions that were anticipated in the absence of any GHG reduction actions. California GHG emissions by economic sector from 20011 to 2019 are summarized in **Table 4.8-1**, *California Greenhouse Gas Emissions (million metric tons CO_2e)*, including the percentages by sector for 2017.[1]

[1] The most recent annual GHG emission inventory released by CARB is for year 2017, which was released August 12, 2019.

Table 4.8-1: California Greenhouse Gas Emissions (million metric tons CO_2e)

Emission Inventory Category	2011	2012	2013	2014	2015	2016	2017	2018	2019	% of 2019 tonnage
Transportation	161.8	161.4	161.3	162.6	166.2	169.8	171.2	169.6	166.1	39.7%
Electricity Generation (In State)	42.6	53.7	51.4	52.1	50.9	42.2	38.2	38.5	37.2	8.9%
Electricity Generation (Imports)	46.6	44.4	40.0	36.8	33.9	26.4	23.9	24.6	21.7	5.2%
Commercial	15.5	15.3	15.2	14.4	14.6	15.4	15.3	15.6	15.9	3.8%
Industrial	89.4	88.9	91.7	92.5	90.3	89.0	88.8	89.2	88.2	21.08%
Residential	30.5	28.2	29.0	23.8	24.2	25.3	26.0	25.7	28.0	6.7%
Agriculture	34.4	35.5	33.8	34.7	33.5	33.3	32.5	32.7	31.8	7.60%
High Global Warming Potential	14.5	15.5	16.8	17.7	18.6	19.2	20.0	20.4	20.6	4.92%
Recycling and Waste	8.4	8.3	8.4	8.4	8.5	8.6	8.7	8.7	8.9	2.12%
Total Gross Emissions	**443.7**	**451.2**	**447.6**	**443**	**440.7**	**429.2**	**424.6**	**425.0**	**418.4**	**100%**

SOURCE: CARB, 2021.

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 the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems. (CARB, 2018). Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects (IPCC, 2001):

- Higher maximum temperatures and more hot days over nearly all land areas
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas
- Reduced diurnal temperature range over most land areas
- Increase of heat index over land areas

- More-intense precipitation events

Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, ocean acidification (including coral bleaching), impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood, the potential for substantial environmental, social, and economic consequences over the long-term may be great.

SCE Interconnection Facilities

The SCE property is developed currently with an electrical substation and electrical transmission facilities.

4.8.3 Regulatory Setting

Federal

Environmental Protection Agency

The principal air quality regulatory mechanism at the federal level is the Clean Air Act (CAA) and in particular, the 1990 amendments to the CAA and the National Ambient Air Quality Standards (NAAQS) that it establishes. The federal CAA does not specifically regulate GHG emissions; however, the U.S. Supreme Court has determined that GHGs are pollutants that can be regulated under the federal CAA. There are currently no federal regulations that set ambient air quality standards for GHGs.

USEPA regulations applicable to the project include:

Federal Clean Air Act

The USEPA is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO_2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR® labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the federal CAA. The 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 the USEPA could regulate GHG emissions under Section 202(a)(1) of the Clean Air Act. The USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found that GHG emissions from new motor vehicle and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. These findings do not

themselves impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

Regulations for Greenhouse Gas Emissions from Passenger Cars and Trucks

On May 19, 2009, the federal government announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The adopted federal standard jointly approved by the USEPA and the National Highway Traffic Safety Administration (NHTSA) applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy (CAFE) standards and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO_2 per mile by model year 2016, based on USEPA calculation methods. These standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mph (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO_2 per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle. In 2017, the USEPA recommended no change to the GHG standards for light-duty vehicles for model years 2022–2025 (USEPA, 2018). In March 2020, the USEPA and NHTSA adopted the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule that would maintain the CAFE and CO_2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO_2 standards for model year 2020 are 43.7 mph and 204 grams per mile for passenger cars and 31.3 mph and 284 grams of CO_2 per mile for light trucks, projecting an overall industry average of 37 mph, as compared to 46.7 mph under the standards issued in 2012. The proposal, if adopted, would also exclude CO_2-equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020 (USEPA and NHTSA, 2018).

Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles

In 2011, the USEPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018 (76 FR 57106–57513). The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the USEPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6 percent to 23 percent over the 2010 baselines (USEPA and NHTSA, 2011). In August 2016, the USEPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans and all types of sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (USEPA and NHTSA, 2016).

40 CFR Part 98. Mandatory Reporting of Greenhouse Gases Rule

This rule requires mandatory reporting of GHG emissions for facilities that emit more than 25,000 $MTCO_2e$ emissions per year (USEPA, 2011). Additionally, reporting of emissions is required for owners of SF6- and PFC-insulted 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 CRF 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 $MMTCO_2e$ 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 Climate Change Scoping Plan).

Assembly Bill 32 and Senate Bill 32

In 2006, the California State Legislature adopted AB 32 (codified in the California Health and Safety Code [HSC], Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines GHGs as CO_2, CH4, N_2O, HFCs, PFCs, and SF6 and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. Under HSC Division 25.5, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing State actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020.

In 2016, Senate Bill (SB) 32 and its companion bill, AB 197, amends HSC Division 25.5 and establishes a GHG reduction target of 40 percent below 1990 levels by 2030, and includes provisions to ensure the benefits of State climate policies reach into disadvantaged communities.

Climate Change Scoping Plan

AB 32 required preparing a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (HSC Section 38561(h)). CARB developed a Climate Change Scoping Plan that contains strategies to achieve the 2020 emissions cap (CARB, 2008). In 2008, the initial Climate Change Scoping Plan contained a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives. In 2014, the First Update to the Scoping Plan upon the initial Climate Change Scoping Plan with new strategies and recommendations was adopted (CARB, 2014b). CARB revised the projected statewide 2020 emissions estimate of 509.4 $MMTCO_2e$ to 431 $MMTCO_2e$ using the GWP values from the IPCC AR4(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, 2017a). CARB is in the process of preparing the 2022 Scoping Plan, which will assess progress towards achieving the Senate Bill 32 2030 target and lay out a path to achieve carbon neutrality no later than 2045.

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 (KCOG), will work with local jurisdictions in the development of sustainable community strategies (SCS) designed to integrate development patterns and the transportation network in a way that reduces GHG emissions while meeting housing needs and other regional planning objectives. KCOG's reduction target for per capita vehicular emissions is 5 percent by 2020 and 10 percent by 2035 (CARB, 2010).

In 2018, CARB published the Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets. At that time, Metropolitan Planning Organizations (MPO) had completed the Sustainable Community Strategies (SCS). CARB reviewed and determined, if implemented, all SCSs but one would achieve the SB 375 targets. CARBs 2018 plan updated targets for reductions and the technical and policy rationale supporting the recommendation, with the goal to ensure that the MPOs continue to innovate, while emphasizing implementation and accountability. In addition to increasing the GHG emissions reduction targets themselves (CARB, 2018).

KCOG adopted the 2018 Regional Transportation Plan (RTP), which includes a Sustainable Community Strategies (SCS) component in accordance with SB 375. The 2018 RTP is a 24-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County.

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 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 2019 to include new mandatory measures for residential as well as nonresidential uses; the new measures took effect on January 1, 2020.

California Renewables Portfolio Standard

First established in 2002 under SB 1078, California's Renewables Portfolio Standard (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent by 2020 and 50 percent by 2030 (California Energy Commission, 2019). In 2018, SB 100 further increased California's RPS and required retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by the end of 2024, 52 percent by the end of 2027, and 60 percent by the end of 2030; and that CARB should plan for 100 percent eligible renewable energy resources and zero-carbon resources by the end of 2045. The California Public Utilities Commission (CPUC) and the CEC jointly implement the RPS program. The CPUC's responsibilities include: (1) determining annual procurement targets and enforcing compliance, (2) reviewing and approving each investor-owned utility's renewable energy procurement plan, (3) reviewing contracts for RPS-eligible energy, and (4) establishing the standard terms and conditions used in contracts for eligible renewable energy.

Senate Bill 100

SB 100 (De León, also known as the "California Renewables Portfolio Standard Program: emissions of greenhouse gases") was approved by the California legislature and signed by Governor Brown in September 2018. The bill increases RPS in 2030 from 50 percent to 60 percent and establishes a goal of 100 percent electricity from non-carbon-producing sources by 2045.

Senate Bill 1368

SB 1368 requires the CPUC to establish a baseload generation standard for publicly owned or leased facilities that 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 includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB, 2017b). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75 percent less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the USEPA and NHTSA, has adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34 percent in 2025. The Zero Emissions Vehicle (ZEV) program will act as the focused technology of the Advanced Clean Cars program

by requiring manufactures to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in 2018 to 2025 model years.

California Air Pollution Control Officers Association White Paper

The California Air Pollution Control Officers Association (CAPCOA) issued a "white paper" (*CEQA and Climate Change*—an authoritative report issued by any organization) on evaluating GHG emissions under CEQA (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

2018 Regional Transportation Plan/Sustainable Communities Strategy

The KCOG is the regional planning agency for Kern County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. KCOG serves as the federally designated metropolitan planning organization for Kern County. With respect to air quality planning and other regional issues, KCOG has prepared the 2018 Regional Comprehensive Plan (RCP) for the region (Kern COG, 2018). The 2018 RCP is a long-term (24 year) general plan for the region's transportation network, and encompasses projects for all types of travel, including aviation and freight movement. The plan assesses environmental impacts of proposed projects.

The Kern COG 2018 Regional Transportation Plan (RTP) includes an SCS component in accordance with SB 375, the Sustainable Communities and Climate Protection Act of 2008. The Kern COG board of directors adopted its first SCS on June 19, 2014, and made a determination that, if implemented, the SCS would achieve the per capita passenger vehicle GHG emissions targets established by the board of directors. The 2020 target is a 5 percent per capita reduction and the 2035 target is a 10 percent per capita reduction from the 2005 base year.

The SCS strives to reduce air emissions from passenger vehicle and light-duty truck travel by better coordinating transportation expenditures with forecasted development patterns and, if feasible, help meet CARB GHG targets for the region. As explained in the Kern COG 2018 RTP EIR, the key purpose of SB 375 and the Kern COG SCS is to reduce per capita emissions originating from passenger vehicles and light-duty trucks. Accordingly, the 2018 RTP:

- Describes sources of emissions in the Kern region, 2020 and 2035 emission reduction targets established by CARB for the San Joaquin Valley, and modeling techniques used to estimate and forecast emissions
- Identifies statewide strategies to reduce transportation-related emissions and their anticipated effect within the Kern region
- Identifies regional strategies that complement the SCS by reducing emissions in other sectors (e.g., energy consumption)
- Quantifies the effect of policies and programs in the RTP that reduce transportation-related emissions in the region and

- Compares the emissions reductions anticipated with implementation of the SCS with the regional targets (Kern COG 2018).

Local

Kern County General Plan

The Land Use, Open Space, and Conservation Element of the Kern County General Plan (Kern County, 2009) provides goals, policies, and implementation measures applicable to air quality, and as related to the project, would also reduce project GHG emissions. These goals, policies, and implementation measures are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the project. Therefore, they are not listed below.

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

Air Quality

Policy

Policy 19: In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision making body, as part of its deliberations, will ensure that:

1. All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and
2. The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.

Implementation Measures

Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.

Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to:

1. Minimizing idling time.
2. Electrical overnight plug-ins.

Measure H: Discretionary projects may use one or more of the following to reduce air quality effects:

1. Pave dirt roads within the development.
2. Pave outside storage areas.

3. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans.
4. Use of alternative fuel fleet vehicles or hybrid vehicles.
5. Use of emission control devices on diesel equipment.
6. Develop residential neighborhoods without fireplaces or with the use of Environmental Protection Agency certified, low emission natural gas fireplaces.
7. Provide bicycle lockers and shower facilities on site
8. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86).
9. The use and development of park and ride facilities in outlying areas.
10. Other strategies that may be recommended by the local Air Pollution Control Districts.

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 Change 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.

Willow Springs Specific Plan

The project site is located within the Willow Springs Specific Plan area. The Willow Springs Specific Plan was adopted in 1992 (most recently revised on April 1, 2008) and includes policies and implementation measures to minimize air quality impacts, which would also reduce project GHG emissions. The following summarizes the policies and implementations measures from the Willow Springs Specific Plan that are applicable to the project.

Air Quality

Goal

Goal 1: Imposition of appropriate mitigation measures to reduce where practical to do so, the effect short-term and long-term projects have on the areas which involve grading activities, erosion controls, revegetation of disturbed sites, and provisions to introduce into the plan area a competitive job market to reduce travel times.

Implementation Measures

Measure 3: Construction equipment shall be fitted with the most modern emission control devices and be kept in proper tune. Motors out of proper tune can result in emissions that vastly exceed recommended standards.

Measure 7: All phases of the Willow Springs Specific Plan Update project shall comply with applicable rules and regulations of the Kern County Air Pollution Control District.

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 cumulatively 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 it 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 analysis presented within this section is based on both qualitative and quantitative approaches for determining GHG impacts associated with construction, operation, and maintenance of the project. The findings in the Air Quality Impact Analysis prepared for the proposed project (located in Appendix B of this EIR), were used to assess the project's impacts related to GHG emissions.

Construction Emissions

Based on information provided by the project applicant, construction assumptions for the project have been quantified using conservative assumptions of a reasonably worst-case air quality scenario. Construction equipment was estimated using a project proponent supplied construction fleet mix and schedule. EMFAC2017 emissions factors were used to estimate emissions from solar panel delivery (off-site travel on paved surfaces) and USEPA AP-42 emission factors were used to calculate fugitive dust emissions from travel on on-site unpaved surfaces.

Construction emissions consist of vehicle and equipment exhaust and fugitive dust. Construction of the project is anticipated to take 12 to 24 months; however, for the purposes of this analysis, it was assumed that construction activities would be completed within 12 months. Air emissions calculations were performed for both before and after the incorporation of Mitigation Measures MM 4.3-1 to MM 4.3-2. These mitigation measures include those typically required by Kern County for NO_X (compliance with applicable CARB and EKAPCD rules) and PM_{10} (watering program for dust control). See the Air Quality Impact Analysis (Appendix B of this EIR) for a complete list of construction assumptions, including equipment, and vehicles. Details regarding the methods and activity assumptions by source type are provided below.

- **Off-Road Equipment:** For the purpose of this project, off-road equipment is defined as equipment powered by an USEPA defined non-road engine. The off-road equipment exhaust emissions were calculated with emission factors from the California Emissions Estimator Model (CalEEMod). The analysis with these CalEEMod emission factors provided the total peak emissions that would occur if all pieces of equipment were used on the same day. This is a conservative estimate and, therefore, represents a worst-case scenario. It is not likely that all equipment would be working at the same time, and, therefore, emissions would be lower than this worst-case scenario.
- **On-Road Vehicles and Trucks:** EMFAC2017 emissions factors were applied to the estimated vehicle miles traveled for the project. Construction of the project would generate emissions associated with the transport of machinery and supplies to and from the site, emissions from trucks transporting materials and water to and from the site, and emissions associated with worker trips. Additionally, the analysis includes emissions from delivering the construction materials and PV modules (panels) from the Port of Long Beach to the project site (a distance of approximately 80 miles).
- **Electricity Consumption:** GHG emissions generated by electricity related to water demand during construction were quantified using activity data (e.g., megawatt-hours [MWh]) provided by the project applicant and emission factors based on the California Air Pollution Control Officers Association (CAPCOA, 2010).

Operational Emissions

Long-term operational emissions associated with the proposed project were also calculated using EMFAC2017 and CalEEMod, version 2016.3.2. Long-term emissions result from operational mobile sources from full time employees, cleaning of the solar panels, and area source emissions from the on-site building. All assumptions and calculations are provided in Appendix B of this EIR.

- **Vehicle and Truck Emissions:** Once placed into service, the project would be operated by up to two full-time equivalent (FTE) personnel. The employees would monitor and report the performance of the project and conduct preventative and corrective maintenance. It should be

noted that preventative maintenance kits and certain critical spares would be typically stored on site, while all other components would be readily available from a remote warehouse facility. As such, vehicle trips associated with project operation and maintenance would be minimal. Additionally, mobile source emissions for water deliveries and panel washing for the project would be intermittent and minimal.

- **Energy Generation:** The proposed solar facility would generate renewable energy with no 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. Energy displacement and the subsequent emissions displacement from the proposed solar facility were calculated using EPA Emissions & Generation Resource Integrated Database (eGrid) (USEPA, 2018a), Argonne National Laboratory *Updating electric grid emissions factors*, GHG energy emissions factors for Pacific Gas and Electric Company from CalEEMod (Version 2016.3.2), and total electricity generation per year provided by the project applicant. Total annual electricity generation was assumed to be 471,775,074 kWh/year (or 14,153,252,220 kWh over the life of the project).

Decommissioning Emissions

At such time as the project is decommissioned, equipment operation and site restoration activities would result in emissions of GHGs. 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. However, decommissioning emissions would be less than construction emissions due to labor being less intensive, materials being recycled or discarded locally without additional transport, and equipment in future years having significantly lower emissions than current equipment. Therefore, if construction emissions are not anticipated to exceed regulatory thresholds, decommissioning emissions would not be anticipated to exceed regulatory thresholds.

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 MTs 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 BAU through implementation of one or more of the following strategies:

a. Compliance with a Best Performance Standard (BPS);

b. Compliance with GHG Offset; and/or

c. Compliance with an Alternative GHG Reduction Strategy.

Pursuant to the CEQA thresholds, impacts were evaluated based on whether the project would be consistent with the State's applicable GHG reduction goals, plans, policies, and regulatory requirements. Specifically, those plans and policies established in accordance with AB 32 and the State's RPS program as well as other federal, state, and local policies.

Project Impacts

Impact 4.8-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

The project would directly generate GHG emissions during construction, routine operational and maintenance activities, and during decommissioning. Three GHGs associated with the project, CO_2, CH_4, and N_2O, would be emitted from on-road vehicles and non-road equipment during construction and decommissioning and from vehicles used during routine operational activities. The estimated GHG emissions from construction and operational activities associated with the project are shown in **Table 4.8-2**, *Estimated Project Greenhouse Gas Emissions*.

Direct Emission Sources

Construction Emissions. As shown in **Table 4.8-2**, *Estimated Project Greenhouse Gas Emissions*, construction of the proposed project would result in direct emissions of 3,768.45 $MTCO_2e$. Construction GHG emissions are typically summed and amortized over the lifetime of the project (assumed to be 30 years), then added to the operational emissions. The amortized emissions of the project would be 125.61 $MTCO_2e$ annually.

Decommissioning Emissions. Decommissioning emissions would be less than construction emissions due to labor being less intensive, materials being recycled or discarded locally without

additional transport, and equipment in future years having significantly lower emissions than current equipment. Therefore, if construction emissions are not anticipated to exceed the EKCAPCD threshold, decommissioning emissions would not be anticipated to exceed the EKCAPCD threshold.

Operational Emissions. Long-term emissions are caused by operational mobile sources from periodic cleaning of the solar panels as well as a small, full-time staff (2 employees), and area source emissions from the on-site building. As shown in **Table 4.8-2**, *Estimated Project*.

Table 4.8-2: Estimated Project Greenhouse Gas Emissions

Phase	GHG Emissions (metric tons/year)			
	CO_2	CH_4	N_2O	CO_2e
2022 Construction Emissions	1,658.21	0.31	0.00	1,666.03
2023 Construction Emissions	1,931.55	0.33	0.02	1,946.61
Total Construction Emissions	**3,738.32**	**0.64**	**0.05**	**3,768.45**
Annualized Emissions (30 year)[a]	*124.61*	*0.02*	*0.00*	*125.61*
Total Operational Emissions	**29.14**	**0.11**	**0.00**	**32.28**
Total Construction & Operational Emissions	**153.75**	**0.13**	**0.00**	**157.89**
GHG Savings from Project [b]	122,802.12	0.94	0.52	122,982.02
Net Project GHG Savings	**122,648.37**	**0.80**	**0.51**	**122,824.12**
EKCAPCD Threshold				25,000
Exceed Threshold?				No

NOTES
Refer to Appendix B for all assumptions and calculations.
Totals may be slightly off due to rounding.
[a] Per EKAPCD's Methodology.
[b] California Climate Action Registry Reporting Protocol (Version 3.1).
SOURCE: Trinity Consultants, 2021

Greenhouse Gas Emissions, total operational emissions anticipated from the proposed project are approximately 32.28 $MTCO_2e$ annually.

Additionally, the proposed Project substations may feature circuit breakers that contain SF6 gas, used as an insulator and an arc suppressor in the breakers. SF6 is inert and non-toxic and is encapsulated in the breaker assembly. SF6 is a GHG with substantial global warming potential because of its chemical nature and long residency time within the atmosphere. However, under normal conditions, it would be completely contained in the equipment and SF6 would be released only in the unlikely event of a failure, leak, or crack in the circuit breaker housing. New circuit breaker designs have been developed to minimize the potential for leakage, compared to that of past designs, and the amount of SF6 that could be released by the solar facility equipment would be minimal.

Indirect Emission Sources

Energy Consumption. The project would require minimal energy for security and monitoring systems during non-daylight hours and for the ESS facilities; however, this amount would be negligible. The project would introduce a non-fossil-fuel-based energy source, which would have the indirect effect of displacing emissions otherwise occurring at natural gas and coal-fired power plants. Additionally, the project could generate GHG-free electricity that would offset CO_2e and other emissions that would have resulted from producing an equivalent amount of electricity from fossil fuel-fired electric generators.

Total GHG Emissions

As shown in **Table 4.8-2**, *Estimated Project Greenhouse Gas Emissions*, the project's combined construction and operational emissions would be 157.89 $MTCO_2e$ annually, which is under the 25,000 $MTCO_2e$ threshold from EKAPCD. Although the displaced emissions are not taken into account for the threshold of significance, it is important to note that the proposed project would generate clean renewable energy that could offset a net of approximately 122,824.12 $MTCO_2e$ per year that would have resulted from producing an equivalent amount of electricity from a non-carbon free energy source, namely, natural gas. Furthermore, the proposed project would also contribute to achieving the State's RPS goals and would not conflict with the state goals to reduce GHG emissions.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation and would not generate greenhouse gas emissions, either directly or indirectly, with the potential to significantly affect the environment. Further, as facilities used to transport renewable energy to the grid, the SCE Interconnection Facilities would contribute to achieving the State's RPS goals and would not conflict with the state goals to reduce GHG emissions.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project and for the SCE Interconnection Facilities.

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 4.8-3**,

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 the other measures listed in **Table 4.8-4**, *Applicable Scoping Plan Strategies for Project*. These measures would primarily be those actions related to energy efficiency. A discussion of the consistency of the project with these measures is provided below. The project and other similar projects are essential to achieving the RPS. Further, as discussed previously, the project is reasonably expected to displace region-wide and Statewide emissions of GHGs over the expected life of the project.

Table 4.8-3: 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 are required to comply with the standards and would comply with these strategies.
Other Light Duty Vehicle Technology: New standards would be adopted to phase in beginning in the 2017 model.	
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.	The 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

Table 4.8-3: California Greenhouse Gas Emission Reduction Strategies

Strategy	Project Design/Mitigation to Comply with Strategy
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.	Consistent with Scoping Plan Strategy W-1, The water used during operation of the project would be used in an efficient manner to reduce impacts to local water resources
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

Table 4.8-3: California Greenhouse Gas Emission Reduction Strategies

Strategy	Project Design/Mitigation to Comply with Strategy
Smart land use, demand management, ITS, and value pricing are critical elements for improving mobility and transportation efficiency. Specific strategies include: promoting jobs/housing proximity and transit-oriented development; encouraging high density residential/commercial development along transit/rail corridor; valuing and congestion pricing; implementing intelligent transportation systems, traveler information/traffic control, incident management; accelerating the development of broadband infrastructure; and comprehensive, integrated, multimodal/intermodal transportation planning.	Not applicable
Enteric Fermentation: Cattle emit methane from digestion processes. Changes in diet could result in a reduction in emissions.	Not applicable
Green Buildings Initiative: Green Building Executive Order, S-20-04 (CA 2005), sets a goal of reducing energy use in public and private buildings by 20 percent by the year 2015, as compared with 2003 levels. Consistent with Mitigation.	Not applicable
California Solar Initiative: Installation of 1 million solar roofs or an equivalent 3,000 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 an electric power generating capacity of approximately 154 MW. Therefore, the project would help support and not conflict with this strategy.

Table 4.8-4: Applicable Scoping Plan Strategies for Project

ID#	Sector	Strategy Name
T-1	Transportation	Advanced Clean Cars
T-2	Transportation	Low Carbon Fuel Standard
E-3	Electricity and Natural Gas	Renewables Portfolio Standard
E-4	Electricity and Natural Gas	Million Solar Roofs
W-1	Water	Water Use Efficiency
CR-1	Electricity and Natural Gas	Energy Efficiency
H-6	High GWP Gases	SF_6 Leak Reduction Gas Insulated Switchgear

SOURCE: CARB, 2017.

Action T-1 relates to the Advanced Clean Cars program, in which the project's employees would purchase vehicles in compliance with the CARB vehicle standards that are in effect at the time of the vehicle purchase. In addition, as it related to Low Carbon Fuel Standards, under Action T-2, motor vehicles driven by the project's employees would use compliant fuels.

Action E-3 relates to renewable energy and the RPS, which is intended to increase California's renewable energy production Under SB 100, renewable energy production must increase to 44 percent of retail sales by 2024, 52 percent by 2027, and 60 percent by 2030. Utilities have met the 33 percent requirement by 2020 (California Energy Commission, 2019). Pursuant to SB 100, utilities also should plan to provide 100 percent carbon-free electricity by 2045. A key prerequisite to reaching a target of 100 percent carbon-free electricity would be to provide sufficient electric transmission lines to renewable resource zones and system changes to allow integration of large quantities of intermittent wind and solar generation. The project proposes a solar array with an electric power generating capacity of approximately 154 MW. Therefore, the project would be consistent with Action E-3.

Action W-1 relates to water use efficiency. The State is currently implementing targeted water use efficiency programs as part of an integrated water management effort. Consistent with this measure, the project will utilize water panel washing, equipment washing, non-sanitary uses, and other miscellaneous uses, such as landscaping obtained on site from existing wells or by truck. The water using during operation of the project would be used in an efficient manner to reduce impacts to local water resources.

Action CR-1 relates to energy efficiency in commercial and residential buildings. Also, Action CR-1 notes the need for more aggressive utility programs to achieve long-term energy savings. The project would result in the development of PV solar energy generating facilities that would provide renewable energy to California Investor-Owned utilities, which in turn would be used by commercial and residential buildings in the State. Therefore, the project is consistent with and would not obstruct Action CR-1.

Action H-6 relates to sulfur hexafluoride (SF_6) from leakage of gas insulated switchgear use in electricity transmission and distribution systems by setting limits on leakage rates and implement best management practices for the recovery and handling of SF_6. Consistent with this action, the project would comply with any and all applicable regulatory requirements for any SF_6 containing switchgear.

KCOG's 2018 RTP

The 2018 RTP incorporates local land use projections and circulation networks in city and county general plans. The 2018 RTP is not directly applicable to the project because the underlying purpose of the 2018 RTP is to provide direction and guidance by making the best transportation and land use choices for future development. Nevertheless, the project would not conflict with the goals and policies of the 2018 RTP. In addition, the project would not impact local transportation or land use during operation.

Other Federal/State/Local Policies

Table 4.8-5, *Project Consistency with an Applicable Plan, Policy, or Regulation for GHG Emissions*, 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 in Section 4.8.3, *Regulatory Setting*).

Overall, because the main objectives of the project are to assist California Investor-Owned utilities in meeting their obligations under California's RPS Program and assist California in meeting the GHG emissions reduction goal of 1990 level GHG emissions by 2020 as required by AB 32 and the future reduction goal of 40 percent below 1990 levels by 2030, the project would be compliant with the applicable recommended actions of the CARB 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, including the targets established under SB 100. Therefore, this impact would be less than significant.

The impacts of GHG emissions on 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 greenhouse gas emissions to the levels required by AB 32, as well as state GHG emission reductions post-2020. As a renewable energy project, 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 would not make a cumulatively considerable contribution to global warming or climate change.

Table 4.8-5: 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.
Willow Springs Specific Plan	Consistent	Air Quality Mitigation Measures would ensure that the project is consistent with the Willow Springs Specific Plan Air Quality Element Policies, Goals, and Implementation Measures that will indirectly reduce GHG emissions by reducing fossil fuel combustion.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation and would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gas. Further, as facilities used to transport renewable energy

to the grid, the SCE Interconnection Facilities would contribute to achieving the State's RPS goals and would not conflict with the state goals to reduce GHG emissions.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project and for SCE's Interconnection Facilities.

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.

As shown in **Table 4.8-2**, *Estimated Project Greenhouse Gas Emissions*, the total annual GHG emissions from the project would be 157.89 $MTCO_2e$. In addition to these project GHG emissions, other cumulative projects, identified in **Table 3-4**, *Cumulative Projects List*, in Chapter 3, *Project Description*, 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 Scoping Plan relies on achievement of the RPS target of 33 percent of California's energy coming from renewable sources by 2020. In order to meet the SB 32 GHG emissions reduction mandate, the 2017 Scoping Plan relies on achievement of the RPS target of 50 percent of California's energy coming from renewable sources by 2030. As previously discussed, the RPS target was updated in September 2018 under SB 100 to 60 percent renewable 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 40 percent of California's total GHG emissions (CARB, 2019a). The project's emissions would, therefore, contribute to the

increase in emissions in the transportation sector. Construction emissions would be finite and temporary and would cease at the end of construction activities.

Although the project would result in a contribution to cumulative GHG emissions in California, operation of the project could offset emissions from the electricity generation sector estimated at 122,824.12 $MTCO_2e$, annually over its 30-year anticipated lifespan (refer to **Table 4.8-2**, *Estimated Project Greenhouse Gas Emissions*). Therefore, the total GHG construction emissions that would be associated with the project would likely be offset by approximately one year of operations. Overall, the project would not make a cumulatively considerable contribution to cumulative GHG emissions or global climate change 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. Further, the project would help California transition to a carbon-free future . Thus, the project would not have a cumulatively considerable impact on global climate change, and cumulative impacts would therefore be less than significant.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation and would not generate greenhouse gas emissions, either directly or indirectly, with the potential to significantly affect the environment, or conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gas. Further, as facilities used to transport renewable energy to the grid, the SCE Interconnection Facilities would contribute to achieving the State's RPS goals and would not conflict with the state goals to reduce GHG emissions

Mitigation Measures

No mitigation would be required.

Level of Significance

Cumulative impacts would be less than cumulatively considerable for the project and the SCE Interconnection Facilities.

Section 4.9
Hazards and Hazardous Materials

4.9.1 Introduction

This section of EIR describes the affected environment and regulatory setting for hazards and hazardous materials in the study area and project site. It also describes the project's potential impacts on residences and other sensitive receptors that could be exposed to these hazards (other than geologic hazards; see Section 4.7, *Geology and Soils*, of this EIR for discussion on geologic hazards) and presents mitigation measures where applicable. Information in this section is based primarily on the *Phase 1 Environmental Site Assessment (ESA)* – Rosamond South Solar, completed for the four proposed CUP project sites. The Phase 1 ESA is located in Appendices G of this EIR.

4.9.2 Environmental Setting

This section discusses the existing conditions related to hazards and hazardous materials in the project area and describes the environmental setting for hazardous materials and waste, airports, electromagnetic fields (EMFs), and wildfire hazards. Residences and other sensitive receptors such as schools are also described as their proximate location to the project site affects their exposure to the potential hazards described below. A description of the project site relative to hazards and hazardous materials can also be found below.

Existing Setting

The proposed project would consist of four separate solar facility sites (i.e., CUPA Area 1, CUP Area 2, CUP Area 3, and CUP Area 4) that cover a total of 1,292 acres of private land in southeastern Kern County. Major components of each facility would include photovoltaic modules mounted on fixed-tilt or horizontal tracker systems, an onsite electrical collection system, a Battery Energy Storage System (BESS), transmission lines, service roads, combiners, inverter stations, transformer systems, overhead and buried conductors, generation tie (gen-tie) lines, electrical switchyards, substations, telecommunications tower, security fencing, and operations & maintenance (O&M) building(s).

The project site is relatively flat and characterized by undeveloped open desert (with the exception of a single-family residence and outbuildings in CUP Area 2 and outbuildings in CUP Area 4. The surrounding vicinity is composed of a mix of undeveloped land, agricultural land, rural residential development, as well as existing solar and wind electrical generation facilities and transmission infrastructure. Desert vegetation and agricultural fields dominate the project area and the region with the project site being mostly comprised of Mojave Creosote Bush Scrub community that dominates most of the project site. The closest school to the project site is the Tropico Middle School, located approximately 4.5 miles east of the eastern boundary of CUP Area 4. The nearest hospital is the Adventist Health Tehachapi Valley Hospital, located approximately 18 to 20 miles to the north of the project site in Tehachapi. The closest airports to the project site are closest to CUP Area 4 and include, Lloyd's Landing Airport, located approximately 7 miles north, and

Rosamond Skypark, which is located approximately nine miles to the east. The closest military base is Edwards Air Force Base, approximately 30 miles to the east of the project site. State Route 14 (SR-14), the nearest highway, is located approximately 7 miles east of CUP Area 4 and 14 miles east of CUP Area 1.

The area within the project site and surrounding vicinity is composed of a mix of undeveloped land, agricultural land, rural residential development, as well as existing solar and wind electrical generation facilities and transmission infrastructure. Desert vegetation and agricultural fields dominate the region. The most prevalent habitat type on the project site is Annual Grassland, which covered approximately two thirds of the project footprint and by Desert Scrub that covers most of the remaining habitat type within the project site. Scattered, widely spaced Joshua trees occur throughout portions of the creosote bush scrub communities present within the project site. The topography of the site is relatively flat.

CUP Area 1 through 4 are generally undeveloped lands; multiple dirt roads traverse the subject properties. CUP Area 1 is located approximately 310-feet northeast of the intersection of 170th street West and Astoria Avenue, and consists of four parcels identified as Kern County Assessor Parcel Numbers (APNs) 261-120-05, 261-120-06, 261-120-07, and 261-120-09, totaling approximately 71 acres of primarily undeveloped land and improved with electrical transmission lines. During the site reconnaissance the Tract was observed to consist of undeveloped land.

CUP Area 2 is located on 14154 West Rosamond Boulevard, north of Holiday Avenue and consists of two parcels identified as Kern Assessor APNs 359-100-05 and 359-02-059 totaling approximately 240.62 acres of primarily undeveloped land and improved with a residence and several commercial buildings associated with a ranch. During the site reconnaissance, CUP Area 2 was observed to consist of a residence and former ranch on the northwestern portion, the remainder of the site consisted of undeveloped land.

CUP Area 3 is located south of Holiday Avenue and north of Gaskell Road, and consists of 50 continuous parcels totaling 540 acres of primarily undeveloped land. During the site reconnaissance, the Tract consisted of undeveloped land.

The northerly portion of CUP Area 4 is located to the southeast of the intersection of 100th Street West and Buckhorn Avenue and consists of one parcel identified as Kern County APN 374-460-12, totaling 73.97 acres of fallow agricultural land improved with two commercial open storage structures that were observed to be in a dilapidated condition. During the site reconnaissance, the property was observed to consist of undeveloped land and two dilapidated building on the southwestern portion. The southerly portion of CUP Area 4 is located southeast of the intersection of 100th Street West and Gaskell Road, and consists of three parcels identified as Kern County APNs 374-020-02, 374-020-15, 374-020-16, and 374-450-01, totaling approximately 365.36 acres of fallow agricultural land (Terracon, 2021)

The project site is located in a local responsibility area (LRA) for which the County of Kern is responsible for providing fire protection. The CalFire LRA maps show the project within two LRA Fire Severity Zones: (a) LRA moderate and (b) LRA unzoned. The project would comply with all applicable wildland fire management plans and policies established by CalFire and the Kern County Fire Department (KCFD).

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. Phase I Environmental Site Assessments conducted for the project site were used to determine potential risks of encountering legacy contaminants at the site.

Recognized Environmental Conditions

The Phase I ESA evaluated the site consistent with the procedures included in ASTM Practice E 1527-13 in Rosamond, Kern County, California. The Phase I ESA did not locate any Recognized Environmental Conditions (RECs) or Controlled RECs (CREC) in connection with the project site.

Photovoltaic Solar Module Technologies

Photovoltaic (PV) solar panels (known within the industry as "modules") that would be installed on the project site would consist of either crystalline silicon or cadmium telluride (CdTe) thin film technology. Crystalline silicon and thin film CdTe solar modules that would be installed on the project site may include small amounts of semiconductor or electrically conducting materials encapsulated within the modules that are considered to be hazardous such as lead or cadmium compounds. Because such materials are in a solid and non-leachable state, broken crystalline silicon and thin film CdTe solar modules would not be a source of pollution to surface water, stormwater, or groundwater. Crystalline silicon and thin film CdTe modules removed from the site (i.e., during project decommissioning) would be recycled or otherwise disposed at an appropriate waste disposal facility. In addition, the energy storage systems would include industry-standard battery systems which contain chemical contents that are considered hazardous, such as lithium-ion batteries as well as lead acid, sodium sulfur, and sodium or nickel hydride batteries.

Should thin film CdTe solar modules (CdTe PV) be installed on the project site, they would consist of a thin semiconductor layer that 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.

CdTe PV is a mature technology with two decades of field deployment. It has been demonstrated that standard operation of CdTe PV systems does not result in cadmium emissions to air, water, or soil. During the PV module manufacturing process, CdTe is bound under high temperature to a sheet of glass by vapor transport deposition, coated with an industrial laminate material, insulated with solar edge tape, and covered with a second sheet of glass. The module design results in the encapsulation of the semiconductor material between two sheets of glass thereby preventing the exposure of CdTe to the environment. Experimental leaching studies, theoretical worst-case modeling and field examinations concluded that CdTe PV modules pose little to no risk under foreseeable accidents such as fire, breakage, and extreme weather events like tornadoes and hurricanes.[1]

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, end-of-life disposal and in the event of exceptional accidents such as fire or breakage, CdTe PV modules do not present an environmental risk. CdTe releases are unlikely to occur during accidental breakage or fire due to the high chemical and thermal stability of CdTe. Disposal risks of end-of-life CdTe PV modules are minimized because of the low solubility of CdTe and because the modules can be effectively recycled at the end of their approximately 30-year life. The PV module manufacturer provides global CdTe module recycling services. End-of-life CdTe PV modules are currently characterized as federal non-hazardous waste, and as a California-only hazardous waste. Solar equipment and infrastructure would be recycled as practical or disposed of in compliance with applicable laws. CdTe PV modules are an article of commerce, and are not classified as a hazardous material for shipping purposes under either federal or State law.

Human health risk assessments looking at the environmental, health, and safety aspects of both crystalline silicon and thin film CdTe PV technologies have been evaluated by the International Energy Agency, concluding that CdTe PV modules do not present a health risk in the event of exceptional accidents such as fire or breakage, with regards to their use of lead and cadmium compounds, respectively.[2]

Historical Property Use

Roadway development abutting CUP Area 1 occurred from approximately 1943 to 1963 but the on-site and adjacent lands remained undeveloped. Adjacent land underwent clearing for agricultural purposes between the 1970's through 2014 and the Whirlwind substation was installed to the northwest in 2016 and a solar facility was installed to the southwest in 2018. CUP Area 1 remains undeveloped.

Since 1943, CUP Area 2 has been abutted by roads, but the majority of area been undeveloped and largely remains undeveloped. There is an existing small reservoir abutting the northeast corner of the northwestern portion of CUP Area 2, other surrounding areas were used for agricultural production, and a single residence was built approximately 0.1 mile from the project boundary near the reservoir in 1963, agricultural uses remained, and an additional residence was built to the southeastern portion of CUP Area 2 between 2005-2012 and remains in use. Most recently the agricultural uses to the east was redeveloped with a solar facility between 2014-2018. CUP Area 2

[1] Virginia Tech University, 2019 and Fthenakis et al., 2020
[2] P. Sinha et al. 2018 and P. Sinha et al. 2019

consists of undeveloped land with un-paved road transects and remained undeveloped with the exception of a residence constructed in the northwestern corner between 2005-2018.

CUP Area 3 is abutted by roads and largely undeveloped. There are agricultural lands to the north, east, and south of the southeastern and southwestern portion potion of the CUP Area. Scattered rural residential uses are located adjacent to and within approximately 1 mile to the east and southeast portions of the CUP Area, which were built in approximately 1974. Some of the agricultural land was cleared and residential uses to the north were constructed in 1987, in 1994, and addition residences to the north of the northwest; between 2005-2012. The areas to the northwest, northeast, and east of CUP Area 3 were improved with solar facilities between 2016 and 2018. CUP Area 3 remains largely undeveloped with the exception of un-paved road, agricultural land in the north-northwestern portion of the area.

To the south and southwest of the northerly portion of CUP Area 4, lands were undeveloped and consisted of roads through 1963 when agricultural buildings were constructed. To the west the areas consisted of agricultural land. A water retention basin that still exists was installed to the southwest. Surrounding residences are located approximately 1 mile to the northwest and were built between 2005-2010. To the north and northwest of CUP Area 4, the lands were undeveloped and consisted of dirt roads with and agricultural land to the south. Agricultural land was located to the east, south, west from 1963-1974. Residential uses were built to the north, south, southeast, and west between 1978 and 2018, and remain in use. Historically, CUP Area 4 was largely undeveloped, but between 1963 and 1974 rectangular buildings and two barns were built between 1978 and 2018. The southerly portion of CUP Area 4 has remained undeveloped, used for agricultural production, or vacant.

Electromagnetic Fields

Electromagnetic fields (EMFs) are associated with electromagnetic radiation, which is energy in the form of photons. Radiation energy spreads as it travels and has many natural and human-made sources. The electromagnetic spectrum, the scientific name given to radiation energy, includes light, radio waves, and x-rays, among other energy forms. Electric and magnetic fields are common throughout nature and are produced by all living organisms. Concern over EMF exposure, however, generally pertains to human-made sources of electromagnetism and the degree to which they may have adverse biological effects or interfere with other electromagnetic systems.

Commonly known human-made sources of EMF are electrical systems, such as electronics and telecommunications, as well as electric motors and other electrically powered devices. Radiation from these sources is invisible, non-ionizing, and of low frequency. According to a 2012 study conducted by the Massachusetts Clean Energy Center, the levels of such radiation from solar projects added to natural background sources are low (Massachusetts Clean Energy Center, 2012).

Electric voltage (electric field) and electric current (magnetic field) from transmission lines create EMFs. Power frequency EMF is a natural consequence of electrical circuits and can be either directly measured using the appropriate measuring instruments or calculated using appropriate information. The project would construct off-site collection systems to interconnect into the California Independent System Operator (CAISO) grid at the Southern California Edison (SCE) Teddy and Whirlwind Substations. The alignment is discussed in further in more 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 it on this issue. The California EMF Consensus Group's fact-finding process was open to the public, and its report incorporated public concerns. Its recommendations were filed with the CPUC in March 1992. Based on the work of the California EMF Consensus Group, written testimony, and evidentiary hearings, CPUC's decision (93-11-013) was issued on November 2, 1993, to address public concern about possible EMF health effects from electric utility facilities. The conclusions and findings included the following:

> *"We find that the body of scientific evidence continues to evolve. However, it is recognized that public concern and scientific uncertainty remain regarding the potential health effects of EMF exposure. We do not find it appropriate to adopt any specific numerical standard in association with EMF until we have a firm scientific basis for adopting any particular value."*

This continues to be the stance of the CPUC regarding standards for EMF exposure. Currently, the state has not adopted any specific limits or regulations regarding EMF levels from electric power facilities. However, the CPUC did adopt a policy that requires electric utilities operating within California agree to incorporate various measures into the construction of new or upgraded power lines and substations, and authorized each utility to develop and publish a set of "EMF Design Guidelines" implementing this policy. As a result, SCE published guidelines to reduce exposure of EMF from electrical utility transmission and distribution facilities. The proposed project is required to be designed to the published guidelines, including siting, construction, operation, and maintenance criteria.

In addition to transmission lines, the project proposes up to four (five acre) onsite BESS units located within each CUP area, or one 20-acre BESS located within CUP Area 1. The battery storage modules would be placed in prefabricated enclosure(s). The storage system would consist of battery banks housed in electrical enclosures and buried electrical conduit. The batteries enclosures have fire suppression equipment installed that automatically suppress thermal emergencies.

The energy storage technology and design for the BESS has not been determined at this time, but could include any commercially available battery technology, including but not limited to lithium ion, lead acid, sodium sulfur, and sodium or nickel hydride. Either way, the energy storage would occur as direct current (DC), which produce static EMFs and has not been associated with adverse health effects.

Increase in Ambient Temperatures

All exposed surfaces (e.g., houses, cars, rocks) absorb heat produced by the sun. A "heat island" effect is generated when cities cover miles of land with structures (e.g., concrete buildings and asphalt roads), which absorb and store significantly more heat during the day than undeveloped earth. Additionally, these cities are filled with energy-consuming devices (e.g., engines, appliances, and heating, air-conditioning, and ventilation [HVAC] systems) that generate waste heat.

Solar arrays consist of solar panels mounted on aluminum and steel support structures. The support structures have little or no exposure to sunlight. The project site would not be covered entirely with solar panels. The amount of the sun's heat absorbed by a solar panel is similar to the amount of the

sun's heat absorbed by open land. However, solar panels store less heat than the earth because they consist of a thin, lightweight glass that is surrounded by airflow. Therefore, heat dissipates quickly from a solar panel compared with solid earth, which dissipates heat slowly. The project would have energy-consuming devices (e.g., inverters). There is nothing in the record to date that would indicate that the project would significantly increase ambient air temperatures outside the project site.

Fthenakis and Yu from Columbia University and Brookhaven National Laboratory combined models with field data to determine the extent to which PV facilities altered ambient air temperatures (Fthenakis and Yu, 2013). Temperatures surrounding the facility were found to cool completely at night and the researchers determined that the PV facility "did not induce a day-after-day increase in ambient temperatures, and therefore, adverse micro-climate changes from a potential PV plant are not a concern". This study also concluded that increases in temperatures completely dissipated approximately 5-18 meters above the facility and that thermal energy "promptly dissipated" with distance from the facility. Remote sensing research produced by Edalat and Stephen from UNLV in 2017 supports the conclusions of Fthenakis and Yu (2013), demonstrating that land surface temperatures surrounding a solar facility were not significantly impacted by the solar facility (Edalat and Stephen, 2017).

Increased Noise

Noise from construction would be temporary and intermittent over a period of up to 12 months for the project. The ambient noise regime in the project vicinity consists of undeveloped, solar farm, and rural residential uses and is a relatively quiet noise environment. The nearest sensitive noise receptors to the project are isolated rural residential land uses. Each of the CUP Areas has one or more rural residential uses located adjacent to the property line. As discussed in detail in Section 4.12, *Noise*, of this EIR, due to the relatively quiet noise environment in the project area associated with the current undeveloped land uses, temporary or periodic increases in ambient noise levels caused by construction activities could occur at these receptors. However, these increases would be temporary and not expected to disrupt or otherwise adversely affect residential uses in the area.

Hazardous Materials Transportation

There are no major highways that run in the vicinity of the project sites. The nearest highway is SR-14, a four-lane highway located approximately 7 miles east of the CUP Area 1. 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 (approximately 7 miles east), SR-58 (approximately 18 miles north) and US 395 (approximately 65 miles east) are designated as adopted commercial hazardous materials shipping routes.

Airports

The project site is not located within an area covered by the Kern County Airport Land Use Compatibility Plan (ALUCP). The nearest airports to the project site are the privately owned Rosamond Skypark located approximately 9 miles to the northeast, the Mojave Air and Space Port located approximately 25 miles to the northeast, and the Mountain Valley Airport located approximately 25 miles to the north. Safety hazards are not anticipated for people working in the project site with respect to the project's proximity to an airport.

Fire Hazard Areas

The California Department of Forestry and Fire Prevention requires counties within the State to develop fire protection management plans that address potential threats of wildland fires. The Kern County Wildland Fire Management Plan identifies federal, State, and local responsibility areas for the entire County to facilitate coordination efforts for fire protection services. The California Department of Forestry and Fire Protection (CalFire) publishes Fire Hazards Severity Zone Maps for the State Responsibility Areas (SRA); however, the project site is not located within a State Responsibility Area. The project site is located in a local responsibility area (LRA) for which the County of Kern is responsible for providing fire protection. The CalFire LRA maps show the project within two LRA Fire Severity Zones: (a) LRA moderate and (b) LRA unzoned (CALFIRE, 2007).

SCE Interconnection Facilities

The SCE property has a similar agricultural history as the project site. It is developed currently with an electrical substation and electrical transmission facilities.

4.9.3 Regulatory Setting

Federal

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) was established in 1970 to consolidate in one agency a variety of federal research, monitoring, standard-setting, and enforcement activities to ensure environmental protection. The EPA's mission is to protect human health and to safeguard the natural environment – air, water, and land – upon which life depends. The EPA works to develop and enforce regulations that implement environmental laws enacted by Congress, is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for using permits and for monitoring and enforcing compliance. Where national standards are not met, the EPA can issue sanctions and take other steps to assist the states and tribes in reaching the desired levels of environmental quality.

Federal Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the EPA to regulate the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984

by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle to grave" system of regulating hazardous wastes.

Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as "Superfund," were enacted by Congress on December 11, 1980. This law (42 United States Code [USC] 103) provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites, provides for liability of persons responsible for releases of hazardous waste at these sites, and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also enables the revision of the National Contingency Plan (NCP). The NCP (Title 40, Code of Federal Regulations [CFR], Part 300) provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

Clean Water Act/Spill Prevention, Control, and Countermeasure Rule

The Clean Water Act (CWA) (33 USC 1251 et seq., formerly known as the Federal Water Pollution Control Act of 1972) was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of waters of the United States. As part of the CWA, the EPA oversees and enforces the Oil Pollution Prevention regulation contained in 40 CFR 112, which is often referred to as the "SPCC rule" because the regulations describe the requirements for facilities to prepare, amend, and implement spill prevention, control, and countermeasure (SPCC) plans. A facility is subject to SPCC regulations if a single oil storage tank has a capacity greater than 660 gallons, or the total aboveground oil storage capacity exceeds 1,320 gallons, or the underground oil storage capacity exceeds 42,000 gallons, and if, due to its location, the facility could reasonably be expected to discharge oil into or upon the "Navigable Waters" of the United States.

Other Regulations

Other federal regulations overseen by the EPA relevant to hazardous materials and environmental contamination include 40 CFR Parts 100 to 149 -- Water Programs, 40 CFR Parts 239 to 259 -- Solid Wastes, and 40 CFR Parts 260 to 279 -- Hazardous Waste. These regulations designate hazardous substances under applicable federal statutes; determine the reportable quantity for each substance that is designated as hazardous; and establish quantities of designated substances equal to or greater than the reportable quantities that may be discharged into waters of the United States.

Occupational Safety and Health Administration

The Occupational Safety and Health Administration's (OSHA's) mission is to ensure the safety and health of U.S. workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. The OSHA staff establishes and enforces protective standards and reaches out to employers and employees through technical assistance and consultation programs. OSHA standards are listed in 29 CFR 1910, which include preparation of Health and Safety Plans

(HASPs). HASPs identify potential hazards associated with a proposed land use and may provide appropriate mitigation measures as required. 29 CFR Section 1910.120(e) requires all employees working on site exposed to hazardous substances, health hazards, or safety hazards and their supervisors and management responsible for the site to receive training meeting the requirements of this paragraph before they are permitted to engage in hazardous waste operations that could expose them to hazardous substances, safety, or health hazards. These employees shall receive any necessary review training.

State

California Building Code, Section 608

Section 608 of the California Building Code includes requirements for battery energy storage systems greater than 20 kWh, which includes the proposed energy storage facilities. Section 608 includes requirements for vehicle impact protection, location, spacing between batteries, egress, security, and fire suppression systems.

California Public Utilities Commission General Order 95: Rules for Overhead Electric Line Construction

General Order 95 (GO 95) is the key standard governing the design, construction, operation, and maintenance of overhead electric lines within the State of California. It was adopted in 1941 and updated most recently in 2012. GO 95 includes safety standards for overhead electric lines, including minimum distances for conductor spacing, minimum conductor ground clearance, and standards for calculating maximum sag, electric line inspection requirements, and vegetation clearance requirements. The latter, governed by Rule 35, and inspection requirements, governed by Rule 31.2, are summarized below:

- Rule 35, *Tree Trimming,* defines minimum vegetation clearances around power lines. Rule 35 guidelines require 10-foot radial clearances for any conductor of a line operating at 110,000 Volts or more, but at less than 300,000 Volts. This requirement would apply to the proposed 230-kV lines.
- Rule 31.2, *Inspection of Lines*, requires that lines be inspected frequently and thoroughly for the purpose of ensuring that they are in good condition, and that lines temporarily out of service be inspected and maintained in such condition so as not to create a hazard.

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. Project structures would be exempt primarily because of their design specifications.

Power Line Clearance Required (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. Some utility poles are exempt under 14 CCR 1255; exemptions are determined by utility pole characteristics such as conductor continuousness and fire propagation potential. The project structures would be exempt from the clearance requirements, with the exception of cable poles and dead-end structures.

The firebreak clearances required by 14 CCR 1254 are applicable within an imaginary cylindrical space surrounding each pole or tower on which a switch, fuse, transformer, or lightning arrester is attached and surrounding each dead-end or corner pole, unless such pole or tower is exempt from the minimum clearance requirements by the provisions of 14 CCR 1255 or PRC 4296. The radius of the cylindroid is 10 feet, which is measured horizontally from the outer circumference of the specified pole or tower, with the height equal to the distance from the intersection of the imaginary vertical exterior surface of the cylindroid to an intersection with a horizontal plane passing through the highest point at which a conductor is attached to such pole or tower. Flammable vegetation and materials located wholly or partially within the firebreak space would be treated as follows:

- At ground level: Remove flammable materials, including ground litter, duff, and dead or desiccated vegetation that would propagate fire.
- From 0 to 8 feet above ground level: Remove flammable trash, debris, or other materials, grass, and herbaceous and brush vegetation. Remove all limbs and foliage of living trees up to a height of eight feet.
- From 8 feet to the horizontal plane of highest point of the conductor attachment: Remove dead, diseased, or dying limbs and foliage from living sound trees and any dead, diseased, or dying trees in their entirety.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The Hazardous Materials Release Response Plans and Inventory Act, also known as the Business Plan Act, requires businesses using hazardous materials to prepare a plan that describes their facilities, inventories, emergency response plans, and training programs. Hazardous materials are defined as unsafe raw or unused materials that are part of a process or manufacturing step. They are not considered hazardous waste. Health concerns pertaining to the release of hazardous materials, however, are similar to those relating to hazardous waste.

A Hazardous Materials Business Plan (HMBP) must be submitted to the local Certified Unified Program Agency (the Kern County Public Health Services Department/Environmental Health Services Division) if the facility handles, uses, or stores a hazardous material or mixture containing a hazardous material that has a quantity equal to or greater than 55 gallons of liquid, 500 pounds of a solid substance, or 200 cubic feet of compressed gas, a hazardous compressed gas in any amount, or hazardous waste in any amount. A HMBP must include the following:

- Inventory of hazardous materials at a facility.
- Emergency response plans and procedures in the event of a reportable release or threatened release of a hazardous material; and
- Training for all new employees and annual training for all employees in safety procedures in the event of a release or threatened release of a hazardous material (California Governor's Office of Emergency Services 2011).

These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the Department of Toxic Substances Control (DTSC).

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, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the California Department of Toxic Substances and Control (DTSC).

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

Senate Bill 1082 (1993) created the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program), which requires the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a Certified Unified Program Agency (CUPA). The Program Elements consolidated under the Unified Program are as follows:

- Hazardous Waste Generator and Onsite Hazardous Waste Treatment Programs (i.e., Tiered Permitting);
- Aboveground Petroleum Storage Tank Program;
- Hazardous Materials Release Response Plans and Inventory Program (i.e., Hazardous Materials Disclosure or "Community-Right-To-Know");

- California Accidental Release Prevention Program (Cal ARP);
- Underground Storage Tank (UST) Program; 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 the CUPA. The CUPA in Kern County is the Environmental Health Services Division of the Kern County Public Health 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), State Water Resource Control Board (SWRCB), Regional Water Quality Control Board (RWQCB), CalRecycle, DTSC, Office of Environmental Health Hazard Assessment (OEHHA), and Department of Pesticide Regulation (DPR) under one agency. These agencies were placed within the Cal/EPA "umbrella" for the protection of human health and the environment and to ensure the coordinated deployment of State resources. Their mission is to restore, protect, and enhance the environment and to ensure public health, environmental quality, and economic vitality.

Department of Toxic Substances and Control

DTSC, a department of Cal/EPA, is the primary agency in California for regulating hazardous waste, cleaning up existing contamination, and finding ways to reduce the amount of hazardous waste produced in California. DTSC regulates hazardous waste primarily under the authority of the Federal RCRA and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

USC 65962.5 (commonly referred to as the Cortese List) includes DTSC-listed hazardous waste facilities and sites, Department of Health Services lists of contaminated drinking water wells, sites listed by the SWRCB as having UST leaks or a discharge of hazardous wastes or materials into the water or groundwater, and lists from local regulatory agencies of sites with a known migration of hazardous waste/material.

California Office of Emergency Services

In order to protect public health and safety, and the environment, the California Office of Emergency Services (OES) is responsible for establishing and managing statewide standards for business and area plans relating to the handling and release, or threatened release, of hazardous materials. The OES requires that basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and health risks) be available to firefighters, public safety officers, and regulatory agencies. Typically, this information should be included in business plans in order to prevent or mitigate damage to the health and safety of persons and the

environment from the release or threatened release of these materials into the workplace and environment. These regulations are covered under Chapter 6.95 of the California Health and Safety Code, Article 1—Hazardous Materials Release Response and Inventory Program (Sections 25500 to 25520) and Article 2—Hazardous Materials Management (Sections 25531 to 25543.3).

Title 19 CCR, Public Safety, Division 2, Office of Emergency Services, Chapter 4 - Hazardous Material Release Reporting, Inventory, and Response Plans, Article 4 (Minimum Standards for Business Plans) establishes minimum statewide standards for hazardous materials business plans. These plans must include the following: (1) a hazardous material inventory in accordance with Sections 2729.2 to 2729.7, (2) emergency response plans and procedures in accordance with Section 2731, and (3) training program information in accordance with Section 2732. Business plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the State. Each business will prepare a hazardous materials business plan if that business uses, handles, or stores a hazardous material or an extremely hazardous material in quantities greater than or equal to the following:

- 500 pounds of a solid substance;
- 55 gallons of a liquid;
- 200 cubic feet of compressed gas;
- A hazardous compressed gas in any amount; or
- Hazardous waste in any quantity.

California Occupational Safety and Health Administration

California Occupational safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 337–340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

California Highway Patrol

A valid Hazardous Materials Transportation License, issued by the California Highway Patrol (CHP), is required by the laws and regulations of State of California Vehicle Code Section 3200.5 for transportation of either:

- Hazardous materials shipments for which the display of placards is required by State regulations; or
- Hazardous materials shipments of more than 500 pounds, which would require placards if shipping greater amounts in the same manner.

Additional requirements on the transportation of explosives, inhalation hazards, and radioactive materials are enforced by the CHP under the authority of the State Vehicle Code. Transportation of explosives generally requires consistency with additional rules and regulations for routing, safe stopping distances, and inspection stops (14 CCR 6 [1] [1150–1152.10]). Inhalation hazards face similar, more restrictive rules and regulations (13 CCR 6 [2.5] [1157–1157.8]). Transportation of radioactive materials is restricted to specific safe routes.

Local

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, Willow Springs Specific Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies pertaining to the avoidance of hazards and adverse effects related to hazardous materials. The policies, goals, and implementation measures in the Kern County General Plan and Willow Springs Specific 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

1.3 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

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.

Land Use, Open Space, and Conservation Element

1.1 Physical Constraints

Policy

Policy 3: Zoning and other land use controls will be used to regulate, and prohibit, if necessary, future development when physical hazards exist.

1.4. Public Facilities and Services

Policy

Policy 6: The County will ensure adequate fire protection to all Kern County residents.

Willow Springs Specific Plan

The entire project is subject to the provisions of the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in April 2008 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 Willow Springs Area. The hazards and hazardous materials-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project are outlined below (Kern County, 2008). Note that only applicable goals, policies, and standards are included here; those goals, policies, and standards that are not applicable are not included.

Land Use Element

Goal

Goal 15: To protect community residents from undue hazards and costs associated with road maintenance, slope instability, improper drainage, and inadequate sewage treatment.

Policy

Policy 8: Require developers to clean up any identified hazardous waste sites prior to submittal of any land division or development project.

Safety/Seismic Element

Goal

Goal 15: To protect community residents from undue hazards and costs associated with road maintenance, slope instability, improper drainage, and inadequate sewage treatment.

Mitigation/Implementation Measure

Measure 13 On-site liquid waste disposal systems shall be designed and located in such a manner to prevent impairment to them, or contamination by them, during flooding, as approved by the Kern County Environmental Health Services Department.

Measure 14 On-site waste disposal systems shall be designed and located to prevent impairment to them, or contamination by them, during flooding, as approved by the Kern County Environmental Health Services Department.

Measure 24 In order to combat the stormwater pollution created by the various land uses the following source control mitigation measures are required:

a) Periodic cleaning (i.e., street sweeping) of paved areas to remove small particle size sediments with absorbed pollutants caused by uses of the area.

b) Utilize established Best Management Practices (BMPs) for small on-site control of urban runoff water quality. These measures include infiltration trenches, infiltration basins, water quality inlets, vegetative biofilter, grass swales, and porous pavement.

Kern County Multi-Hazard Mitigation Plan

The purpose of the KCFD Multi-Jurisdiction Hazard Mitigation Plan (MJHMP) is to guide hazard mitigation planning to better protect the people and property of the County from the effects of hazard events. The plan was also developed to ensure Kern County and participating jurisdictions' continued eligibility for certain federal disaster assistance, specifically the FEMA Hazard Mitigation Assistance (HMA) grants, including the Hazard Mitigation Grant Program (HMGP), Building Resilient Infrastructure and Communities (BRIC), and Flood Mitigation Assistance Program (FMA). This multi-jurisdictional plan includes Kern County, and the incorporated municipalities Arvin, Bakersfield, California City, Delano, Maricopa, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco. The plan also covers 37 special districts that include school, recreation and park, water, community service and other districts. The plan was been formally adopted in April of 2021 and is required to be updated a minimum of every five years (KCFD, 2021).

Kern County Wildland Fire Management Plan

The Kern County Wildland Fire Management Plan documents the assessment of wildland fire situations throughout the State Responsibility Areas within the County. The Kern County Fire Department Wildland Fire Management Plan provides for systematically assessing the existing levels of wildland protection services and identifying high-risk and high-value areas that are potential locations for costly and damaging wildfires. The goal of the plan is to reduce costs and losses from wildfire by protecting assets at risk through focused pre-fire management prescriptions and increasing initial attack success. Based on this assessment, preventive measures are implemented, including the creation of wildfire protection zones.

Kern County Fire Code

Chapter 17.32 of the Kern County Municipal Code details the Kern County Fire Code, which is an adoption of the 2019 California Fire Code and the 2018 International Fire Code with some amendments. The purpose of the Kern County Fire Code is to regulate the safeguarding of life, property, and public welfare to a reasonable degree from the hazards of fire, hazardous materials release and/or explosion due to handling of dangerous and hazardous materials, conditions hazardous to life or property in the occupancy and use of buildings and premises, the operation, installation, construction, and location of attendant equipment, the installation and maintenance of

adequate means of egress, and providing for the issuance of permits and collection of fees (Kern County, 2018).

Kern County Fire Department Unit Strategic Fire Plan

The KCFD Unit Strategic Fire Plan was update in April 2020 is the most current document that assesses the wildland fire situation throughout the SRA within the County. Similar to other plans, this document includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan provides for a comprehensive analysis of fire hazards, assets at risk, and level of services to systematically assess the existing levels of wildland protection services and identifies high-risk and high-value areas that are potential locations for costly and damaging wildfires. Additionally, the plan provides an annual report of unit accomplishments, which, in 2019, included Alpine Forest Park Road Clearance, Kern County Pile Burning, Los Padres fuel break maintenance, Alta Sierra Hazard tree removal, CDAA/LTM funded hazard tree removal projects throughout Kern County, continuing work on Alta Sierra Fuel Modification and Kern River Valley Communities protection project, and hosted a wildfire safety expo and conducted chipper days.

According to the plan, 69 percent of Kern County areas are within a SRA. The County is broken up into six different fuel management areas, Tehachapi, Western Kern, Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley. The project site is located within Battalion 1 (Tehachapi) and the project site is designated as a moderate fire hazard severity zone within the Tehachapi fire plan management area (KCFD, 2020).

Fire Prevention Standard No. 503-507 Solar Panels

The Kern County Fire Department Fire Prevention Division adopted Standard No. 503-507 Solar Panels (Ground Mounted, Commercial & Residential) on March 27, 2019 and have been updated 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. This standard uses guidelines from several sources which outline solar panel installation requirements. This standard will be associated with the proper installation of photovoltaic ground mounted, and roof mounted solar systems. It will be applied indefinitely and reviewed/revised as part of the new code adoption process or as otherwise necessary. 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 Public Health Services Department/Environmental Health Services Division

The County of Kern Environmental Health Services Division of the Public Health Services Department is the CUPA for the project area, which provides site inspections of hazardous materials programs (above ground storage tanks, USTs, hazardous waste treatment, hazardous waste generators, hazardous materials management and response plans, and the California Fire Code). This Department also provides emergency response to hazardous materials events, performing health and environmental risk assessment and substance identification.

Kern County and Incorporated Cities Hazardous Waste Management Plan

In response to the growing public concern regarding hazardous waste management, State Assembly Bill 2948 enacted legislation authorizing local governments to develop comprehensive hazardous waste management plans. The intent of each plan is to ensure that adequate treatment and disposal capacity is available to manage the hazardous wastes generated within the local government's jurisdiction.

The Kern County and Incorporated Cities Hazardous Waste Management Plan (Hazardous Waste Plan) was first adopted by Kern County and each incorporated city before September 1988 and was subsequently approved by the State Department of Health Services. The Hazardous Waste Plan was updated and incorporated by reference into the Kern County General Plan in 2004 as permitted by Health and Safety Code Section 25135.7(b) and, thus, must be consistent with all other aspects of the Kern County General Plan.

The Hazardous Waste Plan provides policy direction and action programs to address current and future hazardous waste management issues that require local responsibility and involvement in Kern County. In addition, the Hazardous Waste Plan discusses hazardous waste issues and analyzes current and future waste generation in the incorporated Cities, County, and State and federal lands. The purpose of the Hazardous Waste Plan is to coordinate local implementation of a regional action to affect comprehensive hazardous waste management throughout Kern County. The action program focuses on development of programs to equitably site needed hazardous waste management facilities; to promote onsite source reduction, treatment, and recycling; and to provide for the collection and treatment of hazardous waste from small-quantity generators. An important component of the Hazardous Waste Plan is the monitoring of hazardous waste management facilities to ensure compliance with federal and State hazardous waste regulations.

4.9.4 Impacts and Mitigation Measures

Methodology

The 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 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.

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 it 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. Would implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste?

Specifically, would the project exceed the following qualitative threshold:

The presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors:

i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and

ii. Are associated with design, layout, and management of project operations; and

iii. Disseminate widely from the property; and

iv. Cause detrimental effects on the public health or wellbeing of the majority of the surrounding population.

Effects Found Not to Be Significant.

The lead agency determined in the Notice of Preparation/Initial Study (NOP/IS), located in Appendix A of this EIR, that the proposed project would not result in significant impacts to some of these environmental issue areas, and that no further analysis would be required in the EIR. Thus, the following issue areas are scoped out of further analysis in this EIR:

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.

The project site is not located within an area covered by the Kern County Airport Land Use Compatibility Plan (ALUCP). The nearest airports to the project site are the privately owned Rosamond Skypark located approximately 9 miles to the northeast, the Mojave Air and Space Port located approximately 25 miles to the northeast, and the Mountain Valley Airport located approximately 25 miles to the north. Safety hazards are not anticipated for people working in the project site with respect to the project's proximity to an airport. Therefore, there would be no anticipated impacts related to proximity to an airport and no further analysis in the EIR is warranted (Kern County, 2012).

f. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan;

The project would not interfere with any existing emergency response plans, emergency vehicle access, or personnel access to the project site. The project site is located in a remote area with several alternative access roads allowing access to the project site in the event of an emergency. Access would be maintained throughout construction, and appropriate detours would be provided in the event of potential road closures. Therefore, no impacts related to impairment of the implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan are anticipated and no further analysis in the EIR is warranted.

h. Would implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste?

Specifically, would the project exceed the following qualitative threshold:

The presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors:

i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and

ii. Are associated with design, layout, and management of project operations; and

iii. Disseminate widely from the property; and

iv. Cause detrimental effects on the public health or wellbeing of the majority of the surrounding population.

Project-related facilities would not result in features or conditions that could potentially provide habitat for vectors such as mosquitoes, flies, cockroaches, or rodents. During construction and operation, workers would generate small quantities of solid waste (i.e., trash, food containers, etc.) that would be stored in enclosed containers then transported to and disposed of at approved disposal facilities. Construction and operation of the proposed solar arrays and associated facilities would not produce uncontrolled wastes that could support vectors and would not generate any standing water or other features that would attract nuisance pests or vectors. Therefore, impacts are considered to be negligible and further analysis is not required.

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, connection to previously approved interconnection lines, and associated appurtenances) 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. Most of the hazardous materials use and hazardous waste generated by the project would occur during the temporary construction period. Likely uses would include cleaning fluids, solvents, petroleum products, dust palliative, and herbicides. Some solid hazardous waste, such as welding materials and dried paint, may also be generated during construction. These materials would be transported to the project site during construction, and any hazardous wastes that are produced as a result of the construction of the project would be collected and transported away from the site in accordance with best management practices (BMPs). 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 4.18 *Hydrology and Water Quality*). Workers would be trained to properly identify and handle all hazardous materials. Any hazardous waste or hazardous materials would be either recycled or disposed of at a permitted and licensed treatment and/or disposal facility. All hazardous waste shipped offsite for recycling or disposal would be transported by a licensed and permitted hazardous waste hauler and disposed of at an approved location.

During construction of the facilities, non-hazardous construction debris would be generated and disposed of in local landfills or recycled. Sanitary waste would be managed using: (a)portable toilets and portable hand washing facilities serviced by truck, located at a reasonably accessible onsite location, and (b) restroom facilities inside of commercial coaches, served by onsite septic systems. Mitigation Measure MM 4.9-1 would require debris and waste generated to be recycled to the extent feasible during construction, operation, and decommissioning and the designation of a Recycling Coordinator to facilitate recycling of all waste, to the extent feasible, through coordination with the onsite contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes.

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 other measures to limit releases of hazardous materials and wastes (see further discussion of best management practice (BMP) requirements in Section 4.10, *Hydrology and Water Quality*, of this EIR), and an SPCC plan as described above. Recyclable materials including wood, shipping materials, and metals would be separated when possible for recycling. Liquids and oils in the transformers 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

Operation and maintenance (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. Any hazardous materials that would be used during operations would be stored onsite and in designated areas in accordance with a Hazardous Materials Business Plan (see below). The project sites would be secured and enclosed by a fence surrounding each site to prevent public access to hazardous materials and the PV panels. The interconnection (power line) portions of the project would largely use previously approved gen-tie lines and these connections would not require use of hazardous materials during operation (see EMF discussion below).

Operational activities would be limited to monitoring facility performance and conducting scheduled or emergency maintenance of on-site electrical equipment and/or the gen-tie line. No heavy equipment would be necessary during normal project operation. O&M vehicles would include trucks (pickup, flatbed), forklifts, and loaders for routine and unscheduled maintenance, and water trucks for solar panel washing. Large heavy-haul transport equipment and cranes may be brought to the project site infrequently for equipment repair or replacement. Long-term maintenance and equipment replacement would be scheduled in accordance with manufacturer recommendations. Solar panels are warranted for 25 years or longer and are expected to have a life of 30 or more years. Moving parts, such as motors and tracking module drive equipment, motorized circuit breakers and disconnects, and inverter ventilation equipment, would be serviced on a regular basis, and unscheduled maintenance would be conducted as necessary. Mitigation Measure MM 4.9-1, which requires the preparation of 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.

The PV modules that would be installed on the project site utilize CdTe thin film or crystalline silicon technology. PV modules are constructed as solid-state monolithic devices to achieve long-term field durability to withstand harsh environmental conditions for 25 years or more. Encapsulation of the module components is achieved with use of a polymer laminate material (e.g., ethylene vinyl acetate or polyolefin) in a glass-encapsulant-backsheet or glass-encapsulant-glass design. The encapsulant bond strength is on the order of 5 megapascals (~50 kg/cm^2) making the modules very difficult to break open (i.e., to separate the front and back of the module). For example, this high encapsulant bond strength is the reason why efficient delamination is a core challenge for recyclers attempting to reverse engineer an end-of-life PV module into its raw materials.

As described above in the Environmental Setting regarding CdTe thin film modules, CdTe is generally bound to a glass sheet by a vapor transport deposition during the manufacturing process, followed by sealing the CdTe layer with a laminate material, and then encapsulating it in a second glass sheet. It has been demonstrated that standard operation of CdTe PV systems does not result in cadmium emissions to air, water, or soil. The modules meet rigorous performance testing

standards demonstrating durability in a variety of environmental conditions. The PV modules with CdTe thin film technology conform to the International Electrotechnical Commission (IEC) test standards IEC 61646 and IEC61730 PV as tested by a third-party testing laboratory certified by the IEC. In addition, the PV modules also conform to Underwriters Laboratory (UL) 1703 a standard established by the independent product safety certification organization. In accordance with UL 1703, the PV modules undergo rigorous accelerated life testing under a variety of conditions to demonstrate safe construction and monitor performance. During normal operations, CdTe PV modules do not present an environmental risk. CdTe releases are also unlikely to occur during accidental breakage or fire due to the high chemical and thermal stability of CdTe. Disposal risks of end-of-life CdTe PV modules are minimized because of the low solubility of CdTe and because the modules can be effectively recycled at the end of their approximately 30-year life. Studies indicate that unless the PV module is purposefully ground to a fine dust, use of CdTe in PV modules do not generate any emissions of CdTe. The project includes operational and maintenance protocols that would be used to identify and remove damaged or defective PV modules during annual inspections. The PV module manufacturer created the first global and comprehensive module collection and recycling program in the PV industry in 2005. Therefore, the use of a CdTe PV system would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during normal operations.

Environmental risks of both crystalline silicon and thin film CdTe PV technologies have been evaluated by the International Energy Agency, using U.S. Environmental Protection Agency (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 (P. Sinha et al., 2018 and P. Sinha et al., 2019).

Project operations would require the use of transformer oil at the substations and the BESS could contain battery acids, as well as lithium ion, lead acid, sodium sulfur, and sodium or nickel hydride. All transformers would be equipped with spill containment areas and battery storage would be in accordance with OSHA requirements such as inclusion of ventilation, acid resistant materials, and spill response supplies. All components would have a comprehensive SPCC plan, in accordance with all applicable federal, State, and local regulations. Dust palliatives and herbicides, if used during operations to control vegetation, may be transported to the project site. These materials would be stored in appropriate containers to prevent accidental release. SR-14 would be the likely designated route for the transport of hazardous materials located on or immediately adjacent to the project site. In addition, implementation of Mitigation Measure MM 4.9-1, would further reduce impacts related to hazards to a less-than-significant level.

Further, implementation of the project would not result in the significant risk of EMFs associated with overhead power lines, as each facility would interconnect into the existing Teddy and Whirlwind Substations. To the extent commercially feasible, the project would utilize these and other previously approved and/or existing interconnection facilities associated with other generating and transmission projects to minimize potential environmental impacts. In addition, the project would not construct sensitive uses under the existing lines but would adhere to applicable CPUC requirements on location of any gen-tie lines or gen-tie connections. As the State has not

adopted any specific limits or regulations regarding EMF levels from electric power facilities, impacts in this regard would be less than significant.

Decommissioning and Disposal

During the decommissioning and disposal process, it is anticipated that all project structures would be fully removed from the ground. Above-ground equipment that would be removed would include electrical wiring, equipment on the inverter pads, and the interconnection transformer pad and associated equipment. Equipment would be de-energized prior to removal, salvaged (where possible), placed in appropriate shipping containers, and secured in a truck transport trailer for shipment offsite. Removal of the PV modules would include removal of the racks on which the solar panels are attached, and their placement in secure transport crates and a trailer for storage, for ultimate transportation to another facility or to be recycled.

Once the PV modules have been removed, the racks would be disassembled, and the structures supporting the racks would be removed. All other associated site infrastructure would be removed, including fences, concrete pads that may support the inverters, transformers and related equipment, and underground conduit/electrical wiring. The fence and gates would be removed, and all materials would be recycled to the extent feasible. The area would be thoroughly cleaned and all debris removed. As discussed above, most panel materials would be recycled, with minimal disposal to occur in landfills in compliance with all applicable laws.

In the case of thin film CdTe PV technology, the PV module manufacturer would likely provide CdTe module collection and recycling services. In any case, current CdTe PV modules pass federal leaching criteria for non-hazardous waste, due in part to the low solubility of CdTe, which means they would not pose a significant risk for cadmium leaching if they reached a landfill. Several peer-reviewed studies have evaluated the environmental, health, and safety aspects of CdTe PV modules. CdTe releases are unlikely to occur during accidental breakage or fire due to the high chemical and thermal stability of CdTe. Disposal risks of end-of-life CdTe PV modules are minimized because of the low solubility of CdTe and because the modules can be effectively recycled at the end of their approximately 30-year life. Studies indicate that unless the PV module is purposefully ground to a fine dust, use of CdTe in PV modules do not generate any emissions of CdTe. These studies have consistently concluded that use of CdTe PV modules do not present an environmental risk.

In the case of both crystalline silicon and thin film CdTe PV technology, a national PV module recycling network has been established by the U.S. Solar Energy Industry Association (SEIA) for providing module collection and recycling services: https://www.seia.org/initiatives/seia-national-pv-recycling-program

As described in Section 4.16, Utilities and Service Systems, Mitigation Measure MM 4.16-1 requires that an onsite recycling coordinator be designated by the project proponent to facilitate recycling of all waste to the extent feasible, through coordination with the onsite contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. The onsite recycling coordinator shall also be responsible for ensuring that wastes requiring special disposal are handled according to State and County regulations that are in effect at the time of disposal. The contact information of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits. Given that the normal use and disposal of crystalline silicon and thin film CdTe PV modules would not present an environmental risk, project implementation would not create a significant hazard to the public or the environment

through the routine transport, use, or disposal of hazardous materials during decommissioning and disposal activities. In addition, implementation of Mitigation Measure MM 4.16-1, would further reduce impacts related to hazards to a less-than-significant level. SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy is anticipated to generate no hazardous waste. SCE's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to hazardous materials.

Mitigation Measures

Implement Mitigation Measure MM 4.16-1 (see Section 4.16, *Utilities and System Services*, for full mitigation measure text).

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:

a. Delineate hazardous material and hazardous waste storage areas

b. Describe proper handling, storage, transport, and disposal techniques including which routes will be used to transport hazardous materials

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. Describe federal, state, or local agency coordination, as applicable, and clean-up efforts that would occur in the event of an accidental release.

g. 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.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-1 and MM 4.16-1, impacts would be less than significant. Impacts would be less than significant for the SCE Interconnection Facilities with

SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

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

Based on a review of records maintained by the California Department of Conservation (DOC), Geologic Energy Management Division (CalGEM) wells were not identified on the proposed project sites, and the proposed project is not within the jurisdictional boundaries of an oilfield (CalGEM, 2021). 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 prepared for the proposed project did not identified any RECs on the project site.

Potential impacts that may result from construction of the project include the accidental release of materials, such as cleaning fluids and petroleum products including lubricants, fuels, and solvents. Implementation of Mitigation Measure MM 4.9-1 which would provide methods to be used to avoid spills and minimize impacts in the event of a spill by providing procedures for handling and disposing hazardous materials as well as public and agency notification procedures for spills and other emergencies including fires, would reduce this impact to a less-than-significant level.

Despite the relatively open spaces surrounding the different sites, 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

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 discussed above, it has been demonstrated that standard operation of crystalline silicon and CdTe thin film PV systems does not result in pollution emissions to air, water, or soil. Crystalline silicon and CdTe thin film PV modules removed from the site would be recycled or otherwise disposed at an appropriate waste disposal facility. Hazardous materials releases are unlikely to occur during accidental breakage of the crystalline silicon or CdTe thin film solar modules as they do not present a substantial health risk in the event of breakage. Similarly, fire damage would not result in the release of hazardous materials and crystalline silicon and CdTe thin film PV modules

do not pose a threat to nearby residences. 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.

Potential CdTe emissions from fire also are unlikely to occur at the project site because of the lack of fuel to support a sustained wildfire that could result in temperatures high enough to ignite the panels. Grass fires are one of 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.

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. A recent research article, Fate and Transport Evaluation of Potential Leaching Risks from Cadmium Telluride Photovoltaics (Sinha et al., 2019), further substantiates that during operation, CdTe PV modules do not pose a threat to human health or the environment due to its construction. The study evaluates the worst-case scenario to estimate potential exposures to CdTe compounds in soil, air or groundwater. The results show that exposure point concentrations in soil, air, and groundwater are one to six orders of magnitude below human health screening levels and below background levels, indicating that it is highly unlikely that exposures would pose potential health risks to onsite workers or offsite residents.

Operational environmental risks for both crystalline silicon and thin film CdTe PV technologies have been evaluated by the International Energy Agency, concluding that they do not present a health risk in the event of exceptional accidents such as fire or breakage, with regards to their use of lead and cadmium compounds, respectively.

Under normal operations, BESS facilities do not store or generate hazardous materials in quantities that would represent a risk to offsite receptors. 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 lithium-ion BESS 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 BESS containers would have a fire rating in conformance with NFPA and County standards and specialized fire suppression systems. The project would utilize pre-engineered battery storage systems listed under UL 9540 or BESS tested in compliance with UL 9540A. 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 twenty 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 module as well as reduce the duration and intensity of an event, if it occurs.

The project is also subject to the requirements of Chapter 12 of the CFC which requires that all BESS use an Energy Management System for monitoring and balancing cell voltages, currents and temperatures. The system must transmit an alarm signal if potentially hazardous temperatures or other conditions such as short circuits, over voltage or under voltage, are detected. The CFC also requires the use of appropriate fire detection and suppression systems, which will be incorporated into each of the Project's BESS enclosures.

In addition, the hazardous materials that would be present in the BESS would be contained within specifications that follow applicable federal, State and local requirements. OSHA requirements call for the inclusion of appropriate ventilation, acid resistant materials, and presence of spill protection supplies.

Routine removal and/or maintenance of vegetation may require pesticide and herbicide use during both construction and operation. If not handled properly, use of these products could create a hazard to the public (construction workers, maintenance employees, and nearby residences), resulting in a potentially significant impact. Mitigation Measure MM 4.9-2 would reduce impacts related to use of pesticides and herbicides to a less-than-significant level.

The project would not involve the routine transport, use, or disposal of substantial quantities of hazardous materials, as defined by the Hazardous Materials Transportation Uniform Safety Act. The closest designated route for the transport of hazardous materials is SR-14 approximately 7 miles east of the project site. Adherence to regulations and standard protocols during the storage, transportation, and usage of any hazardous materials would minimize and avoid the potential for significant impacts related to upset and accident conditions.

Overall, adherence to regulations and standard protocols during the storage, transportation, and usage of any hazardous materials, and implementation of Mitigation Measure MM 4.9-2 would minimize or reduce potential impacts related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials, to a less-than-significant level.

Decommissioning and Disposal

The decommissioning and disposal process is described under Impact 4.9-1, above. Panel materials would either be recycled, to the extent feasible reducing the volume needed at disposal sites, and they would be disposed of in accordance with local, state, and Federal regulations. In any case, current CdTe PV modules pass federal leaching criteria for non-hazardous waste, due in part to the low solubility of CdTe, which means they would not pose a significant risk for cadmium leaching if they reached a landfill. In the case of both crystalline silicon and thin film CdTe PV technology, a national PV module recycling network has been established by the U.S. Solar Energy Industry Association (SEIA) for providing module collection and recycling services: https://www.seia.org/initiatives/seia-national-pv-recycling-program. Batteries within the energy storage systems would also be recycled to the extent feasible, with minimal landfill disposal.

Mitigation Measure MM 4.16-1 requires that an onsite recycling coordinator be designated by the project proponent to facilitate recycling of all feasible waste through coordination with the onsite contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. The onsite recycling coordinator shall also be responsible for ensuring that wastes requiring special disposal are handled according to State and County regulations that are in effect at the time of disposal. The name and phone number of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy is anticipated to generate no hazardous waste or result in an accidental upset of hazardous waste. SCE's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to hazardous materials.

Mitigation Measures

Implement Mitigation Measures of MM 4.9-1 and MM 4.16-1 would be 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 material safety data sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and water bodies, herbicides shall not be applied directly to wildlife.

d. Products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed; and herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water.

e. Herbicides shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift have abated.

f. A written record of all herbicide applications on the site, including dates and amounts, shall be furnished annually to the Kern County Planning and Natural Resources Department.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.16-1, impacts would be less than significant. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

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 project site is not located within 0.25-mile of any school. The nearest school to the project site is the Tropico Middle School, located approximately 4.5 miles east of the project site (eastern side of CUP Area 4) in the unincorporated community of Rosamond. Therefore, there would be no impact related to hazardous emissions within 0.25-mile of a school.

SCE Interconnection Facilities

The SCE property is not located within 0.25 mile of any school and therefore there would be no impact.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project and the SCE Interconnection Facilities.

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, would create a significant hazard to the public or the environment.

As discussed above, the Phase I ESA prepared for the proposed project, the project site is not identified in any of the California hazardous materials databases. Searches were completed for the subject parcels in the Federal databases including but not limited to Comprehensive Environmental Responses Compensation and Liability Information Systems (CERCLIS), the Emergency Response Notification System (ERNS), and leaking underground fuel tank report (LUST), and

State hazardous materials lists such as: Cal/EPA's Cortese List including the California Department of Toxic Substances and Control's EnviroStor database of hazardous substances release sites; and Geotracker, the California database of leaking underground storage tanks (Terracon, 2021). Based on the records search, review of historical use, site visit, and interviews, the Phase 1 ESA for the proposed project revealed no evidence of RECs, controlled RECs (CREC), historical RECs (HREC), or de minimis conditions in connection with the project site (Terracon, 2021). Therefore, impacts would be less than significant.

SCE Interconnection Facilities

The SCE property is not located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and therefore there would be no impact

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project and the SCE Interconnection Facilities.

Impact 4.9-5: The project would expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

According to the Fire Hazard Severity Zones map published by the California Department of Forestry and Fire Protection (CalFire), the project site is not located within or near State Responsibility Areas (SRAs) or lands classified as very high fire hazard severity zones. The project site is classified as Local Responsibility Area (LRA) Moderate; thus, the potential for wildfire on the project site exists, but is not considered high (CalFire, 2007). See Section 4.17, *Wildfire*, for additional information. However, there is sparse vegetation onsite and site preparation would involve the removal of additional vegetation, although natural vegetation may be maintained if it does not interfere with project construction or the health and safety of onsite personnel.

The project would also include a BESS component. While these types of batteries generally burn with difficulty, they 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 BESS component manufacturer for the project could include any commercially available and proven large-scale battery technology, including but not limited to lithium ion, sodium sulfur, and sodium or nickel hydride. The batteries would be contained within enclosures or in individual containers, housed in open-air-style racking within its enclosed container. The containers would also have heating, ventilation, and air conditioning cooling to maintain energy efficiency and to protect the batteries.

The California Fire Code and associated standards require rigorous large-scale fire testing, such as UL 9540A, which requires these systems to pass performance-based criteria so that enclosures of BESS systems may not pose a fire or explosion risk to adjacent exposures. To achieve these results, BESS 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 BESS 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 project BESS 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 BESS containers 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. The BESS containers would have a fire rating in conformance with NFPA and County standards and specialized fire suppression systems. Final fire safety design would follow applicable standards and would be specific to the battery technology that is ultimately implemented.

Components of an integrated fire and safety system within a BESS enclosure 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 deflagations 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 County Fire Department vegetation clearance requirements. Project vehicles will travel on roads that have been cleared of vegetation. As such, vegetation-related fires would be unlikely to occur on the site. All battery components for the project BESS would be installed within non-walkin 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.

As discussed further in Section 4.13, *Public Services*, of this EIR, the project proponent would implement Mitigation Measure MM 4.13-1, 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 BESS, and would include BMPs to reduce the potential for fire and extinguishment techniques if a fire were to occur.

The project site is not adjacent to urbanized areas; 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 4.13-1 would be implemented to ensure a fire safety plan for construction, operation and decommissioning of the project is incorporated as part of the project. With mitigation, potential impacts from wildfire would be reduced to a less-than-significant level.

See also Section 4.17, *Wildfire*, of this EIR for additional discussion of wildfire issues.

Mitigation Measures

Implement Mitigation Measure MM 4.13-1 (see Section 4.13-1, *Public Services*, for full text).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.13-1, impacts would be less than significant. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

As described in Chapter 3, *Project Description*, multiple projects, including several utility-scale solar and wind energy production facilities, are proposed throughout Kern County. As shown in **Table 3-4**, *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 sites and a 0.25-mile-radius area around the project sites and for fire a 0.25-mile radius around the project sites. A 0.25-mile-radius area allows for a conservative cumulative analysis that ensures that all potential cumulative impacts will be assessed. Similar to other potential impacts, such as those related to geology and soils, risks related to hazards and hazardous materials are typically localized in nature since they tend to be related to onsite existing hazardous conditions and/or hazards caused by the project's construction or operation. A geographic scope of a 0.25-mile-radius area also coincides with the distance used to determine whether hazardous emissions or materials would have a significant impact upon an existing or proposed school, as discussed above. Given the existing topography, lack of vegetation for fuel, and other existing solar facilities surrounding the project site, a 0.25-mile radius for cumulative fire hazard impacts is appropriate. The project's compliance with Mitigation Measure 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 Measure 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 BESS systems, all BESS 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, MM 4.13-1, of Section 4.13, *Public Services*, (Fire Safety Plan) and MM 4.16-1, of Section 4.16, *Utilities and Service Systems*, (recycling of debris and waste) 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.

The project sites are not located within an airport land use plan influence area and thus is not expected to result in any cumulative contribution to hazards associated with airports or airstrip land use plans or otherwise provide any cumulatively considerable air traffic hazards.

SCE Interconnection Facilities

Construction of the SCE Interconnection Facilities could potentially release hazardous materials into the environment; however, such a release would not result in combined impacts if the same event were to happen at another site. The operation of the SCE Interconnection Facilities is anticipated to generate no hazardous waste. SCE's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to hazardous materials. Cumulative impacts would be less than significant

Mitigation Measures

Implement of Mitigation Measures MM 4.9-1 and MM 4.9-2, MM 4.13-1, and MM 4.16-1 (see Sections 4.13-1, *Public Services,* and 4.16, *Utilities and System Services,* for full text).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.12-1, and MM 4.16-2, cumulative impacts would be reduced to less than significant. Cumulative impacts would be less than significant for the SCE Interconnection Facilities with SCE's BMPs and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Section 4.10
Hydrology and Water Quality

4.10.1 Introduction

This section of the Environmental Impact Report (EIR) describes the hydrological environmental and regulatory settings, addresses potential impacts of the project on hydrology and water quality, and discusses mitigation measures to reduce impacts, where applicable. The information in this section is based on multiple online sources and published documents, as well as the technical documents prepared for the project including the *Aquatic Resources Delineation Report* (QK, 2021) located in Appendix C-2, the *Preliminary Hydrology Study – Rosamond South Solar* (Westwood, 2021) located in Appendix H and the *Water Supply Assessment* (QK, 2022) located in Appendix I, of this EIR.

4.10.2 Environmental Setting

Regional Setting

The project site is located in the northwestern portion of the Mojave Desert on the northern end of the Antelope Hydrologic Unit. 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 (USGS, 2020).

Antelope Valley Hydrologic Unit (No. 626.00-626.80)

The project site is located in the Antelope Valley Hydrologic Unit (HU) in the southwestern corner of the Regional Water Quality South Lahontan Hydrologic Region. The Antelope Valley HU covers approximately 1.5 million acres (2,400 square miles) in the southwestern part of the Mojave Desert in southern California. The Antelope Valley HU is mostly located in Los Angeles County and Kern County, with a small part in San Bernardino County. It is within the South Lahontan Hydrologic Region. The South Lahontan Hydrologic Region represents about 17 percent of the land (26,732 square miles) area in California. The area 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, San Gabriel, San Bernardino, and Tehachapi mountains; and to the east by the State of Nevada. The Antelope Valley HU elevation ranges from 2,300 to 3,500 feet above mean sea level (amsl).

The Antelope Valley HU is geographically unique because it does not outlet to the Pacific Ocean and is considered a closed system. 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. Major lakes and reservoirs within the region include Mono Lake, June Lake, Convict Lake, Crowley Lake, and Tinemaha Reservoir in the north and Lake Arrowhead, Silverwood Lake, and Lake Palmdale in the south. Most of the perennial rivers are in the northern portion of this hydrologic region.

Numerous streams originating in the mountains and foothills either infiltrate into the groundwater basin, evaporate, or flow across the valley floor to eventually pond in the dry lakes near the community of Rosamond and Edwards Air Force Base. The Antelope Valley HU generally lacks defined natural and improved channels outside of the foothills, and is subject to unpredictable sheet flow patterns. In general, groundwater flows northeasterly from the mountain ranges to the dry lakes. Due to the relatively impervious nature of the dry lake soil and high evaporation rates, water that collects on the dry lakes eventually evaporates rather than infiltrating into the groundwater.

Within the Antelope Valley HU, the project site is located in the Willow Springs Hydrologic Area (HA) (RWQCB, 2009). The drainage features associated with the Willow Springs HA are minor surface waters and washes that are not well defined. Much of the runoff occurs as sheet flow. The Willow Springs Sub-Watershed is a closed basin inside of the Antelope Valley; therefore, there is no connection to the ocean and any precipitation or surface water is transferred via ephemeral streams to existing playas. The closest playa to the project site is Rosamond Lake to the southeast of the project site, approximately 14 miles west of the proposed project.

Climate

The climate of the Mojave Desert Basin is characterized by hot, dry summers and cold winters with relatively low annual precipitation. Average temperatures recorded in the unincorporated community of Mojave range from a low of 33º Fahrenheit (F) in December to highs of 98º F in July and August (Western Regional Climate Center, 2020). The local climate is typical of the high desert areas of California. Winter nights often drop below freezing, and snow is not uncommon. **Table 4.10-1**, *Average Monthly Temperatures and Precipitation for the Antelope Valley, Kern County,* summarizes average temperatures and precipitation for Mojave, CA, which is located approximately 14 miles northeast of the project site, but which can be considered typical of the Antelope Valley, including the project area (USGS, 2009).

Table 4.10-1: Average Monthly Temperatures and Precipitation for the Antelope Valley, Kern County

Station	Elevation	Average Maximum Temperature	Average Minimum Temperature	Average Annual Precipitation
Mojave, CA (Coop ID 045756)	2,735 feet	75.8°F	49.9°F	5.93 in/yr
Mojave 2 Ese, CA (Coop ID 045758)	2,680 feet	76.5°F	47.8°F	6.34 in/yr

SOURCE: Western Regional Climate Center, 2019.

More specifically, the project site is located near the community of Willow Springs, where, according to the nearest weather station of Backus Ranch, temperature ranges from an average monthly high of 92 degrees Fahrenheit in July to a low of 37 degrees Fahrenheit in January. Average rainfall is approximately 1.04 inches per month annually (WeatherWX, 2021).

Site Hydrology

Surface Hydrology and Drainage

Topography in the project site is relatively flat, and slopes to the southeast. The overall average elevation of the project site is approximately 2,560 feet above mean sea level (amsl). Elevations in CUP Area 1 range from approximately 2,720 feet in the west to approximately 2,692 feet amsl in the east; in CUP Area 2 range from approximately 2,649 feet amsl in the northwest to approximately 2,596 feet amsl in the southeast, in CUP Area 3 range from approximately 2,584 feet amsl in the southwest to approximately 2,520 amsl in the east, and in CUP Area 4 range from approximately 2,439 amsl in the north and approximately 2,427 in the south. As a result, the project sites generally drains from the northwest to the southeast in an overall easterly direction. However, due to the relatively low topographic relief, lack of development, and minimal vegetation, most of the drainage flow originating in the study area infiltrates into the soils onsite within the individual CUP Areas. Although the topography is oriented in these directions, the CUP Areas lack substantial drainages. Site drainage is primarily shallow sheet flow, and the majority of water from rain events would infiltrate with in the sites as opposed to flowing off-site.

Floodplains

The Federal Emergency Management Agency (FEMA) delineates flood hazard areas on its Flood Insurance Rate Maps (FIRMs). According to the FIRMs for the project area, the entire project site is located in a 100-year flood area (Zone A, 1% annual chance of flooding); see **Figure 3-4**, *Flood Zone Map*. Areas designated Zone A are flood hazard areas within a 100-year flood zone that have a 1 percent chance for flooding annually, but no base flood elevation has been determined (FEMA, 2008a and 2008b).

Soil Types and Erosion

Soils within the project area are derived from downslope migration of loess and alluvial materials, mainly from granitic rock sources originating along the eastern slopes of the Tehachapi and San Gabriel Mountains (Quad Knopf, 2021).

The project sites consist nine soil types (Hesperia loam, Hesperia fine sandy loam, Hesperia loamy fine sand, Rosamond loam, Rosamond fine sandy loam, Rosamond loamy fine sand, Rosamond silty clay loam, Sunrise loam, and Cajon loamy sand) that are included in four soil series (Hesperia soils series, Rosamond soil series, Sunrise soil series, and Cajon soil series) (QK, 2021), and are briefly described as follows (a complete description of the on-site soils and their characteristics is provided in Appendix C-2 – Aquatic Resources, and Appendix F-1 – Geotechnical Report.

Hesperia soil series: This series consists of very deep, well drained soils that formed from granite and related rocks. These soils are found on alluvial fans, valley plains, and stream terraces with slopes of up to 9 percent, at elevations from 200 to 4,00 feet. The series is found in areas with a semiarid to arid climate, with somewhat rainy winters and infrequent summer thunderstorms. Hesperia soils are used for irrigated orchards, row crops, and vineyards, although they are often left as large tracts of desert habitat. Hesperia loam, Hesperia fine sandy loam, and Hesperia loamy fine sand are not considered hydric.

Rosamond soil series: This series consists of deep, well drained soils that formed mainly from granitic alluvium. These soils are found on the margins of alluvial fans on slopes less than two percent, at elevations between 1,900 and 2,900 feet. Rosamond soils are extensively distributed in the high desert of Los Angeles and adjacent counties. This series is found in areas with an arid climate, with winter rains and occasionally snow, and infrequent summer thunderstorms. Rosamond soils are used for irrigated and row crops like alfalfa, although they are often left as large tracts of desert habitat. Rosamond loam, Rosamond fine sandy loam, Rosamond loamy fine sand, and Rosamond silty clay loam are not considered hydric.

Sunrise soil series: This series consists of deep, well-drained soils formed from mixed alluvium, and is found on flood plains and basins on slopes up to nine percent (NRCS 2021a). These soils are not extensive and are found only in in the high desert of the Mojave, at elevations between 1,500 and 3,500 feet. Sunrise soils are used primarily for recreation, and occasionally for sheep grazing. Sunrise loam is not considered hydric.

Cajon soil series: The Cajon soil series consists of very deep, somewhat excessively drained soils that formed in sandy alluvium from dominantly granitic rock. These soils are found on alluvial fans and river terraces with slopes of up to 15 percent, at elevations from 200 to 4,300 feet. Cajon soils are used mainly for rangeland, recreation, and watershed. Cajon sandy loam is not considered a hydric soil.

All of the soils present, except for Cajon sandy loam, are listed as potentially hydric under Criterion 3 by the U.S. Department of Agriculture (USDA): map unit components that are frequently ponded for a long or very long duration during the growing season that a) based on the range of characteristics for the soil series, will at least in part meet one or more field indicators of hydric soils in the United States, or b) show evidence that the soil meets the definition of a hydric soil.

Groundwater Resources

Antelope Valley Groundwater Basin

The project site is located within the Antelope Valley Groundwater Basin, which underlies an extensive alluvial valley in the western Mojave Desert. The elevation of the valley floor ranges from 2,300 above mean sea level (msl) to 3,500 feet above msl. The Antelope Valley Groundwater Basin is bounded on the northwest by the Garlock fault zone at the base of the Tehachapi Mountains and on the southwest by the San Andreas fault zone at the base of the San Gabriel Mountains. The Antelope Valley Groundwater Basin is bounded on the east by ridges, buttes, and the low hills that form a surface and groundwater drainage divide and on the north by the Fremont Valley Groundwater Basin. The Antelope Valley Groundwater Basin and the Fremont Valley Groundwater Basin are divided by a southeastward-trending line that extends from the mouth of Oak Creek through Middle Butte to exposed bedrock near Gem Hill and by the Rand Mountains farther east (DWR, 2004).

The complex Antelope Valley Groundwater Basin is divided by the U.S. Geological Survey (USGS) into 12 subunits based on differential groundflow patterns, recharge characteristics, and geographic location, as well as by controlling geologic structures. The Antelope Valley Groundwater Basin's subunits are Finger Buttes, West Antelope, Neenach, Willow Springs,

Gloster, Chaffee, Oak Creek, Pearland, Buttes, Lancaster, North Muroc, and Peerless. The project sites are located within the Willow Springs sub-basin.

Groundwater in the Antelope Valley basin is used for both public water supply and local irrigation. The main aquifers in the basin are gravels, sands, silts, and clays, all derived from granitic parent material from the surrounding mountains. Public-supply wells in the basin are anywhere from 360 to 700 feet deep. Groundwater recharge in the Antelope Valley is primarily runoff from surrounding mountains, as well as direct infiltration from irrigation, sewer, and septic systems.

The Antelope Valley Groundwater Basin is in adjudication. This judgement was issued in 2015 by the Superior Court of the State of California County of Los Angeles. The Judgment confirmed that the Basin is in overdraft and promulgated regulations and procedures to govern groundwater usage in the Basin. It defined Classes of groundwater pumpers, two of which may include groundwater sources for this project – a Non-Pumper Class and a Small Pumper Class. It defined a multi-party "Watermaster" to oversee continuing implementation of the Judgment (Appendix C-2*Aquatic Resources Delineation Report*), and directed the appointment by the Watermaster of a Water Engineer. The Watermaster and a Water Engineer are in place and are enforcing and implementing the Adjudication (Quad Knopf, 2021).

SCE Interconnection Facilities

The SCE property is developed currently with an electrical substation and electrical transmission facilities

4.10.3 Regulatory Setting

Federal

Clean Water Act

The Clean Water Act (CWA) (33 U.S.C. Section 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. By employing a variety of regulatory and non-regulatory tools, including establishing water quality standards, issuing permits, monitoring discharges, and managing polluted runoff, the CWA aims to restore and maintain the chemical, physical, and biological integrity of surface waters to support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

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 Regional Water Quality Control Board (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 grants States the right to ensure that federal regulatory actions on Waters of the U.S. within their states do not result in negative impacts to water quality. Section 401 requires that any applicant for a federal permit to discharge into Waters of the U.S. must also provide certification that such discharges will comply with state-established water quality standards. 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., and according to the above, 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 a 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) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off site into receiving waters.
- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation.
- Perform inspections of all BMPs.

NPDES regulations are administered by the Lahontan RWQCB at the project site.

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. Code 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 loads (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 Program

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. The project site and relation to FIRMs is discussed above under Site Hydrology. Kern County is a participating jurisdiction in the NFIP and, therefore, all new development must comply with the minimum requirements of the NFIP.

State

Department of Water Resources

The major responsibilities of the California Department of Water Resources (DWR) include preparing and updating the California Water Plan to guide development and management of the state's water resources; planning, designing, constructing, operating, and maintaining the State Water Resources Development System; regulating dams; providing flood protection; assisting in emergency management to safeguard life and property; educating the public; and serving local water needs by providing technical assistance. In addition, DWR cooperates with local agencies on water resources investigations, supports watershed and river restoration programs, encourages water conservation, explores conjunctive use of ground and surface water, facilitates voluntary water transfers, and, when needed, operates a state drought water bank.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (PCWQCA) (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 PCWQCA is the principal law governing water quality regulation in California. It is the policy of the State, as set forth in Porter-Cologne, that the quality of all the waters of the State shall be protected, that all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason, and that the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the state from degradation.

The Porter-Cologne Act established the SWRCB and divided California into nine regions, each overseen by a RWQCB. The SWRCB is the primary State agency responsible for protecting the quality of the State's surface and groundwater supplies and has delegated primary implementation authority to the nine RWQCBs. The Porter-Cologne Act assigns responsibility for implementing the Clean Water Act Sections 401 through 402 and 303(d) to the SWRCB and the nine RWQCBs.

The Porter-Cologne Act requires the development and periodic review of water quality control plans (basin plans) that designate beneficial uses of California's major rivers and groundwater basins and establish narrative and numerical water quality objectives for those waters, provide the technical basis for determining waste discharge requirements, identify enforcement actions, and evaluate clean water grant proposals. The basin plans are updated every 3 years. Compliance with basin plans is primarily achieved through implementation of the NPDES, which regulates waste discharges as discussed above.

The Porter-Cologne Water Quality Control Act requires that any person discharging waste or proposing to discharge waste within any region, other than to a community sewer system, which could affect the quality of the "waters of the State," file a report of waste discharge. Absent a potential effect on the quality of "waters of the State," no notification is required. However, the RWQCB encourages implementation of BMPs similar to those required for NPDES storm water permits to protect the water quality objectives and beneficial uses of local surface waters as provided in the Lahontan Region Water Quality Control Plan (Basin Plan) (RWQCB, 2015).

Sustainable Groundwater Management Act

In September 2014, California Governor Jerry Brown signed a three-bill package known as the Sustainable Groundwater Management Act (SGMA) into law. The SGMA establishes a framework for local groundwater management and requires local agencies to bring overdrafted basins into balanced levels of pumping and recharge. The California Statewide Groundwater Elevation Model Priority List ranks groundwater basins across the state with assessment rankings of High, Medium, Low, or Very Low. SGMA requires the formation of local-controlled groundwater sustainable agencies in high- and medium-priority groundwater basins. GSAs are responsible for developing and implementing groundwater sustainability plans to guide groundwater management decisions and ensure long-term sustainability in their basins. In adjudicated basins, the court identified Watermaster serves the purpose of the GSA, and the adjudication judgment serves as the groundwater sustainability plan.

The SGMA, however, does not apply to several adjudicated areas listed in Water Code Section 17820.8. As a result of the Antelope Valley Groundwater Basin Adjudication Judgment in 2015, the Antelope Valley Groundwater Basin is currently designated as a very low-priority basin and is not subject to SGMA requirements. Accordingly, the DWR identifies the Antelope Valley Groundwater Basin as a very low-priority groundwater basin (QK, 2021).

Streambed Alteration Agreement (California Fish and Game Code)

California Fish and Game Code Section 1602 protects the natural flow, bed, channel, and bank of any river, stream, or lake designated by the California Department of Fish and Wildlife (CDFW) in which there is, at any time, any existing fish or wildlife resources, or benefit for the resources. Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the

state, and requires any person, state or local governmental agency, or public utility to notify the CDFW before beginning any activity that will:

- Substantially divert or obstruct the natural flow of any river, stream or lake;
- Substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

During final engineering and design of a project, if it is determined that any project-related actions would have the potential to necessitate a streambed alteration agreement, such an agreement would be prepared and implemented prior to construction of the project, thus maintaining compliance with Section 1602 of the California Fish and Game Code. A streambed alteration agreement is required if the CDFW determines the activity could substantially adversely affect an existing fish and wildlife resource. The agreement includes measures to protect fish and wildlife resources while conducting the project. The CDFW must comply with CEQA before it may issue a final lake or streambed alteration agreement; therefore, the CDFW must wait for the lead agency to fully comply with CEQA before it may sign the draft lake or streambed alteration agreement, thereby making it final.

Local

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, Willow Springs Specific 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 and Willow Springs Specific 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

Chapter 1 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 2: In order to minimize risk to Kern County residents and their property, new development will not be permitted in hazard areas in the absence of implementing ordinance and programs. The ordinances will establish conditions, criteria and standards for the approval of development in hazard areas.

Policy 3: Zoning and other land use controls will be used to regulate and, in some instances, to prohibit development in hazardous areas.

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.

Goals

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.

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.

Policy 16: The County will encourage development of alternative energy sources by tailoring its Zoning and Subdivision Ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission.

Policy 18: Actively monitor the actions of local, State, and federal agencies related to energy development in Kern County and lobby and present its position on such matters as needed to protect County interests.

Policy 19: Work with other agencies to define regulatory responsibility concerning energy related issues.

Implementation Measures

Measure I: Periodically review the Zoning Ordinance to reflect new technology and energy sources, and encourage these types of uses for new development.

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.

1.10.6 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.

Policy 46: In accordance with the Kern County Development Standards tank-truck hauling of domestic water for land developments or lots within new land developments is not permitted.

Implementation Measure

Measure W: Applications for General or Specific Plan Amendments will include sufficient data for review to facilitate desirable new development proposals consistent with General Plan policies, using the following criteria and guidelines:

(i) The provision of adequate water, sewer, and other public services to be used.

(ii) The provision of adequate on-site nonpublic water

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.

Willow Springs Specific Plan

The entire project is subject to the provisions of the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in April 2008 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 Willow Springs Area. The hydrology and water quality-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project are outlined below (Kern County Department of Planning and Development Services 2008). Note that only applicable goals, policies, and standards are included here; those goals, policies, and standards that are not applicable are not included.

Industrial Development

Implementation Measures

Measures 15: Development of industrially-designated properties shall not occur until such time as urban infrastructure and services, such as roads, sewers, domestic water, police, and fire protection, are provided to the satisfaction of Kern County.

Public Facilities Element

Goal

Goal 3 To restrict, if possible, any further and/or unnecessary drawdown of the water table within the plan area.

Policy

Policy 21 The projects shall comply with all applicable Kern County code and ordinance requirements for construction, access, water mains, fire flows, and fire hydrants.

Safety/Seismic Element

Goals

Goal 7 Minimize damage to public facilities and utilities, such as water and gas mains, electric, telephone, and sewer lines, streets, and bridges located in areas of special flood hazard.

Goal 9 Comply with the requirements of the National Flood Insurance Program Regulations, Parts 59 and 60 of Title 44 of the Code of Federal Regulations.

Policy

Policy 1 New development within the 100-year floodplain shall be regulated in accordance with the Floodplain Management Section of the Department of Planning and Development Services according to the Flood Damage Prevention Ordinance, the Kern Land Division Ordinance, and the Kern County Zoning Ordinance as may be amended from time to time.

Mitigation/Implementation Measures

Measure 3 Areas within the 100-year floodplain shall be zoned with the appropriate FPP, FP, or FPS designation.

Measure 4 New development within the 100-year floodplain shall be regulated in accordance with the Flood Damage Prevention Ordinance and the Kern County Zoning Ordinance as they may be amended from time to time.

Kern County Zoning Ordinance

Chapter 19.70 Floodplain Combining District

Section 19.70.040 prohibits following uses in the Floodplain Combining District, as applicable to the proposed project:

Implementation Measures

Measure B: All uses that will likely increase the flood hazard or affect the water-carrying capacity of the floodplain beyond the limits resulting from encroachment as specified in Section 19.70.130.

Measure C: Dumping, stockpiling, or storage of floatable substances or other materials which, in the opinion of the Kern County and Survey Services Department, will add to the debris loads of the stream or watercourse, unless protected by flood control devices approved by the Kern County Public Works Department and constructed in accordance with Section 19.70.130.

Measure D: Storage of junk or salvage operations.

Measure E: Oil storage tanks or processing equipment, unless flood-proofed or sufficiently elevated above the Base Flood Elevation, as determined by the Kern County Public Works Department.

Measure F: Individual sewage disposal systems (e.g., septic tank systems), unless protected by flood control devices approved by the Kern County Public Works Department and constructed in accordance with the requirements of the Kern County Health Department so as to minimize infiltration of floodwaters into the systems and discharges from the systems into the floodwaters.

Measure G: Sources of water supply (e.g., wells, springs) unless protected by flood control devices approved by the Kern County Public Works Department and constructed in accordance with the requirements of the Kern County Health Department so as to minimize infiltration of floodwaters.

Measure H: Any use which endangers the temporary safeguards erected for flood protection.

Kern County Code of Building Regulations

Kern County Grading Ordinance (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.

A grading permit is required prior to commencement of grading activities within Kern County. Obtaining a grading permit from Kern County requires submittal of an application, which must include plans and specifications including but not limited to construction and material requirements, a soils engineering report, an engineering geology report, and engineering calculations and drainage computations. Plans must include information of the existing ground and details of terrain and area drainage, proposed elevations and grading, surface and subsurface drainages that would be constructed as part of the project. Recommendations in the soils engineering report and the engineering geology report must be incorporated into plans and specifications.

Kern County Floodplain Management Ordinance (17.48)

Any construction that takes place within areas of special flood hazards, areas of flood-related erosion hazards, and areas of mudslide (i.e., mudflow) hazards within the jurisdiction of unincorporated Kern County will comply with the requirements and construction design specifications of this ordinance. Any required development permits will be obtained prior to commencement of construction activities. Sections 17.48.250 through 17.48.350 of the ordinance elaborate on the standards of construction in the special flood hazards area. This includes the requirement of one-foot of freeboard clearance above the calculated maximum flood depths for all facilities within a 100-year floodplain.

Kern County Development Standards

The Kern County Development Standards apply to all developments within Kern County that are outside of incorporated cities. These standards establish minimum design and construction requirements that will result in improvements that are economical to maintain and will adequately serve the general public. The requirements set forth in these standards are considered minimum design standards and will require the approval of the entity that will maintain the facilities to be constructed prior to approval by the County.

Kern County Water Quality Control Plan

Each of the nine RWQCBs adopts a Water Quality Control Plan which recognizes and reflects regional differences in existing water quality, the beneficial uses of the region's groundwater and surface waters, and local water quality conditions and problems. Water quality problems in the regions are listed in these plans, along with the causes, if they are known. Each RWQCB is to set water quality objectives that will ensure the reasonable protection of beneficial uses and the prevention of nuisance, with the understanding that water quality can be changed somewhat without unreasonably affecting beneficial uses.

The Kern County 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. Project proponents 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.

Kern County – Applicability of NPDES Program for a Project Disturbing 1 Acre or Greater

As closed systems that never contact the ocean or other waters of the U.S., many of the waters within Kern County are technically not subject to protective regulations under the federal NPDES Program. The Kern County Public Works Department requires the completion of an NPDES applicability form for projects with construction activities disturbing one or more acres, and requires the project proponent to provide information about construction activities and to identify whether storm water runoff has the potential of discharging into waters of the United States, waters of the state, or a terminal drainage facility. The purpose of the form is to identify which water quality protection measure requirements apply to different projects (if any). Should storm water runoff be contained on site and not discharge into any waters, no special actions are required. Should storm water runoff discharge into waters of the United States, compliance with the SWRCB Construction General Permit SWPPP requirements is required. Should storm water runoff not be contained on site and drains to waters of the state or a terminal drainage facility, the project proponent would be required to develop a SWPPP and BMPs.

Water Rights Adjudication

A groundwater rights adjudication process has been underway for over 15 years to manage the Antelope Valley Groundwater Basin, which includes the project site. The parties to the adjudication include non-governmental overlying users, appropriative users, non-user overlying land owners and federally reserved water rights. The case defines who controls and uses the water in the basin.

In May 2011, the Santa Clara Superior Court issued an official decision determining that the adjudication area is in a state of overdraft and establishing a safe yield for the basin of 110,000 acre-feet per year (AFY), although pumping in the area has ranged up to 150,000 AFY.

On December 23, 2015, Judge Komar issued a final judgment which set in motion court-directed procedures for on the Directors of the Antelope Valley-East Kern Water Agency (AVEK) to create

a Watermaster organization empowered to monitor the groundwater basin. In their first meeting of the year following settlement of long-running litigation over water rights adjudication, AVEK, as directed by the court, took action to begin the Watermaster transition process. The judgment specifies that the Watermaster board be made up of five members, including a representative from AVEK; the Los Angeles County Waterworks District 40; one public water supplier selected by District 40, Palmdale Water District (PWD), Quartz Hill Water District (QHWD), Littlerock Creek Irrigation District (LCID), California Water Service Company (Cal Water), Desert Lake Community Services District (DLCSD), North Edwards Water District (NEWD), City of Palmdale, City of Lancaster, Palm Ranch Irrigation District (PRID), and Rosamond Community Services District (RCSD); and two landowner representatives. The Watermaster board was also tasked with arriving at a unanimous decision on a Watermaster engineer. A Watermaster engineer was selected in April 2017 and will assign pumping allocations per user that will be metered and monitored on an annual basis. Although not anticipated due to the minor amount of water required for the proposed project, should project water demands exceed the assigned allocation, the proposed project would not be denied access to groundwater, but may be required to pay a replenishment fee for pumpage in excess of the user's allocation if groundwater is utilized.

4.10.4 Impacts and Mitigation Measures

Methodology

This section analyzes impacts on hydrology and water quality from the 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 *Preliminary Hydrology Study* (Westwood, 2021), and the *Water Supply Assessment* (QK, 2021) prepared for the project, located in Appendices H and I of this EIR, respectively. As well as a variety of resources, including 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 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 substantially degrade surface or ground water quality.

Construction

Project construction would include clearing, mowing, excavation, and grading portions of the project site. Grading may be used for PV array locations, access roads, parking areas, substations, energy storage systems, building or equipment foundations, detention pond(s), retention pond(s), and laydown areas depending on topography, and would be performed selectively throughout the project site to minimize disturbance. Grading and excavation would also be required for the proposed foundations of the O&M building(s) and other infrastructure such as the energy storage system, inverters, and transformers for each solar facility sites (CUP Area 1 through CUP Area 4). It is anticipated that grading depth would be limited in most areas as the project area is relatively flat. Mitigation Measure MM 4.10-1 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 complies with all channel setback requirements and ensure facilities are located in such a way to lessen their impact on drainage areas and their water quality. Therefore, the concurrent ground disturbance required for construction of these facilities would mostly avoid drainage areas. Mitigation Measure 4.10-2 would require that ground is minimized within drainage areas and timed to avoid the rainy season where possible. This would decrease the potential of stormwater mixing with construction-related materials and degrading water quality.

Construction and grading activities would affect current drainage patterns and erosion on the project site. However, because the site is relatively flat because the site grading and access roads would be designed in compliance with County standards, this would help prevent substantial alterations to drainage patterns and erosion within the project site.

The project would result in a minimal increase in impervious surfaces on the site from the equipment foundations as well as the O&M buildings, substations, and energy storage facilities. The access roads would not be paved. The improved roads would be constructed of compacted earthen or gravel materials that are pervious. The panels are not considered impervious surfaces;

stormwater falling on the panels would drip off and infiltrate into the ground below or run off during larger storm events into constructed drainage basins. Impacts from the installation and connection of the gen-tie line to the proposed SCE switching station would not deplete ground water supplies or create a deficit in the aquifer. Therefore, the project would leave large areas of pervious surfaces that would absorb stormwater runoff and would not result in a significant reduction of groundwater infiltration rates associated with precipitation.

Potential impacts on water quality from erosion and sedimentation are expected to be localized to the project site and would be temporary during construction. Stormwater runoff from the project site would not discharge to waters of the United States since the project area is within a watershed that is not hydrologically connected to a navigable waterway. The project would disturb more than one acre of land area and there is the potential that some volume of stormwater would not be contained on site or discharge into a terminal drainage facility. The project would be required to implement a SWPPP during construction. Per Mitigation Measure MM 4.10-2, the SWPPP would include BMPs designed to prevent the occurrence of soil erosion and discharge of other construction-related pollutants that could contaminate water quality and would be applicable to all areas of the project, including the solar fields and the gen-tie line. In addition, prior to the commencement of construction activities, the project proponent would be required to adhere to the requirements of the Kern County Grading Code. This includes implementation of various measures designed to prevent erosion and control drainage onsite, thereby further preventing the potential sedimentation and subsequent degradation of stormwater.

During project construction, activities that results in the accidental release of hazardous or potentially hazardous materials could result in water quality degradation. Further, construction activities that result in the accidental release of pollutants, hazardous or potentially hazardous materials could result in water quality degradation. Materials that could contribute to this impact include, but are not limited to, diesel fuel, gasoline, lubricant oils, hydraulic fluid, antifreeze, transmission fluid, lubricant grease, cement slurry, and other fluids utilized by construction and maintenance vehicles and equipment. Motorized equipment could leak hazardous materials such as motor oil, transmission fluid, or antifreeze due to inadequate or improper maintenance, unnoticed or unrepaired damage, improper refueling, or operator error. However, as discussed below, the proposed project includes mitigation that would reduce these impacts to less than significant.

Section 4.9, *Hazards and Hazardous Materials*, of this EIR, includes Mitigation Measure MM 4.9-1 that would require the project proponent to provide a Hazardous Materials Business Plan for the life of the project, that would delineate hazardous material and hazardous waste storage areas; describe proper handling, storage, transport, and disposal techniques; describe methods to be used to avoid spills and minimize impacts in the event of a spill; describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction; and establish public and agency notification procedures for spills and other emergencies, including fires. Therefore, with implementation of Mitigation Measures MM 4.9-1, MM 4.10-1 and MM 4.10-2, impacts to water quality would be less than significant during construction.

Operation

Operation of the solar facilities also 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.

Water quality could also be degraded by non-hazardous materials during operation activities. The project would result in an increase in impervious surfaces on the site from development including the equipment foundations as well as the operation and maintenance (O&M) buildings, substations, and energy storage facilities. The access roads would not be paved. During dry periods, impervious surfaces (i.e., hardscape surfaces such as foundations and buildings) can collect greases, oils, and other vehicle-related pollutants. During storm events, these pollutants can mix with stormwater and degrade water quality. However, per Mitigation Measure MM 4.10-1, a drainage plan would be prepared in accordance with the Kern County Development Standards and Kern County Code of Building Regulations. Therefore, the drainage plan would include post-construction structural and nonstructural BMPs that could include features such as drainage swales for collection of runoff prior to offsite discharge. Adherence to these requirements would minimize potential for operation period water quality degradation. Apart from infrequent cleaning of panels with water that would result in minimal runoff, no other discharges would occur when the project is operational. Therefore, with the implementation of Mitigation Measures MM 4.9-1, MM 4.10-1, and MM 4.10-2, project operation would not violate water quality standards or waste discharge requirements, or otherwise degrade water quality.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy is not anticipated to violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality. SCE's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to the protection of water quality.

Mitigation Measure

Implementation of Mitigation Measure MM 4.9-1and

MM 4.10-1: Prior to the issuance of a grading permit, the project proponent/operator shall complete a hydrologic study and final drainage plan designed to evaluate and minimize potential increases in runoff from the project site. The study shall include, but is not limited to the following:

a. 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, O&M facilities, BESS, and other permanent structures 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.

MM 4.10-2: Prior to issuance of a grading permit, the project proponent/operator shall submit a Stormwater Pollution Prevention Plan (SWPPP) approved by the Regional Water Quality Control Board- Lahontan Region for review 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.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-1, MM 4.10-1, and MM 4.10-2, impacts would be less than significant with mitigation incorporated. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Impact 4.10-2: The project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

The Project site within the boundaries of the South Lahontan Hydrologic Region, the Antelope Valley Groundwater Basin, the Lancaster Subbasin, and within the boundaries of the Antelope Valley Groundwater Adjudication Area. The Lancaster subbasin is the largest in both water use and size and the most economically significant in terms of population and agriculture. Subbasin water use is for agricultural, urban and industrial applications. Groundwater flows to several pumping depressions and partially towards Rosamond and Rogers dry lakes (QK, 2021).

The project site is primarily located on undeveloped lands (with the exception of existing residential units and residential accessory structures). Construction of the project is not expected to exceed 450 acre-feet over the 12-month construction phase. Bottled water would be provided to the construction workers. The project's operational water consumption is expected to be approximately 18 acre-feet per year. Potable water would be imported for O&M staff consumption as necessary. Water would be necessary for use in the O&M building and routine panel washing. It is anticipated that panels would be washed up to four times a year, using small water trucks.

The project site is not located within or in proximity to a service area for a public or private water purveyor. Water supplies for the project would be supplied via use of purchased water through an agreement with a local water provider. A Will Serve letter has been obtained from a private local water purveyor, indicating his capacity and willingness to provide water for construction and operation of the project. Groundwater rights were allocated by the Antelope Valley Watermaster and the water purveyor's well has adequate volume and is in compliance with the Adjudication Judgment and is permitted to export its water within the subbasin and the resources are sufficient to meet the project demands (QK, 2021).

The proposed project would result in an increase in impervious surfaces on the site from the equipment foundations as well as the operations and maintenance buildings and energy storage facilities. These areas, however, would occupy a very small portion of the 1,292-acre site and the vast majority of the area would remain undeveloped and would not substantially increase the area of impermeable surfaces. The remaining permeable area would allow natural drainage and groundwater infiltration. In addition, the planned detention basins would further facility capture of runoff and facilitate infiltration.

The improved roads would be constructed of compacted earthen or gravel materials that, while temporarily may prevent immediate infiltration are pervious and would enable infiltration. While rainfall would not infiltrate through the materials, they are not considered impervious surfaces as stormwater falling on the panels would run off and either infiltrate into the ground below or run off during larger storm events into constructed drainage basins.

Although the panels and panel foundations are impervious, stormwater falling on the panels would drip off and infiltrate into 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.

According to the Water Supply Assessment prepared for the project, groundwater rights were allocated by the Antelope Valley Watermaster and the well proposed for use has adequate volume and is in compliance with the Adjudication Judgment and is permitted to export its water within the subbasin and the resources are sufficient to meet the project demands. In addition, while the Basin is in a designated state of overdraft. The project proponent would be required to comply with Basin Adjudication Judgement. Thus, the project would have a less than significant impact on groundwater supplies related to groundwater recharge at the site and no mitigation is required.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation and would have no effect on groundwater in the area.

Mitigation Measures

No mitigation would be required.

Level of Significance after Mitigation

Impacts would be less than significant for the project and less than significant for the SCE Interconnection Facilities.

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.

The project is located on flat terrain at the base of steep mountain slopes, with the project area situated on slopes of up to 2 percent. The entire site drains from west to east towards the wash south of the city of Rosamond. There are several drainages on the proposed project sites. These drainages are isolated episodic or ephemeral waters, which typically only flow for brief periods in response to rainfall (Westwood, 2021).

Required grading activities for the proposed project would alter existing onsite drainage patterns and flowpaths and could alter the way that stormwater flows onsite during major events. Given the

unconsolidated and erosive nature of soils within the project area and its vicinity changes could result in increased erosion on site because the increased concentration of flows resulting in erosive processes such as head cutting and scour. This could change and create concentrated flows and thus result in increased erosion of existing soils onsite and subsequent sedimentation downstream. Further, the impervious surfaces introduced to the site due to development of the project and installation of the proposed facilities discussed in Chapter 3, *Project Description*, would generate additional stormwater runoff which if not properly controlled, could result in erosion and sedimentation on site or downstream.

However, due to the relatively flat nature of the projects site, grading is not anticipated to be substantial and would not substantially change the existing drainage patterns. The drainage patters during both construction and operation would be such that water received on-site during rain event and off-site flow that enters the site would continue to flow through the site much as it does currently

As described above, the project would implement a SWPPP per Mitigation Measure MM 4.10-2 that would require preservation of existing vegetation 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 Ordinance is also required, which requires erosion prevention measures. 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, MM 4.10-1 requires the completion of a hydrologic study and final drainage plan for the proposed project prior to the issuance of a grading permit; the plan would demonstrate that the project site has been designed to minimize potential increases in runoff. Minimization of runoff increases could require inclusion of a retention basin onsite to capture high storm flows. Any stormwater management features would be consistent with existing regulatory requirements and would minimize any erosion or sedimentation to less than significant levels. With implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2, impacts would be less than significant.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation and would not affect drainage patterns in the area

Mitigation Measures

Implement Mitigation Measures MM 4.10-1 and MM 4.10-2.

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. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Impact 4.10-4: The project would substantially alter the existing drainage patterns of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner that would result in flooding onsite or offsite.

As discussed above and shown in **Figure 3-4**, *Flood Zone Map*, the entire project site is located in a 100-year flood area (Zone A, 1% annual chance of flooding). Areas designated Zone A are flood hazard areas within a 100-year flood zone that have a 1 percent chance for flooding annually, but no base flood elevation has been determined. Grading for the proposed project and installation of project facilities would result in minimal changes to the existing onsite drainage patterns and flowpaths and minimal alteration of surface topography via ground disturbance and installation of panels, buildings, and other hardscape. Although there is minimal changes to water flows are anticipated, the project does have the potential to alter drainage patterns such that flooding could be exacerbated on-site during a rain event. If the site and drainage plan is not properly designed, this could cause localized flooding during major events within the project site, along the margins of the project area, or in offsite downstream drainage areas.

Per Mitigation Measure MM 4.10-1, construction would require preparation of a hydrologic study and drainage plan; the drainage plan would recommend an onsite design that complies with requirements and ensure facilities are located in such a way to lessen their impact. Construction-related ground disturbance needed for the project and would be minimized and timed to avoid the rainy season when possible. Ground disturbances within known floodplains and across existing drainage flow paths would be planned and scheduled, to the maximum extents practicable, to avoid potential exacerbated flooding. Therefore, following compliance with applicable regulations and implementation of Mitigation Measures MM 4.10-1, flooding caused by construction of the proposed project is not expected to occur during construction or decommissioning. Impacts would be less than significant.

In addition, the erosion control and sedimentation control BMPs required by the SWPPP and drainage control measures required by the Kern County Grading Ordinance would reduce the potential effects by controlling flows on-site through maintaining existing vegetation or installing structures designed to slow and/or control flows. In addition, during operation of the project, the vast majority of the ground surface would remain pervious, and it would continue to absorb the majority of surface flows. In addition, Mitigation Measure MM 4.10-1 would require the preparation of a final hydrologic study and drainage plan that would recommend an on-site design that complies with County drainage design standards, including requirements for building within a FEMA floodplain. This would be required to be completed prior to issuance of a grading permit that would detail the design and implementation of any necessary stormwater control features that would ensure runoff is not substantially increased by the proposed facilities. Mitigation Measure MM 4.10-1 would also require that grading for the project facilities does not alter the ground surface such that the extent of flooding during flood events is substantially increased. Therefore, impacts related to flooding would be less than significant.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation and would not affect drainage patterns in the are

Mitigation Measures

Implement Mitigation Measures MM 4.10-1.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.10-1, impacts would be less than significant for the project. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

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 storm water 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 under Impact 4.10-4, a large amount of the projects site would remain pervious and that would continue to absorb runoff. This also would enable runoff produced by the new minor impervious surfaces to infiltrate within the project site. Further, the drainage plan required by Mitigation Measure MM 4.10-1 would detail any necessary design features required to properly control stormwater runoff onsite; design features would be appropriately sized for storm events per the final hydrology study performed for the site. Impacts related to storm water drainage systems would be less than significant.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation and would not create or contribute to stormwater runoff.

Mitigation Measures

Implement 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 for the project. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Impact 4.10-6: The project would place within a 100-year flood hazard area structures that would impede or redirect flood flows.

The proposed project is located within a 100-year flood zone (QK, 2021). The project would introduce structures on the project site such as the O&M Building(s) 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 substantially impede or redirect flood flows. Additionally, implementation of Mitigation Measure MM 4.10-1 would require preparation of a drainage plan that would design project facilities to have one-foot of freeboard clearance above the 100-year flood depths for the facility infrastructure including the solar arrays, inverters, BESS, or the finished floor of any permanent structures, in accordance with Kern County design standards. Therefore, impacts related to flooding would be less than significant.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation and would not place structures in a flood hazard area that would impede or redirect flood flows.

Mitigation Measures

Implement 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. The SCE Interconnection Facilities would result in the addition of minor equipment within the existing Whirlwind Substation, however; impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

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.

A tsunami is a series of ocean waves generated by sudden displacements in the sea floor, landslides, or volcanic activity. A seiche is a standing wave in an oscillating body of water. The project site is located approximately 80 miles northwest of the Pacific Ocean and there are no enclosed bodies of water within the project vicinity: therefore, the risk for tsunami or seiche in the project area is very low and there would be little or no chance for an impact involving release of pollutants during such events.

As described above, the project site is located within a 100-year flood zone (Wallace Group, 2019). Implementation of Mitigation Measure MM 4.9-1 would ensure the project is designed to allow for the storage of hazardous materials with at least one foot of freeboard above the calculated flood depth.

Further, as discussed more thoroughly in Section 4.9, *Hazards and Hazardous Materials*, the proposed project would not include the use, storage, or disposal of significant quantities of hazardous materials. 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, and with the implementation of the drainage plan required by Mitigation Measure MM 4.10-1, which would provide flood protection measures, the potential for release of pollutants due to project inundation would be less than significant.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation and would not result in a flood hazard, tsunami, or seiche zone, and risk release of pollutants due to project inundation.

Mitigation Measures

Implement Mitigation Measure MM 4.9-1 and MM 4.10-1.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.9-1 and MM 4.10-1, impacts would be less than significant. The SCE Interconnection Facilities would result in the addition of minor equipment within the existing Whirlwind Substation, however; impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

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 South Lahontan RWQCB and is subject to the applicable requirements of the Basin Plan administered by the RWQCB in accordance with the Porter-Cologne Water Quality Control Act. The project site is located within the Antelope Valley Groundwater Basin, most of which is in an adjudicated area for groundwater management.

The proposed project is not subject to a sustainable groundwater management plan and, therefore, is not under a specific Groundwater Sustainability Plan (GSP) area. Although the proposed project is not within a GSP required area, the project site is within the Antelope Valley Groundwater Basin, which is under existing adjudication. As discussed above, the project would include required BMPs and drainage control requirements that would be consistent with the Basin Plan.

The adjudication provides a framework to sustainably manage the basin and reduce groundwater level declines and subsidence. To administer the judgment, the court directed appointment of the Watermaster (a five-member board). In 2016, the Watermaster board and an advisory committee (both entities required under the Judgment) were formed. A Watermaster engineer (required by the judgment) was hired at the end of April 2017 to provide hydrogeological and technical analyses and to guide administrative functions to fulfill the judgment. Under the judgment, the Watermaster engineer has the responsibility of preparing annual reports to the court, the most recent of which was published in 2018 for the 2017 water year. The project would require water for construction

and operation phases from a private local water purveyor, indicating his capacity and willingness to provide water for construction and operation of the project. The water purveyor for the project would be required to comply with any restrictions that might result from the Watermaster's oversight of the basin and compliance with the Basin Adjudication Judgement, the purpose of which is to alleviate the basin's overdrafted condition. According to the Water Supply Assessment prepared for the project, groundwater rights were allocated by the Antelope Valley Watermaster and the resources are sufficient to meet the project demands. Therefore, the project would not conflict with the groundwater management of the area and the potential impacts would be less than significant.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation and therefore would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the Project and for the SCE Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

As described in Chapter 3, *Project Description*, of this EIR, there are approximately 16 solar and non-solar projects proposed or approved throughout the Antelope Valley in Kern County and in the desert portion of Kern County outside the Antelope Valley.

Similar to the proposed project, none of the cumulative projects are anticipated to 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. Regardless, Mitigation Measure MM 4.10-2 would require the proposed project to prepare and implement a SWPPP in accordance with County requirements. All other similar projects would be required to prepare a SWPPP. These SWPPP would be required to include BMPs, similar to those of the proposed projects, and/or designed specifically for those projects to prevent the mixture of sediment and other pollutants with stormwater. This would help prevent cumulative degradation of water quality in the basin.

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 also would be required to comply with hazardous material regulations. Therefore, cumulative scenario impacts associated with water quality degradation would not be cumulatively considerable, and the project would not contribute to a cumulative impact on water quality.

The project site is within the Antelope Valley Groundwater Basin, which is subject to a court adjudication. With regard to water supply, the proposed project would obtain its water supply from a private local water purveyor that pumps water from the basin. The water purveyor for the project would be required to comply with any restrictions that might result from the Watermaster's oversight of the basin and compliance with the Basin Adjudication Judgement, the purpose of which is to alleviate the basin's overdrafted condition. The Water Supply Assessment prepared for the project also determined that there are sufficient supplies for both proposed project construction and operation. The project's use of water would be highest during construction which is still much less than the current water demand associated with the existing agricultural use. Thus, while the Basin is in a state of overdraft, the project's water use, in combination with other cumulative scenario projects requiring water from the Antelope Valley Groundwater Basin would be less than significant.

With respect to erosion, drainage, and flooding, the project would implement Mitigation Measure MM 4.10-1, which would minimize direct impacts related to erosion, drainage, and flooding. Similar to above, 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 related to 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.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation and therefore would not affect drainage patterns or groundwater in the area, create or contribute to stormwater runoff, or place structures in a flood hazard area that would impede or redirect flood flows or risk release of pollutants due to project inundation. Further, SCE's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to the protection of water quality, and these Facilities would not be expected to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. For these reasons, cumulative impacts associated with SCE's Interconnection Facilities would be less-than-significant.

Mitigation Measures

Implement Mitigation Measures MM 4.9-1, MM 4.10-1, and MM 4.10-2.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-1, MM 4.10-1, and MM 4.10-2 cumulative impacts would be less than significant. Cumulative impacts would be less than significant for the SCE Interconnection Facilities with SCE's best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

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 Willow Springs Specific Plan, and the Kern County Zoning Ordinance.

4.11.2 Environmental Setting

Onsite Land Uses

The proposed project is located on approximately 1,292 acres of generally undeveloped private land but contains existing public utility infrastructure, roadways, a private single-family residences and outbuildings in CUP Area 2, and outbuildings in CUP Area 4, the project site is undeveloped. The proposed project is located in the western extent of the Mojave Desert, approximately 11 miles west of the unincorporated community of Rosamond, California. Development in the area surrounding the project sites include rural residences, agriculture, as well as renewable energy (solar and wind) facilities. The project site is located within the administrative boundaries of the Willow Springs Specific Plan. Further, the project is subject to the provisions of the Kern County Zoning Ordinance. The project site is not located within the boundaries of an Airport Influence Area as identified in the Kern County Airport Land Use Compatibility Plan (ALUCP). The closest airport is Rosamond Skypark, which is located approximately nine miles east of the project site. The closest military base is Edwards Air Force Base, approximately 30 miles to the east of the project site.

As discussed above, and as shown in **Table 4.11-1**, *Project Site and Surrounding Land Use Designations and Zoning Classifications,* below, the project site is located within unincorporated Kern County and within the administrative boundaries of both the Kern County General Plan and the Willow Springs Specific Plan. Within both the Willow Springs Specific Plan and the Kern County General Plan, the project site's land use designation is Map Code(s) 5.3/4.4 (Maximum 10 units/net acre/Comprehensive Planning Area), 5.3/4.4/2.6 (Maximum 10 units/net acre/Comprehensive Planning Area/Erosion Hazard), 5.6 (Minimum 2.5 gross acres/unit), 5.6/2.6 (Residential Minimum 2.5 Gross Acres per Unit/Erosion Hazard); 5.6/2.85 (Residential Minimum 2.5 Gross Acres per Unit/Noise Management Area); 5.7/2.6/2.85 (Residential Minimum 5 Gross Acres per Unit/Erosion Hazard/Noise Management Area), 7.2/4.4 (Service Industrial/Comprehensive Planning Area; 8.1/2.85 (Intensive Agriculture, Minimum 20 Acre Parcel Size/Noise Management Area(606db); and 8.1/2.6/2.85 (Intensive Agriculture, Minimum 20 Acre Parcel Size/Erosion Hazard/Noise Management Area 5.75 (Minimum 10 gross acres/unit), 6.2 (General Commercial), and 8.5 (Resources Management (Minimum 20-acre parcel size).

As shown in **Table 4.11-1**, *Project Site and Surrounding Land Uses,* below, the project site's zoning classification is E(2½) RS FPS, Estate 2½ acres Residential Suburban Combining and Floodplain Secondary Combining), A FPS (Exclusive Agriculture – Floodplain Secondary Combining, Residential Suburban Combining, and Floodplain Secondary Combining Willow Springs Specific Plan Zone Districts.

Table 4-11-1 Project Sites and Surrounding Land Uses

	Existing Land Use	Existing Map Code Designation	Existing Zoning Classification
CUP Area 1	**Undeveloped**	**5.6, 5.6/2.6,**	**E(2½) RS FPS**
North	Undeveloped	5.6	E(2½) RS FPS
South	Undeveloped, Substation, Solar array.	8.1/2.85	A FPS
East	Undeveloped, Single family residences	5.6/2.6	E(2½) RS FPS
West	Undeveloped, Substation	5.6	E (2½) RS FPS
CUP Area 2	**Single family residence, Out buildings, Undeveloped**	**5.3/4.4, 5.3/4.4/2.6, and 5.7**	**A FPS, RS FPS,**
North	Undeveloped, Single family residences	5.3, 5.3/4.4	A FPS, E (5)
South	Undeveloped, Solar array, CUP Area 3	5.3/4.4/2.85	A FPS, RS FPS
East	Undeveloped, Single family residences, Solar array	5.3/4.4, 5.6, 5.7	A FPS
West	Undeveloped	8.1/2.6, 8.1/4.4	A FPS, E(5) RS FPS,
CUP Area 3	**Undeveloped**	**5.6/2.85, 5.7/2.6, 5.7/2.6/2.85, 8.1/2.85, 8.1/2.6/2.85**	**A FPS, RS FPS,**
North	Undeveloped, CUP Area 2, Solar array	5.3/4.4/2.85, 6.2	E (2 ½) RS MH FPS, E(5), RS FPS
South	Undeveloped, Single family residences, Solar array	6.2, 8.1, 8.1/2.6	A FPS, E(5) RS FPS
East	Undeveloped, Mortuary and cemetery, Single family residence	5.6/2.85	E (2 ½) RS MH FPS,
West	Undeveloped, Solar array	8.1/2.6/2.85	A FPS
CUP Area 4	**Outbuildings, Undeveloped**	**7.2/4.4 (Service Industrial/Comprehensive Planning Area)**	**1. E (2 ½) RS FPS (Estate 2.5-acre minimum, Residential Suburban Combining, Floodplain Secondary Combining)**

	Existing Land Use	Existing Map Code Designation	Existing Zoning Classification
North	Undeveloped, Single family residences,	7.2/4.4	E (2 ½) RS FPS
South	Undeveloped, Single family residences	7.2/4.4	E (2 ½) RS FPS
East	Undeveloped, Single family residences	7.2/4.4	A FPS
West	Undeveloped, Single family residences	7.2/4.4	A FPS, E (2 ½) RS FPS

LEGEND

2.6= Erosion Hazard; 2.85 = Noise Management Area; 4.4 = Comprehensive Planning Area; 5.3 = Maximum 10 units/net acre; 5.6 = Minimum 2.5 gross acres/unit; 5.7 = Minimum 5 gross acres/unit; 6.2 = General Commercial; 7.2 = Service Industrial; 8.1 = Intensive Agriculture; A = Exclusive Agriculture; E (2½) = Estate 2½ acres; E (5) = Estate 5 acres; FPS = Floodplain Secondary Combining; MH = Mobilehome Combining; RS = Residential Suburban Combining

SOURCE: Kern County, 2020

Surrounding Land Uses

The proposed project is located in the western extent of the Mojave Desert, approximately 11 miles west of the unincorporated community of Rosamond, California. As described in **Table 4.11-1**, *Project Site and Surrounding Land Uses* above, surrounding land uses are composed primarily of undeveloped land, rural single-family homes, other solar energy development, and a wind generation facility. Existing development in the project vicinity includes rural access roads, scattered rural residences, producing and non-producing water wells, off-highway vehicle use, cattle ranching and maintenance facilities, mining, and wind and solar energy. A portion of the Pacific Crest Trail (PCT) is approximately 4.5 miles west of the project site.

Surrounding land uses are classified 7.2/4.4 - 5.3/4.4 (Maximum 10 units/net acre Comprehensive Planning Area), 5.6 /2.6 (Minimum 2.5 gross acres/unit Erosion Hazard), 8.1/2.85 (Intensive Agriculture – Noise management area) 5.7 (Minimum 5 gross acres/unit), 7.2 (Service Industrial, 7.2/4.4 (Service Industrial Comprehensive Planning Area), 8.1 Comprehensive Planning Area (Intensive Agriculture, Minimum 20-acre parcel size), and includes the following overlays: 2.85 (Noise Management Area [65dB] Overlay), and 2.6= Erosion Hazard,

4.11.3 Regulatory Setting

Federal and State

The Desert Renewable Energy Conservation Plan

The DRECP is a comprehensive plan that provides for renewable energy and transmission development projects and for the conservation of sensitive species and ecosystems in California's Mojave and Colorado/Sonoran deserts. It was prepared by the California Energy Commission (CEC), the California Department of Fish and Wildlife (CDFW), BLM, and the U.S. Fish and Wildlife Service in September 2014. The Commission manages approximately 340,533 acres of school lands.

Phase I of the DRECP was approved in September of 2016; as part of Phase I, the BLM has prepared a Record of Decision (ROD) approving its Land Use Plan Amendment (LUPA) to the California Desert Conservation Area (CDCA) Plan, and Bishop and Bakersfield Resource Management Plans (RMPs). The LUPA represents the public-lands component of the DRECP, identifying areas appropriate for renewable energy development, as well as areas important for biological, environmental, cultural, recreation, social, and scenic conservation, consistent with the FLPMA multiple use and sustained yield requirements. The amendments have been designed to result in an efficient and effective biological conservation and mitigation program providing renewable energy project developers with permit streamlining and cost containment while at the same time conserving, restoring, and enhancing natural communities and related ecosystems.

Local

Land use and planning decisions within and adjacent to the project site are guided and regulated by the Kern County General Plan, Willow Springs Specific Plan and Kern County Zoning Ordinance. The Kern County General Plan and Willow Springs Specific 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 (County of Kern, 2009). 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. Each Map Code/overlay area contains specific goals, policies, and implementation measures to guide development within them.

As discussed above, the project site is located within both the Willow Springs Specific Plan and the Kern County General Plan and includes the following land use designations: Map Code(s) 5.6 (Minimum 2.5 gross acres/unit), 5.6/2.6 (Minimum 2.5 gross acres/unit) and Minimum 2.5 gross acres/unit Erosion Hazard); 5.3/4.4 Maximum 10 units/net acre , 5.3/4.4/2.6, and 5.7. Each Map Code/overlay area contains specific goals, policies, and implementation measures to guide development within them.

In addition to the Land Use, Open Space, and Conservation Element, the Kern County General Plan includes other elements related to circulation, noise, and energy. Each element establishes goals, policies, and implementation measures that guide planning decisions in unincorporated Kern

County. The goals, policies, and implementation measures relevant to the proposed project are listed below.

1. Land Use, Open Space, and Conservation Element

1.3 Physical and Environmental Constraints

Goal

Goal 1: To strive to prevent loss of life, reduce personal injuries, and property damage, minimize economic and social diseconomies resulting from natural disaster by directing development to areas which are not hazardous.

Policies

Policy 1: Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained ((Map Code 2.1 (Seismic Hazard), Map Code 2.2 (Landslide), Map Code 2.3 (Shallow Groundwater), Map Code 2.5 (Flood Hazard), Map Codes from 2.6 – 2.9, Map Code 2.10 (Nearby Waste Facility), and Map Code 2.11 (Burn Dump Hazard)) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.

Policy 3: Zoning and other land use controls will be used to regulate and, in some instances, to prohibit development in hazardous areas.

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 4: Provide coordination between public entities to ensure infrastructure standards and equitable fiscal support.

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 6. Provide a healthful and sanitary means of collecting, treating, and disposing of sewage and refuse for the residents and industries of 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.

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 E: Continue to establish coordinated efforts between government entities and private enterprise to identify and preserve unique scenic qualities of existing natural resources and to enhance the image of the County as a whole.

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.

Measure N: Secure complete and accurate information on all hazardous wastes generated, handled, stored, treated, transported, and disposed of within or through Kern Count.

1.8 INDUSTRIAL

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 resources 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 9: When evaluating General Plan Amendment proposals to change a Map Code 8.1 (Intensive Agriculture) designation to accommodate residential, commercial, or industrial development, the County shall consider the following factors:

a. Approval of the proposal will not unreasonably interfere with agricultural operations on surrounding lands.

b. Necessary public services (fire, sheriff, etc.) and infrastructure are available to adequately serve the project.

c. There is a demonstrated need for the proposed project location based upon population projections, market studies and other indicators.

d. The requested change in land use designation is accompanied by a zone change and other implementing land use applications for a specific development proposal.

e. The site is contiguous to properties that are developed or characterized by nonagricultural land uses.

f. Past agricultural use of the site has led to soil infertility or other soil conditions which render the property unsuitable for long-term agricultural use.

g. Approval of the proposed project outweighs the need to retain the land for long-term agricultural use.

h. Where adjacent or within proximity (1/2 mile) to existing urban areas, the County shall discourage agricultural conversion that is discontinuous with urban development.

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 16: The County will encourage development of alternative energy sources by tailoring its Zoning and Subdivision Ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission.

Policy 19: Work with other agencies to define regulatory responsibility concerning energy related issues.

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 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 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:

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 PM10 control measures as conditions of approval for subdivision maps, site plans, and grading permits.

1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation

Policy

Policy 25: The County will promote the preservation of cultural and historic resources which provide ties with the past and constitute a heritage value to residents and visitors.

Implementation Measures

Measure K: Coordinate with the California State University, Bakersfield's Archaeology Inventory Center.

Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.

Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.

Measure N: The County shall develop a list of Native American organizations and individuals who desire to be notified of proposed discretionary projects. This notification will be accomplished through the established procedures for discretionary projects and CEQA documents.

Measure O: On a project-specific basis, the County Planning Department shall evaluate the necessity for the involvement of a qualified Native American monitor for grading or other construction activities on discretionary projects that are subject to a CEQA document.

1.10.5 Threatened and Endangered Species

Policies

Policy 27: Threatened or endangered plant and wildlife species should be protected in accordance with State and federal laws.

Policy 28: County should work closely with State and federal agencies to assure that discretionary projects avoid or minimize impacts to fish, wildlife, and botanical resources.

Policy 29: The County will seek cooperative efforts with local, State, and federal agencies to protect listed threatened and endangered plant and wildlife species through the use

of conservation plans and other methods promoting management and conservation of habitat lands.

Policy 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 40: Encourage utilization of community water systems 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 W: Applications for General or Specific Plan Amendments will include sufficient data for review to facilitate desirable new development proposals consistent with General Plan policies, using the following criteria and guidelines:

i. The provision of adequate water, sewer, and other public services to be used.

ii. The provision of adequate on-site nonpublic water supply and sewage disposal if no public systems are available or used.

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

Goals

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 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

State law requires that urbanized counties (including Kern County) prepare an annual congestion management program (CMP). City and county eligibility for new gas tax subventions is contingent upon their participation in the congestion management program. To qualify for funding provided through the State Transportation Improvement Program (STIP) or the Federal Transportation Improvement Program (FTIP), the regional transportation agency must keep current a Regional Transportation Program (RTP) that contains the CMP. Also, the CMP offers local jurisdictions the opportunity to find cooperative solutions to the multi-jurisdictional problems of air pollution and traffic congestion.

The CMP has links with air quality requirements. The California Clean Air Act requires that cities and counties implement transportation control measures (TCMs) to attain, and maintain, the State air quality standard.

Goals

Goal 1: To satisfy the trip reduction and travel demand requirements of the Kern Council of Government's Congestion Management Program.

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.

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.

Chapter 3. Noise Element

3.3 Sensitive Noise Areas

Goals

Goal 1: Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.

Goal 2: Protect the economic base of Kern County by preventing the encroachment of incompatible land uses near known noise producing roadways, industries, railroads, airports, oil and gas extraction, and other sources.

Policies

Policy 1: Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.

Policy 2: Require noise level criteria applied to all categories of land uses to be consistent with the recommendations of the California Division of Occupational Safety and Health.

Policy 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.

Goal 2: Reduce economic and social disruption resulting from earthquakes, fire, flooding, and other geologic hazards by assuring the continuity of vital emergency public services and functions

4.2 General Policies and Implementation Measures, Which Apply to More Than One Safety Constraint

Implementation Measures

Measure A: All hazards (geologic, fire, and flood) should be considered whenever a Planning Commission or Board of Supervisor's action could involve the establishment of a land use activity susceptible to such hazards.

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 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 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 shall encourage solar development in the desert and valley regions previously disturbed, and discourage the development of energy projects on undisturbed land supporting state or federally protected plant and wildlife species.

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 1: The County should encourage the development and upgrading of transmission lines and associated facilities (e.g., substations) as needed to serve Kern County's residents and access the County's generating resources, insofar as transmission lines do not create significant environmental or public health and safety hazards.

Policy 2: The County shall review all proposed transmission lines and their alignments for conformity with the Land Use, Conservation, and Open Space Element of this General Plan.

Policy 3: In reviewing proposals for new transmission lines and/or capacity, the County should assert a preference for upgrade of existing lines and use of existing corridors where feasible.

Policy 4: The County should work with other agencies in establishing routes for proposed transmission lines.

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

Policy 6: The County should encourage new transmission lines to be sited/configured to avoid or minimize collision and electrocution hazards to raptors.

Willow Springs Specific Plan

The proposed project is subject to the provisions of the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in April 2008 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 Willow Springs Area. The boundary of the Willow Springs Specific Plan was determined by various requests for residential, commercial, and industrial land uses and resulted in an expansion of the original plan by an area of 5,760 acres. The result was a Specific Plan area encompassing 50,560 acres. This project is the largest Specific Plan area in Kern County. Included in the Willow Springs Specific Plan is the Land Use, Circulation, Housing, Noise, Seismic Safety and Safety Element, Scenic Highways Element, and Open Space and Conservation. Within the Land Use Element, the Willow Springs Specific Plan includes sections for generalized land use designations, which include non-jurisdictional, physical constraints, public facilities, special treatment areas, residential, commercial, industrial, and resource (County of Kern, 2008).

Each element establishes goals, policies, and implementation measures that guide planning decisions in the Willow Springs Specific Plan area. The goals, policies, and implementation measures relevant to the project are listed below.

Land Use Element

Policies

Policy 2: Encourage only those industries that do not significantly increase air pollution levels.

Policy 5: Encourage the maintenance of visual aesthetics in all new construction.

Policy 6: Require developers to clean up any identified hazardous waste sites prior to submittal of any land division or development project.

Policy 8: New and/or existing developments shall comply with the Kern County Zoning Ordinance and this Specific Plan. Where conflicts appear, the more restrictive requirements shall prevail.

Policy 10: Require that construction sites be provided with a soil retardant measure approved by the County of Kern (Department of Planning and Development Services and the Environmental Health Services Department) to reduce fugitive dust or blowing sand.

Policy 11: Retain vegetation until actual construction begins.

Resource

Goal

Goal 3: Encourage retention of productive agricultural and dormant mineral resources by imposing a restriction on allowing urban type land uses on nearby adjacent lands.

Policies

Policy 1: Provide a method encouraging the preservation of agricultural land.

Policy 2: Initial development within the Update area shall, when possible, be directed towards previously impacted areas (i.e., agricultural fields).

Policy 3: To ensure compliance with applicable State and federal laws and to protect the biological resources present in the Specific Plan area.

Mitigation/Implementation Measures

Measure 15: Where possible, project development within the Specific Plan Update area shall be designed to avoid displacement of destruction of Joshua tree habitat, to the satisfaction of the Kern County Agricultural Commissioner's Office. Areas adjacent to the woodland shall have a 50-foot setback from the Joshua tree plants. Within that setback, a native plant cover should be restored to natural habitat values to serve as a bugger, if such plant cover is not present.

Measure 16: A Joshua Tree Preservation and Transportation Plan shall be developed by the applicants for each parcel where Joshua trees are located on site. The plan shall be submitted to the Kern County Agricultural Commissioner's office for review and approval to grading permit issuance.

Measure 18: Initial development within the Willow Springs Specific Plan Update area shall, when possible, be directed towards previously impacted areas (i.e., agricultural fields). Portions of the plan area with native vegetation, especially along the northern and western borders, shall be developed in the later phases of project buildout.

Measure 23: A Joshua Tree Preservation and/or Transplantation Plan shall be developed by applicants of discretionary projects for each parcel where Joshua trees are located on site. The plan shall be submitted to the Kern County Agricultural Commissioner for review and approval prior to grading permit issuance.

Measure 24: Prior to issuance of any grading permits for individual projects, individual project applicants shall consult with the Regional Water Quality Control Board, State Department of Fish and Game and/or U.S. Fish and Wildlife Service, and the Army Corps of Engineers to identify potentially required permits. Compliance with this measure will be confirmed through the submittal of a letter (in conjunction with submittal of grading permit applications) to the County demonstrating compliance with the above-mentioned agencies.

Measure 25: Prior to issuance of grading permits, individual project applicants shall obtain appropriate permits as determined necessary by the Regional Water Quality Control Board, U.S. Fish and Wildlife Service, State Department of Fish and Game, and Army Corps of Engineers.

Air Quality Element

Goal

Goal 1: Imposition of appropriate mitigation measures to reduce where practical to do so, the effect short-term and long-term projects have on the area which involve grading activities, erosion controls, revegetation of disturbed sites, and provisions to introduce into the plan area a competitive job market to reduce travel times.

Policy

Policy 1: Compliance with the Mitigation/Implementation Measures and enactment of an approved Air Quality Attainment Plan.

Mitigation/Implementation Measures

Measure 1: To mitigate potential dust generation impacts, the Willow Springs Specific Plan Update project shall comply with applicable County regulations (to the satisfaction of the Kern County Air Pollution Control District), which require specific dust control measures.

Measure 2: During construction, all grading activities shall be ceased during periods of high winds (i.e., greater than 30 miles per hour [mph]). To assure compliance with this measure, grading activities are subject to periodic inspections by County staff.

Measure 3: Construction equipment shall be fitted with the most modern emission control devices and be kept in proper tune. Motors out of proper tune can result in emissions that vastly exceed recommended standards.

Measure 4: The project applicants shall, to the extent feasible, implement applicable control measures contained in the Attainment Plan in effect at the time of adoption of this Specific Plan, by the Air Pollution Control District in 1991. (See Environmental Impact Report Air Quality for additional recommended mitigation measures, page 162.)

Measure 7: All phases of the Willow Springs Specific Plan Update project shall comply with applicable rules and regulations of the Kern County Air Pollution Control District.

Biological Resources

Policies

Policy 1: Where possible, development shall be designated to avoid displacement of sensitive species.

Policy 2: Focused surveys shall be conducted by a County-approved biologist to establish the presence or absence of sensitive species.

Policy 3: Initial development within the area covered under the Willow Springs Specific Plan, when possible, will be directed towards previously impacted areas.

Cultural Resources

Goal

Goal 1: To preserve cultural resources contained on sensitive sites located within the Willow Springs Specific Plan area.

Policies

Policy 1: Archaeological investigations shall be required of specific properties proposed for development. These sites are identified in the Environmental Impact Report under Cultural Resources – Literature and Records Search, page 77, and are listed as: CA-KER-2819, 2820, 2821; CA-KER-522, 1969, 2592, 2593, 2599, 2595 and 2714; CA-KER-129, 273, 298, 302, 303. (Record on file Southern San Joaquin Valley Information Center in Bakersfield – California State University of Bakersfield. (2)

Policy 2: Recorded archaeological sites shall be subjected to individual studies prior to development.

Policy 15: Require cultural resources report for those areas with high probability for prehistoric activity prior to issuance of any grading permits.

Seismic Safety and Safety Element

Goals

Goal 7: Minimize damage to public facilities and utilities, such as water and gas mains, electric, telephone, and sewer lines, streets, and bridges located in areas of special flood hazard.

Goal 9: Comply with the requirements of the National Flood Insurance Program Regulations, Parts 59 and 60 of Title 44 of the Code of Federal Regulations.

Goal 15: To protect community residents from undue hazards and costs associated with road maintenance, slope instability, improper drainage, and inadequate sewage treatment.

Policies

Policy 1: New development within the 100-year floodplain shall be regulated in accordance with the Floodplain Management Section of the Department of Planning and Development Services according to the Flood Damage Prevention Ordinance, the Kern Land Division Ordinance, and the Kern County Zoning Ordinance as may be amended from time to time.

Policy 7: Compliance with site-specific issues, goals, policies, and implementation measures contained in the Seismic/Safety Element of the Kern County General Plan.

Policy 9: All new construction in the plan area shall comply with Chapter 23 of the Uniform Building Code (UBC), which includes building pad and foundation design standards for structures in UBC Seismic Zone IV.

Implementation Measures

Measure 3: Areas within the 100-year floodplain shall be zoned with the appropriate FPP, FP, or FPS designation.

Measure 4: New development within the 100-year floodplain shall be regulated in accordance with the Flood Damage Prevention Ordinance and the Kern County Zoning Ordinance as they may be amended from time to time.

Measure 24: In order to combat the stormwater pollution created by the various land uses the following source control mitigation measures are required:

a) Periodic cleaning (i.e., street sweeping) of paved areas to remove small particle size sediments with absorbed pollutants caused by uses of the area.

b) Utilize established Best Management Practices (BMPs) for small on-site control of urban runoff water quality. These measures include infiltration trenches, infiltration basins, water quality inlets, vegetative biofilter, grass swales, and porous pavement.

Public Facilities Element

Goal

Goal 3: To restrict, if possible, any further and/or unnecessary drawdown of the water table within the plan area.

Policies

Policy 2: In evaluating a development application, Kern County will consider both its physical and fiscal impact on the local school district and other public facilities. If it is found that the district or facilities involved will, as a result, require additional facilities or incur costs requiring additional local revenues, the development project will be required as a condition of approval to contribute funds to the district for the costs directly attributable to the project.

Policy 4: New development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

Mitigation/Implementation Measures

Measure 6: The siting and establishment of solid waste transfer stations, landfills, recycling center, and cleanup programs shall be in accordance with Kern County's Solid Waste Management Plan.

Measure 10: New development shall contribute its pro rata share for circulation improvements, school impact fees, park land dedications/fees, and possible biota impact fees. As additional impact fees are adopted, they shall be incorporated into the Specific Plan text.

Measure 11: The school district, along with the developer, shall provide Kern County with an alternative funding method, should an alternative be submitted with an impending development.

Measure 21: The projects shall comply with all applicable Kern County code and ordinance requirements for construction, access, water mains, fire flows, and fire hydrants.

Measure 24: Consideration shall be given to implementation of the following measure to reduce the impacts associated with solid waste generation:

a) Compacting refuse would substantially reduce the number of refuse hauling trips and allow for more effective and sanitary disposal.

b) Each project applicant shall comply with guidelines set forth by Kern County in accordance with AB 939 which mandates recycling programs for each jurisdiction in California and shall agree to be subject to universal collection for one- to four-unit residential projects and commercial.

c) Where feasible, a community recycling center should be implemented to provide convenient recycling opportunities.

d) Studies shall be conducted by Kern County prior to issuance of building permits, to determine a feasible location for an alternate landfill upon reaching capacity at Mojave-Rosamond concurrent with development approvals. County should initiate studies to site alternative landfill.

e) Each project applicant shall comply with guidelines set forth by Kern County in accordance with AB 939 which mandates recycling programs for each jurisdiction in California and shall agree to be subject to universal collection for one- to four-unit residential projects and commercial.

Measure 25: The applicants are subject to school assessment fees pursuant to AB 2926.

Noise Element

Goals

Goal 2: To minimize disruption to the quality of life resulting from excessive noise.

Goal 3: To maintain reasonable noise level standards, consistent with the Kern County Noise Element.

Policies

Policy 1: Noise emissions from new development will be controlled and off-site levels limited to the standards of the Kern County General Plan Noise Element.

Policy 3: Land uses will be categorized in the following manner, and the noise level standards adopted in accordance with the Kern County Noise Element:

- **Sensitive Land Uses.** Noise level does not affect the successful operation of these particular activities. A wide variety of uses can be included in this category, including public utilities, transportation systems, and other noise-related uses.

- **Moderately Sensitive Land Uses**. Some degree of noise control must be present if these activities are to be successfully carried out. Included here are general business and recreational uses.
- **Sensitive Uses.** Lack of noise control will severely impact these uses, reducing the quality of life. This category primarily contains residential uses.
- **Highly Sensitive Uses.** A high degree of noise control is necessary for the successful operation of these activities. Examples include hospitals and churches.

Mitigation/Implementation Measures

Measure 2: The implementation measures of the Kern County Noise Element are hereby adopted by reference.

Circulation Element

Goals

Goal 5: To maintain public safety within the plan area by providing a more direct and efficient circulation system for law enforcement and fire protection vehicles.

Goal 7: To provide an adequate circulation system which will support the proposed land uses.

Policies

Policy 7: Require the widening of impacted roadways to handle increased traffic generated by new development.

Policy 8: Encourage resourceful air quality improvement and reduction methods.

Mitigation/Implementation Measures

Measure 9: A traffic study in accordance with the requirements of Kern County and CalTrans, as appropriate, shall be submitted for all discretionary projects. Study shall demonstrate consistency with the Willow Springs Specific Plan.

Measure 13: The Traffic Impact Fee Program implements Mitigation Measure 10 of the Willow Springs Final Environmental Impact Report (EIR).

Water Quality and Availability

Goal

Goal 1: To ensure that new developments are provided with an adequate water supply and wastewater disposal/treatment facilities.

Policies

Policy 1: Water supply method and wastewater disposal/treatment facility shall be as required by Kern County.

Policy 2: Separate environmental documentation shall be required for the methods of water supply and wastewater disposal/treatment selected.

Mitigation/Implementation Measures

Measure 4: The individual project applicants shall adhere to the following guidelines as established by the Department of Water Resources for flood damage prevention:

General Provision

Goal

Goal 9: Fire flow provisions and on-site fire protection standards (i.e., sprinklers/water storage) shall be in compliance with minimum standards provided by the Kern County Fire Department.

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. The following is a description of the zone districts currently designated within the project site properties, as shown on Figure 3-7(a-c), CUP Existing Zoning.

A – Exclusive Agriculture

The purpose of the Exclusive Agriculture (A) District is to designate areas suitable for agricultural uses and to prevent the encroachment of incompatible uses onto agricultural lands and the premature conversion of such lands to nonagricultural uses. Uses in the A District are limited primarily to agricultural uses and other activities compatible with agricultural uses.

E – Estate

The purpose of the Estate (E) District is to designate areas suitable for larger lot residential living environments. Uses are limited to those typical of and compatible with quiet residential neighborhoods. The minimum lot size shall be one-quarter (1/4) acre (10,890 square feet) unless the E District is combined with the Lot Size Combining District (Chapter 19.54 of this title) where a larger minimum lot size is specified. The minimum lot size may be reduced when any E District is combined with the Cluster (CL) Combining District (Chapter 19.58 of this title). Agricultural

uses permitted in the E District are accessory uses and shall not be established until a primary use is established.

FPS - Floodplain Secondary Combining

The purpose of the Floodplain Secondary (FPS) Combining District is to protect the public health and safety and minimize property damage by designating areas that are subject to flooding with relatively low velocities or depths and by establishing reasonable restrictions on land use in such areas. The FPS District shall be applied to those areas lying within special flood hazard areas designated as Zones AO and AH, and Zone A1-A30 on the Flood Insurance Rate Maps (FIRM), but excluding the floodway on the Flood Boundary Floodway Maps (FBFM), the Designated Floodway on the State of California's Board of Reclamation's Kern River Designated Floodway Studies, or other maps where engineering studies have been made and adopted by the County Board of Supervisors. The regulations established by the FPS District shall be in addition to the regulations of the base district with which the FPS District is combined.

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on engineering and scientific methods of study. Larger floods may occur on rare occasions or flood heights may be increased by manmade or natural causes, such as bridge openings restricted by debris. This chapter does not imply that areas outside the FPS District or land uses permitted within this district will be free from flooding or flood damages. This chapter shall not create liability on the part of the County of Kern or any officer or employee thereof for any flood damage that may result from reliance on this chapter or any administrative decision lawfully made hereunder.

GH - Geologic Hazard Combining

The purpose of the Geologic Hazard (GH) Combining District is to protect the public's health and safety and minimize property damage by designating areas that are subject to or potentially subject to surface faulting, ground shaking, ground failure, landslides, mudslides, or other geologic hazards by establishing reasonable restrictions on land use in such areas. The GH District shall be applied to lands designated Map Codes 2.1, 2.2, or 2.3 by the County General Plan and to any other area where there is a reasonable presumption based on documented evidence that a hazardous or potentially hazardous condition exists. The regulations established by the GH District shall be in addition to the regulations of the base district with which the GH District is combined.

RS = Residential Suburban Combining

The purpose of the Residential Suburban (RS) Combining District is to expand the number and type of permitted domestic agricultural uses within rural residential areas. The RS Combining District may be combined with the Estate (E) where the minimum lot size is one-half (1/2) net acre (21,780 square feet) or larger. The RS Combining District may also be combined with the Platted Lands (PL) District, provided that each lot contains a minimum of one-half (1/2) net acre. The uses allowed and regulations established by the RS District shall be in addition to regulations of the base district with which the RS District is combined. The keeping of animals permitted by the RS District is an accessory use and shall not be established until a primary use is established.

Section 19.104.040 Basis for Approval

The decision-making authority may approve or conditionally approve an application for a conditional use permit if it finds all of the following:

A. The proposed use is consistent with the goals and policies of the applicable General or Specific Plan.

B. The proposed use is consistent with the purpose of the applicable district or districts.

C. The proposed use is listed as a use subject to a conditional use permit in the applicable zoning district or districts or a use determined to be similar to a listed conditional use in accordance with the procedures set out in Sections 19.08.030 through 19.08.080 of this title.

D. The proposed use meets the minimum requirements of this title applicable to the use.

E. The proposed use will not be materially detrimental to the health, safety, and welfare of the public or to property and residents in the vicinity.

Regional Transportation Plan

The most recent adopted Regional Transportation Plan (RTP) was prepared by the Kern Council of Governments (COG), and was adopted in August 16, 2018. The RTP is in the process of being updated and a Program EIR (PEIR) is being prepared for the 2022 plan. Because it is not yet adopted, the 2018 RTP is applicable to the proposed project. The 2018 RTP is a 24-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County. It was developed through a continuing, comprehensive, and cooperative planning process, and provides for effective coordination between local, regional, State, and federal agencies. New to the 2018 RTP, California's Sustainable Communities and Climate Protection Act, or Senate Bill (SB) 375, calls for the Kern RTP to include a Sustainable Communities Strategy (SCS) that reduces greenhouse gas (GHG) emissions from passenger vehicles and light-duty trucks by 5 percent per capita by 2020 and 10 percent per capita by 2035 as compared to 2005. In addition, SB 375 provides for closer integration of the RTP/SCS with the Regional Housing Needs Allocation (RHNA) ensuring consistency between low income housing needs and transportation planning.

The intent of the SCS is to achieve the State's emissions reduction targets for automobiles and light trucks. The SCS will also provide opportunities for a stronger economy, healthier environment, and safer quality of life for community members in Kern County. The RTP/SCS seeks to: improve economic vitality; improve air quality; improve the health of communities; improve transportation and public safety; promote the conservation of natural resources and undeveloped land; increase access to community services; increase regional and local energy independence; and increase opportunities to help shape our community's future.

The 2018 RTP/SCS financial plan identifies how much money is available to support the region's transportation investments. The plan includes a core revenue forecast of existing local, State, and federal sources along with funding sources that are considered to be reasonably available over the time horizon of the RTP/SCS. These new sources include adjustments to State and federal gas tax rates based on historical trends and recommendations from two national commissions (National Surface Transportation Policy and Revenue Study Commission and National Surface

Transportation Infrastructure Financing Commission), leveraging of local sales tax measures, local transportation impact fees, potential national freight program/freight fees, future State bonding programs, and mileage based user fees (Kern COG, 2018).

Kern County'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 proposed 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 project results in the effects described in the thresholds of significance below. The evaluation of project impacts is based on professional judgment, analysis of the County's land use policies and the significance criteria established in Appendix G of the CEQA Guidelines, which the County has determined appropriate for 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 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; or

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 cause a significant environmental impact due to physically dividing an established community.

The project would be developed on primarily open desert land, and active or fallow agricultural land. The surrounding area is primarily open undeveloped desert land, permitted solar energy generating facilities, used for permitted wind energy generation, land in agricultural production, or areas with rural residential uses. All of the CUP areas are within proximity to rural residential uses.

The nearest residences to CUP Area 1 are approximately 0.75 miles to the north across Rosamond Boulevard, approximately 0.25 miles west of 160th West Street. The second closest residence is approximately one mile south of southeastern corner of the area at the northeast corner of Gaskell Road and 160th Street West.

The nearest residence to CUP Area 2 located approximately 0.12 miles north across Rosamond Boulevard and approximately0.25 miles west of 140th Street West. It should be noted there is an existing residence in the northwest corner of CUP Area 2, but the residence will be vacated prior to implementation of the project in this area.

The nearest residences to CUP Area 3 include rural residential uses that are either adjacent to or within 0.25 miles of project site. Two residential units are located adjacent to the southern right-of-way of Holiday Avenue and two residential units are located within the southerly and central portions of CUP Area 3 with adjacent **parcel** boundaries. In addition there are two residences abutting the southern right of way of Gaskell Road and these units would be approximately 0.10 miles south of the solar array.

The nearest residences to CUP Area 4 include two residences adjacent to the northern CUP Area off 100th Street West approximately 0.10 miles from the site. There also are approximately six residences between Avenue A to the south, and Elder Avenue to the north, and that are immediately accessed with 84th Street West, Spur Ranch Road, of 90th Street West. In addition, approximately nine existing rural residential units within the **northern** portion of CUP Area 4 north of Buckhorn Avenue. But these unites would be vacated prior to implementation of the project in this area.

The four CUP Areas would occur over an approximately seven mile wide area and cover a total of approximately 1,292 acres. The CUP areas, however, are not contiguous and would not result in the vacations of any roadways, reduce access along any existing roadways, or severe these connections between any of the existing rural **residences** to other residential areas. The proposed project would occur on predominantly vacant and undeveloped land and would not impede any modes of travel. As such, the proposed project would not physically divide or restrict access to any existing individual residences or any offsite communities. Thus, while the proposed project would be a new use in the areas, the proposed project would not physically divide an established community. Impacts in this regard are less than significant and mitigation is not required.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy is not anticipated conflict with any applicable land use polices. SCE's best management

practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations governing land use.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project and less than significant for the SCE Interconnection Facilities.

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, Willow Springs 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 the following:

- Specific Plan Amendment No. 40, Map No. 231 from map code designation 7.1/4.4 (Light Industrial, Comprehensive Planning Area) to 7.1 (Light Industrial) on approximately 247 acres and from map code designation 7.2/4.4 (Service Industrial, Comprehensive Planning Area) to 7.2 (Service Industrial) on approximately 118 acres;

- Specific Plan Amendment No. 33, Map No. 232 from map code designation 5.3/4.4 (Residential Maximum 10 Units per Net Acre/Comprehensive Planning Area) to 5.3 (Residential, Maximum 10 Units per Net Acre) on approximately 80 acres and from map code designation 5.3/4.4/2.6 (Residential Maximum 10 Units per Net Acre/Comprehensive Planning Area/Erosion Hazard) to 5.3/2.6 (Residential Maximum 10 units per Net Acre/Erosion Hazard) on approximately 80 acres;

- Specific Plan Amendment No. 31, Map No. 232 to the Circulation Element of the Willow Springs Specific Plan to remove future road reservations on the section and mid-section lines within the project boundaries:

- Zone Change Case No. 157, Map No. 231 from the existing zone district E(2 ½) RS FPS to A FPS on approximately 440 acres

- Zone Change Case No. 43, Map No. 232 from the existing zone district E(5) RS FPS to A FPS on approximately 330 acres and from existing zone district E(2 ½) RS FPS to A FPS on approximately 96

- Zone Change Case No. 18, Map No. 233 from the existing zone district (E5) RS FPS to A FPS on approximately 71 acres

Four Conditional Use Permits to allow for the construction and operation of four solar facilities with a total generating capacity of approximately 165 MW of renewable energy, including up to 245 MW of energy storage (for all sites)and one CUP for a communication tower, within the A (Exclusive Agriculture) zone district (in Zone Maps 231, 232, and 233) pursuant to Section

19.12.030.G of the Kern County Zoning Ordinance would be required for the proposed project as follows:

- CUP Area 1 (solar and energy storage)
    - Conditional Use Permit No. 16, Map No. 233 for 70.99 acres
- CUP Area 2 (solar and energy storage)
    - Conditional Use Permit No. 40, Map No. 232 for 240.58 acres
- CUP Area 3 (solar and energy storage)
    - Conditional Use Permit No. 46, Map No. 232 for 541.16 acres
- CUP Area 4 (solar and energy storage)
    - Conditional Use Permit No. 120, Map No. 233 for 439.26 acres
- Telecommunication Tower
    - Conditional Use Permit No. 44, Map No. 232

With the requested zone change, the project would be zoned A FPS (Exclusive Agriculture, Flood Plain Secondary) within Zone Maps 231, 232, and 233. Therefore, pursuant to Chapter 19.12.030.G, CUPs are required to allow for the construction and operation of the PV solar facility under this zoning. In sum, the proposed project requests the following approval of the following applications by the County:

- Specific Plan Amendment No. 40, Map No. 231
- Specific Plan Amendment No. 33, Map No. 232
- Specific Plan Amendment No. 31, Map No. 232
- Zone Change Case No.157, Map No. 231
- Zone Change Case No. 43, Map No. 232
- Zone Change Case No. 18, Map No. 233
- Conditional Use Permit No. 16, Map No. 231
- Conditional Use Permit No. 40, Map No. 232
- Conditional Use Permit No. 44, Map No. 232
- Conditional Use Permit No. 46, Map No. 232
- Conditional Use Permit No. 120, Map No. 233
- Nonsummary vacations of portions of public access easements Map No. 231 and Map No. 232

Kern County General Plan and Willow Springs 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. The table lists the goals and policies identified above in the regulatory setting and provides analysis on the project's general consistency with overarching policies. Additionally, the table provides goals and policies of issue areas that are presented in more detail in other sections of the EIR. As evaluated in detail in **Table 4.11-2**, *Consistency Analysis with Kern County General Plan for Land Use,* the project is consistent with the goals and policies of the Kern County General Plan.

Table 4.11-3, *Consistency Analysis with Willow Springs Specific Plan for Land Use*, presents an evaluation of the project's consistency with the Willow Springs Specific Plan. The table lists the goals and policies identified above in the regulatory setting and provides analysis on the project's general consistency with overarching policies. Additionally, the table provides goals and policies of issue areas that are presented in more detail in other sections of the EIR. As evaluated in detail in **Table 4.11-3**, *Consistency Analysis with Willow Springs Specific Plan for Land Use*, the project is consistent with the goals and policies of the Willow Springs Specific Plan.

Kern County Zoning Ordinance

As described above, the project is subject to the provisions of the Kern County Zoning Ordinance and is included within Kern County Agricultural Preserve Number 24 boundary. As shown in **Table 4.11-1**, *Project Site and Surrounding Land Use Designations and Zoning Classifications,* above, the Kern County Zoning Ordinance designates portions of the project site as being within the E(2 ½) RS FPS - Estate 2½ Acres Residential Suburban Combining, A – Exclusive Agriculture, E(5) – Estate 5 acres, A FPS – Exclusive Agriculture Floodplain Secondary Combining, and E(5) RS FPS – Estate 5 acres Residential suburban Combining Floodplain Secondary Combining.

The project is requesting a Zone Change for all parcels from their existing zone designations to be re-zoned A FPS; With the approval of the Zone Change requests, the entirety of project will be zoned A FPS. Pursuant to Sections 19.12.020, of Kern County Zoning Ordinance, solar facilities are permitted on areas zoned Exclusive Agriculture (A) subject to securing a Conditional Use Permit. The project proponent is requesting four CUPs to allow for the construction and operation of a 165 MW solar project within the aforementioned Zoning Districts in Maps 231, 232, and 233. Because the project's proposed zoning classifications are consistent with current Kern County Zoning Ordinance land use designations which allow solar development with a CUP, the proposed project would be consistent with the proposed Zone Districts. As such, with approval of the CUPs, the proposed 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.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy is not anticipated conflict with any applicable land use polices. SCE's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations governing land use.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant for the project and less than significant for the SCE Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope of analysis for this chapter is the western Antelope Valley. This scope was selected to analyze the cumulative impact to regional land use patterns of project development in the area, and because there is some uniformity to existing land use patterns in this region. As described in more detail in Chapter 3, *Project Description*, in **Table 3-4**, *Cumulative Projects List*, of this EIR, 16 projects are proposed within the geographic scope, including several solar projects. While the surrounding area is still relatively rural in nature, the project, along with related projects, has the potential to contribute to a cumulative influence on proposed land uses in and around the project site.

The anticipated impacts of the project in conjunction with cumulative development in the area of the project would increase the urbanization and result in the loss of open space. However, potential land use impacts require evaluation on a case-by-case basis because of the interactive effects of a specific development and its immediate environment. As described in **Table 4.11-2**, *Consistency Analysis with Kern County General Plan for Land Use*, the proposed project would be consistent with the goals and policies of the Kern County General Plan. In addition, with approval of the Specific Plan Amendments, Zone Changes, and CUPs, development of solar facilities for the proposed project would be an allowable use that would not conflict with the land use or zoning classification for the project site of within the individual CUP Areas. 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 other past, present, and future projects would be required to undergo separate 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, and the Willow Springs Specific Plan should those projects be within the plan area. Should potential impacts be identified, appropriate mitigation would be prescribed that would likely reduce potential impacts to a less-than-significant level.

With regard to cumulative effects of utility-sized solar power generation facilities, there is a potential that outside factors, such as the development of newer technology, change in State or national policy that encourages the construction of such facilities, or other economic factors, could result in the abandonment of such facilities. Unlike other facilities that, once constructed, can be retrofitted and utilized for another specific use, solar power generation facilities have little opportunity for other uses should the project cease operation. The potential for the cumulative effects caused by the abandonment of multiple solar facilities in Kern County could result in impacts on surrounding land uses should it be determined that these facilities are no longer viable commercial operations. Therefore, 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.

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 PV-generated electrical power, it is necessary to

protect surrounding landowners from potential impacts associated with the abandonment of such facilities. Mitigation Measure MM 4.11-2 is also being included to ensure that the proposed solar facility does not interfere with the telemetry operations associated with the Edwards Air Force Base. With the implementation of Mitigation Measure MM 4.11-1 and MM 4.11-2, cumulative land use impacts would be considered less than significant.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy is not anticipated to result in or contribute to a cumulatively considerable conflict with existing land use regulations. SCE's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations governing land use.

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 Public Works Department. The plan shall be carried out by the proposed operator 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 decommissioning 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 decommissioning work will be completed in accordance with the approved decommission plan; or

d. Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department.

The financial institution or Surety Company shall give the County at least 120 days notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed annually by the Kern County Public Works 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 decommissioning of all solar panels and support structures identified on the approved Decommission Plan. Should the project operator decommission the site on their own, the County will not pursue forfeiture of the financial assurance.

Once decommissioning 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 decommissioning 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 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 to identify the appropriate Frequency Management Office officials to coordinate the use of telemetry to avoid potential frequency conflicts with military operations.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.11-1 and MM 4.11-2, cumulative impacts would be less than significant. Cumulative impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Project Consistency with the Kern County General Plan

Table 4.11-2, *Consistency Analysis with Kern County General Plan Policies for Land Use*, provides summarizes the consistency of the project with all applicable goals and policies of the Kern County General Plan and relevant planning documents that are applicable to the project site.

Project Consistency with the Willow Springs Specific Plan

Table 4.11-3, *Consistency Analysis with Willow Springs Specific Plan Policies for Land Use*, provides summarizes the consistency of the project with all applicable goals and policies of the Willow Springs Specific Plan and relevant planning documents that are applicable to the project site.

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
KERN COUNTY GENERAL PLAN CHAPTER 1, LAND USE, OPEN SPACE AND CONSERVATION ELEMENT		
1.3 Physical and Environmental Constraints		
Goal 1: To strive to prevent loss of life, reduce personal injuries, and property damage, minimize economic and social diseconomies resulting from natural disaster by directing development to areas which are not hazardous.	Consistent with implementation of Mitigation Measure MM 4.10-2.	Consistent with this policy, the project would develop a solar PV power generation and storage facility that is 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 proposed 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 proposed project site. Based on the absence of any known active faults that cross, or are located in close 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 proposed 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

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
		with the General Plan and Floodplain Management Ordinance. Thus, final review of the proposed project by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable local, state and federal regulations, would ensure that the proposed project would not pose significant environmental or public health and safety hazards. 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. The proposed project is not located on a site with known hazardous materials conditions and would not handle, store, or dispose of acutely hazardous materials.
Policy 2: In order to minimize risk to Kern County residents and their property, new development will not be permitted in hazard areas in the absence of implementing ordinance and programs. The ordinances will establish conditions, criteria and standards for the approval of development in hazard areas.	Consistent.	See 1.3, *Physical and Environmental Constraints*, Goal 1 and Policy 1, of the Kern County General Plan, above. The proposed project does not include development of habitable structures with the exception of the O&M Building which would be staffed by two employees. This area is not in an area designated as or that has a hazards overlay.
Policy 3: Zoning and other land use controls will be used to regulate and, in some instances, to prohibit development in hazardous areas.	Consistent.	See 1.3, *Physical and Environmental Constraints*, Goal 1 and Policy 1 and 2, of the Kern County General Plan. The project site is not zoned for hazardous uses nor does it contain any hazardous uses. The project includes a zone change to allow for development of the site with solar uses. The solar uses are not inherently hazardous and would not represent a threat to human health and safety in this regard.
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	

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
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 proposed 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 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.	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 would not establish a permanent population on-site. 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 proposed project would be consistent with this policy.
Policy 11: Protect and maintain watershed integrity within Kern County.	Consistent with implementation of Mitigation Measure MM 4.9-1 and MM 4.10-1.	As discussed in Section 4.10, *Hydrology and Water Quality*, of the EIR, the project site would implement BMPs consistent with an National Pollution Discharge Elimination Systems (NPDES) permit and Stormwater Pollution Prevention Plan (SWPPP) during construction to avoid impacts to water quality. As described in Section 4.9, *Hazards and Hazardous Materials* of this EIR, the project would also implement Mitigation Measure MM 4.9-1 which would require the project proponent to provide a Hazardous Materials Business Plan to reduce mixing of pollutants with stormwater onsite, thereby maintaining the integrity of the watershed. As described in Section 4.10, *Hydrology and Water Quality*, the project would implement Mitigation Measure 4.10-1 which would require the project proponent to submit a SWPPP.
Measure D: Review and revise the County's current Grading Ordinance as needed to ensure that its standards minimize	Consistent with implementation of	The project would implement Mitigation Measure MM 4.10-2 which requires the preparation of a hydrology study and

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
permitted topographic alteration and soil erosion while maintaining soil stability.	Mitigation Measures MM 4.10-1 and MM 4.10-2	issuance of a grading permit. Accordingly, 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 hydrologic study and drainage plan shall be prepared in accordance with the Kern County Grading Code and Kern County Development Standards. The project would implement Mitigation Measure MM 4.10-1, in which the project operator would conform to the requirements of Kern County's NPDES 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 proposed 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*, 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 appropriate erosion control measures have been implemented on site. Therefore, the proposed project would be consistent with this measure.
Measure F: The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.	Consistent with implementation of Mitigation Measure MM 4.10-2	See Section 4.10, *Hydrology and Water Quality*, of this EIR. The project facilities would be designed to maintain a one foot of freeboard clearance above the maximum flood depths for solar arrays and any finished floor of any structure. 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. Therefore, the proposed project would be consistent with this measure.

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Measure H: Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.	Consistent with implementation of Mitigation Measure MM 4.10-2.	See 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. Further, the project would be developed in accordance with the General Plan, Floodplain Management Ordinance and Mitigation Measure MM 4.10-2. Therefore, the proposed 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 Regional Water Quality Control Board regarding soil disturbances issues.	Consistent with implementation of Mitigation Measure MM 4.10-1.	See section 4.10, *Hydrology and Water Quality*, of this EIR, discusses impacts related to soil-disturbing activities and required compliance with Kern County's National Pollutant Discharge Elimination System (NPDES) Applicability legislation, which requires projects to comply with the State Water Resources Control Board's Construction General Permit, as applicable. Further, as the project is larger than one-acre in size, the project would implement Mitigation Measure MM 4.10-1, which would include the development of a SWPPP, which includes BMPs consistent with Regional Water Quality Control Board.

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
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 4.13-2 through MM 4.13-4.	As discussed in Section 4.13, *Public Services*, of this EIR, the project would implement Mitigation Measure MM 4.13-2 to provide a Cumulative Impact Charge (CIC) 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 that the county would otherwise receive for services and facilities thereby supporting a prosperous economy and assuring the provision of adequate public services and facilities. Further, Mitigation Measures MM 4.13-3 and MM 4.13-4 would provide a tax to the Kern County Auditor/Controller for all years of operation.
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 4.16, *Utilities and Service Systems*, of this EIR. As described therein, the project site is located within the Antelope Valley Groundwater Basin; which is under adjudication. The adjudication process for the Antelope Valley Groundwater Basin was completed in 2015 which established a safe yield of 110,000 AFY. Water required for the proposed would be minimal and would be obtained from an existing private supplier with existing water rights, impacts related to water supply would be less than significant and there would be sufficient water supply for other uses in Kern County. Water supply is discussed in more detail in Section 4.16, *Utilities and Service Systems*, of this EIR.
Goal 9: Serve the needs of industry and Kern County residents in a way that does not degrade the water supply and the environment and protect public health and safety by avoiding surface and subsurface nuisances resulting from the disposal of hazardous wastes, irrespective of the geographic origin of the waste.	Consistent.	See Section 4.13, *Public Services* Goal 1 and Goal 5, and *1.9 Resources, Goal 11*. Public utility impacts are evaluated in Section 4.16, *Utilities and Service Systems*, of this EIR

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.	Consistent with implementation of Mitigation Measure MM 4.14-2.	The proposed project would construct and operate four CUP areas that would combine to generate 165 MW of electricity. The proposed project would construct gen-tie routes and other needed infrastructure to facilitate energy generation and distribution. All infrastructure improvements associated with the proposed project would be fully funded by the project proponent. No further improvements are anticipated as a part of the project. However, should improvements be made, the project proponent would coordinate with the County to ensure that the cost of the infrastructure improvement is properly funded. Additionally, as discussed in Section 4.13, *Public Services*, the project would implement Mitigation Measure MM 4.13-2 to provide a Cumulative Impact Charge (CIC) 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 that the county would otherwise receive for services and facilities thereby supporting a prosperous economy and assuring the provision of adequate public services. The project would also implement Mitigation Measures MM 4.13-3 and MM 4.13-4, 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 that entity shall pay the taxes plus the amount necessary to equal the equivalent of $3,000 per megawatt. The amount shall be paid for all years of operation.
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 4.16-1.	Public utility impacts are evaluated in Section 4.16, *Utilities and Service Systems*, of the EIR. 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 4.16-1, a recycling coordinator would ensure the separation and proper disposal of recyclable materials and solid waste during

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
		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 Measure MM 4.13-2.	See 1.4, Public Services and Facilities, Goal 1, above. The project would implement Mitigation Measure MM 4.13-2, to provide a Cumulative Impact Charge (CIC) 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 that the county would otherwise receive for services and facilities thereby supporting a prosperous economy and assuring the provision of adequate public services.
Policy 7: The County will ensure adequate police protection to all Kern County residents.	Consistent with implementation of Mitigation Measure MM 4.13-2.	See 1.4, Public Services and Facilities, Goal 1, above. The project would implement Mitigation Measure MM 4.13-2, to provide a Cumulative Impact Charge (CIC) 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 that the county would otherwise receive for services and facilities thereby supporting a prosperous economy and assuring the provision of adequate public services.
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 4.13-2.	See 1.4, Public Services and Facilities, Goal 1, Policy 1, 3, 6 and 7, above. The project would implement Mitigation Measure MM 4.13-2, to provide a Cumulative Impact Charge (CIC) to provide funding to assure the provision of adequate public services. The proposed project would result in minimal increased demand for public services and would not they would not be substantially affected.
Measure B: Determine local costs of County facility and infrastructure improvements and expansion which are necessitated by new development of any type and prepare a schedule of charges to be levied on the developer at the site of approval of the Final Map. This implementation can be effectuated by the formation of a County work group.	Consistent with implementation of Mitigation Measure MM 4.13-2	See 1.4, Public Services and Facilities, Goal 1, above. The project would implement Mitigation Measure MM 4.13-2, to provide a Cumulative Impact Charge (CIC) 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 that the county would otherwise

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
		receive for services and facilities thereby supporting a prosperous economy and assuring the provision of adequate public services.
Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.	Consistent.	Project effects related to utilities are discussed in Section 4.16, *Utilities and Service Systems*, of this EIR. The project would result in less-than-significant impacts to utilities. Furthermore, the proposed project would include the development of a solar PV power generating facility that would produce approximately 165 MW, 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 with implementation of Mitigation Measure MM 4.16-1.	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 Measure MM 4.13-1 and MM 4.13-2.	Impacts to fire protection services are evaluated in Section 4.13, *Public Services*, of this EIR. Mitigation Measure MM 4.13-1 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. The project would implement Mitigation Measure MM 4.14-2, to provide a Cumulative Impact Charge (CIC) 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 that the county would otherwise receive for services and facilities and assuring the provision of adequate public services and facilities.
Measure N: Secure complete and accurate information on all hazardous wastes generated, handled, stored, treated, transported, and disposed of within or through Kern County.		See 1.4, Public Services and Facilities, Goal 1, Policy 1, 3, 6 and 7, above.

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
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.	The project site is located on land that is zoned as A (Exclusive Agriculture), or proposed to be rezoned to A (Exclusive Agriculture) and implementation of the proposed project would preclude livestock grazing on the site. Other uses besides agriculture, including solar energy generation and storage, are permitted within the A and A-1 Districts with the approval of a CUP. The project would not involve additional change in the existing environment besides those described in this 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 1,292 acres. Therefore, the proposed project would be consistent with this goal.
Goal 2: Protect areas of important mineral, petroleum, and agricultural resource potential for future use.	Consistent.	The solar facilities would not occur within areas with known mineral or petroleum resources and area not classified as farmland and are not under Williamson Act Contracts. The project would not result in the direct loss of these resources and would not preclude the use on adjacent lands.
Goal 3: Ensure the development of resource areas minimize effects on neighboring resource lands.	Consistent.	The solar facilities are compatible with open space, wind energy, and other resource management land uses.
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.	See *1.0 Resources Goal 1, 2, and 3*.
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 proposed project.

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.	Consistent.	Consistent with this policy, the proposed project would develop a solar PV power generating facility designed to produce approximately 165 MW of solar power. The project would develop a clean energy source that would create fewer fossil fuel emissions; thus, protecting the environment.
Policy 1: Appropriate resource uses of all types will be encouraged as desirable and consistent interim uses in undeveloped portions of the County regardless of General Plan designation.	Consistent.	Impacts on natural resources would be avoided or minimized through project design and so that it would not affect long term use of the site. The project implements the General Plan policy of maximizing utilization of available resources and would develop the site with a new solar resource.
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 1 and 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
Policy 11: Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.	Consistent with implementation of Mitigation Measure MM 4.10-1.	As discussed in Section 4.10, *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. As discussed in Section 4.10, *Hydrology and Water Quality*, of this EIR, the proposed project would likely require one or more retention basins to meet County drainage requirement. Consistent with this policy, the proposed project would require the submission of a drainage plan to the County for review and would implement Mitigation Measure MM 4.10-1, which requires a final hydrologic study and drainage plan designed to evaluate and minimize potential increases in runoff from the project site.
Policy 12: Areas identified by the Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service) as having high range-site value should be conserved for Extensive Agriculture uses or as Resource Reserve, if located within a County water district.	Consistent.	See 1.9, Resource, Goal 5, of the Kern County General Plan, above.
Policy 16: The County will encourage development of alternative energy sources by tailoring its Zoning and Subdivision Ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission.	Consistent.	See *1.9 resources Goal 5*, above. The proposed project includes the development of an alternative energy solar development that would generate approximately 165 MW and would be consistent with the Alternative Energy Guidelines published by the California State Energy Commission.

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Policy 18: Actively monitor the actions of local, State, and federal agencies related to energy development in Kern County and lobby and present its position on such matters as needed to protect County interests.	Consistent	See *1.9 resources Goal 5 and Policy 16*, above. The proposed project would result in the construction of a solar energy development consistent with local and state requirements that would be a benefit to the County and its residents.
Policy 19: Work with other agencies to define regulatory responsibility concerning energy related issues.	Consistent	See *1.9 resources Goal 5 and Policy 1*6 and 19, above. The County and applicant have worked and will continue working with and conforming to the requirements of state agencies related to the development of solar resources.
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 does not contain any Prime Farmland identified by the California Department of Conservation. Consistent with this policy, no prime agricultural lands, which have Class I or II soils and a surface delivery water system, would be impacted by the proposed project.
Measure I: Periodically review the Zoning Ordinance to reflect new technology and energy sources, and encourage these types of uses for new development.	Consistent	The proposed project would be reviewed for consistency with zoning and associated requirements for the development of the project site with a solar energy use. Accordingly, the project is a solar site which is a relatively new and improving technology consistent with local and state guidelines.

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
1.10 General Provisions		
Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.	Consistent with implementation of Mitigation Measure MM 4.13-2.	Consistent with this goal, the proposed project includes four Conditional Use Permits (CUPS) for the different project areas that would undergo the project review and approval process. In addition, conformance with other discretionary action approvals such as zone changes would ensure compliance with all applicable and associated policies. The proposed project would implement Mitigation Measure MM 4.13-2 to provide a Cumulative Impact Charge (CIC) 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 that the county would otherwise receive for services and facilities thereby supporting a prosperous economy and assuring the provision of adequate public services.
1.10.1 Public Services and Facilities		
Policy 9: New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure which it generates and upon which it is dependent.	Consistent with implementation of Mitigation Measure MM 4.13-2.	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. The project would implement Mitigation Measure MM 4.13-2 to provide a Cumulative Impact Charge (CIC) 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 that the county would otherwise receive for services and facilities.
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 with implementation of Mitigation Measure MM 4.13-2.	See 1.4, *Public Facilities and Services*, Goal 1, and Policy 9, above. Public service impacts are evaluated in Section 4.13, *Public Services*, of this EIR, which serves to comply with this policy. The project would implement Mitigation Measure MM 4.13-2, to provide a Cumulative Impact Charge (CIC) 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 that the county would otherwise receive for services and facilities.

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
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, 9 and 15, 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*, Goal 1 and Policy 1, 9 and 15, above.
Measure D: Involve utility providers in the land use and zoning review process.	Consistent.	See 1.4, *Public Facilities and Services*, Goal 1 and 9, above.
Measure E: All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply and Preservation of Environmental Health Rules and Regulations administered by the County's Public Health Services Department. Those projects having percolation rates of less than five minutes per inch shall provide a preliminary soils study and site specific documentation that characterize the quality of upper groundwater in the alternative septic systems would adversely impact groundwater quality. If the evaluation indicated that the uppermost groundwater at the proposed site already exceeds groundwater quality objectives of the Regional Water Quality Control Board or would if the alternative septic system is installed, the applicant would be required to supply sewage collection, treatment, and disposal facilities.	Consistent.	Water and wastewater impacts are evaluated in Section 4.10, *Hydrology and Water Quality*, and Section 4.16, *Utilities and Service Systems*, of this EIR. The proposed project would require water supply lines and septic systems (one for the O&M building(s)), in order to serve restroom for the estimated 2 full-time equivalent employees that would be on the project site during the operational phase. The septic system would be constructed in accordance with Kern County Public Health Services Department requirements and would treat sewage and would provide limited recharge to the nearby aquifer. While no offsite sewage or disposal connections to a municipal sewer system exist or are proposed. Portable toilets and hand washing facilities are also proposed; which would be serviced by truck and any resulting wastewater would be disposed of at an approved off-site disposal facility. Final review of the proposed project by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable local, state and federal regulations, would ensure that the proposed project would not pose significant environmental or public health and safety hazards.

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
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 through MM 4.3-5.	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 proposed project would implement Mitigation Measures MM 4.3-1 through MM 4.3-5, which would reduce impacts to air quality to less than significant. Air quality mitigation measures include diesel emission-reduction measures during construction, 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 that such a statement is required pursuant to the California Environmental Quality Act.	Consistent.	See 1.10.2, *Air Quality*, Policy 18, above. This EIR serves to comply with this policy. The project includes MM 4.3-1 through MM 4.3-5 that would reduce impacts to less than significant. Findings would not be required..
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 during construction and operation, 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	See in Section 4.3, *Air Quality*, and Policy 18 and 20, above. Air quality impacts are evaluated in Section 4.3, *Air Quality*, of this EIR. As discussed in that section, implementation of

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
	Mitigation Measures MM 4.3-1 and MM 4.3-2.	See in Section 4.3, *Air Quality*, and Policy 18 and 20, above. Mitigation Measures MM 4.3-1 and MM 4.3-2 would further reduce PM_{10} and $PM_{2.5}$ emissions during construction and operation.
Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, state, and local standards.	Consistent with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-5.	See in Section 4.3, *Air Quality*, and Policy 18, 19, and 20, above. Air quality impacts are evaluated in Section 4.3, *Air Quality*, of this EIR. Consistent with this policy, the proposed project would implement Mitigation Measures MM 4.3-1 through MM 4.3-5, which would reduce impacts to air quality to the less than significant. 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.
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.	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. Consistent with this measure, implementation of Mitigation Measure MM.4.3-1 and MM 4.3-2 would require diesel exhaust reduction strategies.
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.	Consistent with implementation of Mitigation Measures MM 4.3-1 and MM 4.3-5.	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 through MM 4.3-5 would further reduce adverse air quality effects.

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Goals and Policies	Consistency Determination	Project Consistency
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. **11.** Other strategies that may be recommended by the local Air Pollution Control Districts.		
Measure J: The County should include PM10 control measures as conditions of approval for subdivision maps, site plans, and grading permits.	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 and see *Policy 20 and 21*, above. As discussed in that section, implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 would further reduce PM_{10} and $PM_{2.5}$ emissions during construction and 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, MM 4.5-2, MM 4.5-3, and MM 4.5-4.	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 4.5-4 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.

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Goals and Policies	Consistency Determination	Project Consistency
Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.	Consistent with implementation of Mitigation Measures Mitigation Measures MM 4.5-1 and MM 4.5-2.	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 4.7-2 through MM 4.7-4	Paleontological resource impacts are evaluated in Section 4.7, *Geology and Soils*, of this EIR. Mitigation Measures MM 4.7-2 through MM 4.7-4 which would reduce potential impacts to unknown paleontological resources through hiring a qualified paleontologist shall be retained to monitor all ground-disturbing activity, document, and implement measures as needed.
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 4.15, *Tribal Cultural Resources*, of this EIR. Consistent with this measure, notification regarding the proposed project would be accomplished in accordance with the established procedures for discretionary projects and CEQA documents.
Measure O: On a project-specific basis, the County Planning Department shall evaluate the necessity for the involvement of a qualified Native American monitor for grading or other construction activities on discretionary projects that are subject to a CEQA document.	Consistent with implementation of Mitigation Measure MM 4.5-1.	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 proposed project.
1.10.5 Threatened and Endangered Species		
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.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-12 and MM 4.13-2.	Impacts of the proposed project to the environmental resources issue areas are discussed in the respective chapters of this EIR. Impacts from the project were found to be less than significant on a project basis, but impacts to special status species, even with implementation of MM 4.4-1 through MM 4.4-12 would be significant unavoidable. The proposed project would create jobs by installing a new clean solar energy projects, and would protect the environment and reduce emissions (GHGs) that

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
		would harm the environment. The proposed project is not located on a site with known hazardous materials and would not use or result in the production of significant volumes of acutely hazardous materials. In addition, through the payment of fees and Mitigation Measure MM 4.13-2 to provide a Cumulative Impact Charge (CIC), this would ensure adequate public facilities are provided.
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 4.4-14.	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. Through the adoption of the listed mitigation and other impact minimization strategies that would be implemented as part of project design, the project would be developed and operated in accordance with all local, state and federal laws pertaining to the preservation of sensitive species.
Policy 28: County should work closely with State and federal agencies to assure that discretionary projects avoid or minimize impacts to fish, wildlife, and botanical resources.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14.	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, state and federal agencies were consulted to ensure that appropriate information about the project site were being gathered, information disclosed, and mitigation incorporated. Specifically, a Notice of Preparation (NOP) for the EIR was sent to state and federal agencies, such as California Department of Fish and Wildlife, requesting their input on the biological resource evaluation. Similarly, the EIR was circulated for a 45 day review period to allow these agencies as well as any other interested parties with pertinent information and provide them with the opportunity to comment on the biological resources evaluation. Therefore, the County is complying with this policy for the project.

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Goals and Policies	Consistency Determination	Project Consistency
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 through MM 4.4-14.	See *Goal 1 and Policy 27 and 28*, above. Biological resource impacts are evaluated in Section 4.4, *Biological Resources*, of this EIR. The project site is located within the Willow Springs Specific Plan Area. Consistency with the applicable policies of the Willow Springs Specific Plan Area are discussed below. Additionally, implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14 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 27 and 28, above.
Policy 32: Riparian areas will be managed in accordance with the USACE and the CDFW rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.	Consistent with implementation of Mitigation Measure MM 4.4-4.	Biological resource impacts and impacts to riparian areas, are evaluated in Section 4.4, *Biological Resources*, of this EIR. Consistent with this measure, Mitigation Measure MM 4.4-4 would require consultation with the CDFW. The County will respond to all comments from reviewing agencies during the CEQA process.
Measure Q: Discretionary projects shall consider effects to biological resources as required by CEQA.	Consistent.	Biological resource impacts are evaluated in Section 4.4, *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 4.4-14.	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 CDFW. The County has and will respond to all comments from reviewing agencies during the CEQA process.

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
1.10.6 Surface Water and Groundwater		
Policy 34: Ensure that water quality standards are met for existing users and future development.	Consistent with implementation of Mitigation measures MM 4.9-1.	Water quality impacts are evaluated in Section 4.10, *Hydrology and Water Quality*, of this EIR. Consistent with this policy, the proposed project would include containing required National Pollution Discharge Elimination System NPDES) permits implement best management practices (BMPs) during construction to avoid impacts to water quality. The project would also implement a Hazardous Materials Business Plan (HMBP) to reduce mixing of pollutants with storm water onsite, thereby maintaining the integrity of the watershed.
Policy 40: Encourage utilization of community water system rather than the reliance on individual wells	Consistent	The project site is not located in proximity to any existing public water source and it is not practical to extend services to the CUP Areas. The proposed project would use water under a contract from a private supplier in accordance with the adjudication agreement for the underlying aquifer.
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 4.10-1.	See 1.9, *Resources*, Policy 11, and 1.10.6 *Surface Water and Groundwater*, Policy 34. 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.	See 1.9, *Resources*, Policy 11, and 1.10.6 *Surface Water and Groundwater*, Policy 34. above. In addition, Section 4.10, *Hydrology and Water Quality*, of this EIR, discusses impacts and mitigation for potential impacts to the watershed during construction from pollutants, alteration of flow patterns, and changes in impervious surfaces. Consistent with this policy, construction-related impacts related to alteration of flow patterns and impervious surfaces would be less than significant.

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Goals and Policies	Consistency Determination	Project Consistency
Policy 46: In accordance with the Kern County Development Standards tank-truck hauling of domestic water for land developments or lots within new land developments is not permitted.	Consistent.	See 1.10.6 *Surface Water and Groundwater*, Policy 40. above
Measure W: Applications for General or Specific Plan Amendments will include sufficient data for review to facilitate desirable new development proposals consistent with General Plan policies, using the following criteria and guidelines: (i) The provision of adequate water, sewer, and other public services to be used. (ii) The provision of adequate on-site nonpublic	Consistent	See 1.4, *Public Facilities and Services*, Goal 1, Policy 9, and Measure L, above. See 1.4, Public Services and Facilities, Goal 1, Policy 1, 3, 6, 7, 9, and Measure L, 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.	The proposed project consists of a solar generation facility and would not include landscaped areas or other uses that are considered water intensive. The project includes an O&M building that would provide restroom facilities for the anticipated two full time employees. This facility would have water conservation fixtures and facilities that would minimize water demand.
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 4.1-4 through MM 4.1-7.	Aesthetic impacts are evaluated in Section 4.1, *Aesthetics*, of this EIR. The proposed project would result in an increase of light and glare during construction and operation of the project, but include design features and mitigation that would reduce impacts to less than significant This EIR serves to comply with this policy and reduce potential impacts through implementation of mitigation such as downward directed and shielded lighting and use of diffusion coatings for solar panels would ensure impacts are less than significant.
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.

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Goals and Policies	Consistency Determination	Project Consistency
Measure AA: The County shall utilize *CEQA Guidelines* and the provisions of the Zoning Ordinance to minimize the impacts of light and glare on adjacent properties and in rural undeveloped areas.	Consistent with implementation of Mitigation Measures MM 4.1-5 through MM 4.1-7.	See *1.10.7, Light and Glare, Policy 47*, above.
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 with implementation of MM 4.14-1.	Traffic impacts are evaluated in Section 4.15, *Transportation*, of this EIR. Consistent with this goal, AM Peak hour trips would have two of nine intersections with a minimum LOS of C and the balance of the intersections would operate at LOS A or B. PM Peak hour travel would be A or B at all intersections.
2.3.3 Highways Plan		
Goal 5: Maintain a minimum Level of Service (LOS) D.	Consistent with implementation of MM 4.14-1.	See 2.1 *Introduction* Goal 5, above. Traffic impacts are evaluated in Section 4.15, *Transportation*, of this EIR. Consistent with this goal, the proposed project would maintain a minimum LOS C or better for intersections utilized to access the project.
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 according 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	Consistent.	Traffic impacts are evaluated in Section 4.15, *Transportation*, of this EIR. Consistent with this measure, the proposed project would be in compliance with the road network policies and

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Goals and Policies	Consistency Determination	Project Consistency
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.		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. Planning Department can help developers and property owners in identifying where planned circulation is to occur.	Consistent.	See 2.3.3, *Highway Plan*, Policy 1, and 3, of the Kern County General Plan, above.
2.3.4 Future Growth		
Goal 1: To provide ample flexibility in this plan to allow for growth beyond the 20-year planning horizon.	Consistent.	See 2.3.3, *Highway Plan*, Policy 1 and 3, of the Kern County General Plan, above. The proposed project is responsive to increasing demand for alternative energy sources and the project would supply the regional with a new clean energy source that supports associated planning efforts.
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	Consistent with implementation of Mitigation Measure MM 4.14-1	See 2.3.3, *Highway Plan*, Policy 1, and 3, of the Kern County General Plan, above. Traffic impacts are evaluated in Section 4.14, *Transportation*, of this EIR. Consistent with this policy, the proposed project would maintain a minimum LOS C or better for intersections utilized to access the proposed project. Additionally, implementation of Mitigation Measure MM 4.14-1 would require the preparation of a Construction Traffic

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Goals and Policies	Consistency Determination	Project Consistency
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.		Control Plan to be reviewed and approved by Kern County and Caltrans, which would further reduce impacts to traffic and transportation.
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.
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 project-related driveways that provide access to County, city, or State roads. In addition, see 2.3.3, *Highway Plan*, Policy 1, above, that discusses that all improvements would meet applicable roadway improvement standards.
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.	See 2.3.3, *Highway Plan,* Policy 1 and 5, above. The proposed project would not develop a public road, but consistent with this policy, the project proponent would obtain approval from the County via an encroachment permit if any proposed private access driveways for the project would intersect public right-of-way. All improvements would be made to County and/or Caltrans standards.
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.	Consistent.	Traffic impacts are evaluated in Section 4.14, *Transportation*, of this EIR. Consistent with this policy, the proposed project would comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards regarding any roadway vacations that

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
		may be require as part of the development review and approval process.
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 has requested approval of Specific Plan Amendments to the Circulation Element of the Willow Springs Specific Plan, to eliminate Future Road Reservations, and has requested vacations of public access easements. The vacations would occur in an area that is not densely developed and would not substantially affect current or future traffic volumes as a significant traffic volumes are not generated or anticipated and that the land would no longer be needed for public use. 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 Specific Plan Amendments and nonsummary vacation of public access easement, the proposed 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.

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Goals and Policies	Consistency Determination	Project Consistency
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 services or other traffic management caused by the road vacation shall be paid by the applicant.	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.
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 and Policy 3*, above. The proposed project has been designed to ensure access to all adjacent properties that would not be developed as part of the solar utility installation.
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 Policy 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 Policy 2, 3, and 4*, above.

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
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 Policy 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 shall be determined by 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 Policy 2, 3, 4*, and 7, above
Policy 9: A road vacation may be authorized to remove excess right-of-way caused by relocation, or at the beginning of a general plan amendment proceeding. Excess right-of-way shall be determined through a report submitted with the road vacation application.	Consistent.	See *2.3,6, Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 1 and Policy 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 Policy 2, 3, 4*, and 7, above. Before any roadway vacation is made, it will be ensure that the vacation would not render any property inaccessible.
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 Policy 2, 3, 4*, 7, and 10, above.

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
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 Policy 2, 3, 4,* 7, and 10, 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.
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 Policy 2, 3, 4,* 7, and 10, above
2.3.10 Congestion Management Programs		
Goal 1: To satisfy the trip reduction and travel demand requirements of the Kern Council of Government's Congestion Management Program.	Consistent with Mitigation Measure MM 4.14-1.	Traffic impacts are evaluated in Section 4.14, *Transportation*, of this EIR. Consistent with this goal, the proposed project would implement Mitigation Measure 4.14-1, and comply with the requirements of the Kern Council of Government's Congestion Management Program. In addition, the proposed project consists of an alternative energy development which would not generate a substantial volume of trips or VMT during construction or during operation.

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
2.5.1 Trucks and Highways		
Goal 1: Provide for Kern County's heavy truck transportation in the safest way possible.	Consistent with Mitigation Measure MM 4.14-1.	Traffic impacts are evaluated in Section 4.14, *Transportation*, of this EIR. Consistent with this policy, the proposed project would implement Mitigation Measure MM 4.14-1, requiring preparation of a traffic control plan. This, and the project overall, would comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards, and would ensure the provision of heavy truck transportation resulting from project implementation occurs in the safest way possible.
Goal 2: Reduce potential overweight trucks.	Consistent with Mitigation Measure MM 4.14-1.	See 2.5.1, *Trucks and Highways*, Goal 1, above. As part of the traffic control plan, management actions for the use of heavy trucks would be implemented.
Goal 3: Use State Highway System improvements to prevent truck traffic in neighborhoods.	Consistent with Mitigation Measure MM 4.14-1.	See 2.5.1, *Trucks and Highways*, Goal 1, above. The proposed project would not result in increased truck traffic within existing neighborhoods. Short-term truck traffic would be required along adjacent major roadways to deliver materials to the CUP Areas to enable construction of the project.
Policy 1: Caltrans should be made aware of the heavy truck activity on Kern County's roads.	Consistent with Mitigation Measure MM 4.14-1.	See 2.5.1, *Trucks and Highways*, Goal 1, above. As discussed in Section 4.14, *Transportation* of this EIR, coordination and consultation with Caltrans will occur as necessary, consistent with this policy. In addition, the preparation of a traffic control plan in accordance with MM 4.14-1 would address this policy.
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 and MM 4.14-1.	Section 4.9, *Hazards and Hazardous Materials*, of this EIR provides a discussion of Hazardous Materials Transportation and existing regulatory requirements of the California Vehicle Code (CVC) that pertain to transport of hazardous materials and wastes. Consistent with this policy, the proposed 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

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
		of a Hazardous Materials Business Plan (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. In addition, MM 4.14-1 requires the preparation of a Traffic Control Plan that would be submitted to Kern County Public Works Department-Development Review and the California Department of Transportation. As part of this plan would be management strategies that would reduce the risk of potential hazardous materials incidents.
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.	Consistent with implementation of Mitigation Measure MM 4.9-1 and MM 4.14-1.	See 2.5.4, *Transportation of Hazardous Materials*, Goal 1, above.
Policy 2: Kern County and affected cities should reduce use of County-maintained roads and city-maintained streets for transportation of hazardous	Consistent with implementation of Mitigation Measure MM 4.9-1 and MM 4.14-1.	See 2.5.4, *Transportation of Hazardous Materials*, Goal 1, above. The listed mitigation measures would require route identification to reduce potential hazards that could occur during transportation of materials and equipment needed for construction on County and city maintained roadways.
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.		See 2.5.4, *Transportation of Hazardous Materials*, Goal 1, and Policy 2, above. This would include verification that the project complies with applicable sections of the vehicle code pertaining to shipping routes for particular waste streams

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
KERN COUNTY GENERAL PLAN CHAPTER 3, NOISE ELEMENT		
3.3 Sensitive Noise Areas		
Goal 1: Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.	Consistent.	Noise impacts, sensitive receptors and County noise thresholds are evaluated in Section 4.13, *Noise*, of this EIR. As discussed in that section, the proposed project would not cause significant impacts to sensitive receptors. There would be three sensitive receptors within approximately 100 feet from the project site. In addition, implementation of MM 4.13-1 through MM 4.13-3 include measures that would further reduce and ensure impacts remain less than significant.
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	See 3.3 Sensitive Noise Areas, Goal 1, above. See section 4.13, Noise, of the EIR which further discusses the land uses proposed by the project. As discussed in this section, the proposed project would be consistent with existing land use designations of the project site.
Policy 1: Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.	Consistent.	See 3.3, *Sensitive Noise Areas*, Goal 1 and 2, above.
Policy 3: Encourage vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise.	Consistent.	See 3.3, *Sensitive Noise Areas*, Goal 1, above. Consistent with this policy the project would be encouraged to provide 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.	Consistent.	See 3.3, *Sensitive Noise Areas*, Goal 2, above. Noise-sensitive land uses are evaluated in Section 4.12, *Noise*, of this EIR. The proposed project includes installation and operation of a solar energy generation facility. These projects produce an inherently minimal level of noise even during routine maintenance and repair. The proposed project includes MM 4.12-1 through MM 4.12-3, and would not conflict with this policy.

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Policy 7: Employ the best available methods of noise control.	Consistent.	See 3.3, *Sensitive Noise Areas*, Goal 1, and Policy 3 and 4, above.
Measure A: Utilize zoning regulations to assist in achieving noise-compatible land use patterns.	Consistent.	See Section 4.12 Noise. See 3.3, *Sensitive Noise Areas*, Goal 1, and Policy 3 and 4, above, which discuss that the project would reduce impacts to surrounding land uses. In addition, as discussed in Section 4.12 Noise, upon approval of the proposed Specific Plan Amendment (SPAs) for land use designations and Zone Changes, the proposed project would be consistent with the 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.	See 3.3, *Sensitive Noise Areas*, Goal 1, Policy 3 and 4, and Measure A, above. Consistent with this measure, the proposed 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.	See 3.3, *Sensitive Noise Areas*, Goal 1, Policy 3 and 4, 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 proposed project has prepared an acoustical analysis in accordance with the requirements of Chapter 3, *Noise Element*, Measure G, of the Kern County General Plan. Recommendations of the study were incorporated to the project and as part of mitigation measures MM 4.12-1 through MM 4.12-3.

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.	See 3.3, *Sensitive Noise Areas*, Measure G, above. Consistent with this measure, a noise assessment was conducted for the proposed project and is referenced in Section 4.12, *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.
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.	See 3.3, *Sensitive Noise Areas*, Measure C, G, and I, above. Consistent with this measure, the recommendations and requirements imposed pursuant to the findings of the acoustical analysis would be included with project implementation.
KERN COUNTY GENERAL PLAN CHAPTER 4, SAFETY ELEMENT		
4.1 Introduction		
Goal 1: Minimize injuries and loss of life and reduce property damage.	Consistent.	See *Section 4.13 Public Services* of the EIR. Consistent with this goal, the project would be required to comply with

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
		adopted safety regulations, such as the Fire Code, and related policies in the General Plan.
4.2 General Policies and Implementation Measures, Which Apply to More Than One Safety Constraint		
Measure A: All hazards (geologic, fire, and flood) should be considered whenever a Planning Commission or Board of Supervisor's action could involve the establishment of a land use activity susceptible to such hazards.	Consistent.	Section 4.7, *Geology and Soils*, of this EIR, discusses potential geologic hazards, Section 4.10, *Hydrology and Water Quality*, of this EIR, discusses potential flood hazards, and Section 4.17, *Wildfire*, of this EIR discusses potential fire hazards as a result of project implementation. Consistent with this measure, all hazards have been considered as part of this analysis.
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 policy, the proposed project would not include development for human occupancy, and would not be located near an active earthquake fault.
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.	Section 4.7, *Geology and Soils*, of this EIR, discusses potential geologic hazards. Consistent with this policy, the proposed project would not include development for human occupancy, and would not be located near an active earthquake fault.
Measure B: Require geological and soils engineering investigations in identified significant geologic hazard areas in accordance with the Kern County Code of Building Regulations.	Consistent.	See 4.2 *General Policies and Implementation Measure*, Measure A and F, and 1.3 Physical and Environmental Constraints 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 4.2 *General Policies and Implementation Measure*, Measure A and F, and 1.3 Physical and Environmental Constraints 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
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	The proposed project is not located within a current, mapped California Liquefaction Hazard Zone and is not in an area shown with a map code 2.3 that reflects shallow groundwater. In addition, all construction as part of the project would be required by state law to be constructed in accordance with all applicable International Building Code (IBC) and California Building Code (CBC) as verified in the project planning and review process. Adherence to all applicable regulations would avoid any potential impacts to structures resulting from liquefaction at the project.
Policy 3: Reduce potential for exposure of residential, commercial, and industrial development to hazards of landslide, land subsidence, liquefaction, and erosion.	Consistent.	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. 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 California Building Code (CBC) would ensure that effects from seismic-related ground failure including liquefaction would be minimized. Shallow groundwater is not expected on the proposed project site (groundwater is estimated at depths of greater than 200 feet) and the site is not within an earthquake zone of required investigation for liquefaction (Clearway Energy Group, 2020). See Section 4.7, *Geology and Soils*, of this EIR.

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
4.6 Wildland and Urban Fire		
Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.	Consistent with implementation of Mitigation Measure MM 4.13-1 and Mitigation Measure MM 4.13-2.	See 1.4, Public Services and Facilities, Policy 15, above. The proposed project would be consistent with this policy, and impacts on emergency services and facilities are discussed and evaluated in Section 4.13, *Public Services*, of this EIR. In addition, the project would implement Mitigation Measure MM 4.13-2 to provide a Cumulative Impact Charge (CIC) 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 that the county would otherwise receive for services and facilities.
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 4.13-1.	The proposed project would support this policy through the development of a solar energy generation facility. The proposed project does not include habitable structures sure as residences in a fire hazard zone that would increase fire protection costs. Mitigation Measure MM 4.13-1 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*, 4.13, *Public Services*, and 4.17, *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 4.14-1.	Section 4.14, *Transportation*, of this EIR includes Mitigation Measure MM 4.14-1 would require the approval of a Construction Traffic Control Plan, encroachments and or other necessary permits by Caltrans and/or the Kern County Roads Department. The project proponent would develop and implement a fire safety plan for use during construction and operation.
Policy 6: All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.	Consistent with implementation of Mitigation Measure MM 4.13-1.	See Section 4.13 Public Services. Consistent with this policy, the proposed project would be required to comply with the adopted Fire Code and the requirements of the Kern County Fire Department.

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Measure A: Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities.	Consistent with implementation of Mitigation Measure MM 4.13-1 and MM 4.13-2.	Consistent with this measure, the proposed project would implement Mitigation Measure MM 4.13-1, which would require preparation and implementation of a fire safety plan to ensure the provision of appropriate access. The project would implement Mitigation Measure MM 4.13-2 to provide a Cumulative Impact Charge (CIC) 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 that the county would otherwise receive for services and facilities.
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 4.13-1.	See 1.4, Public Services and Facilities, Goal 1, Policy 1, 3, 6 and 7, above.
KERN COUNTY GENERAL PLAN 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*, Goal 1, Policy 27, 28, and 29, above.
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.	Consistent.	See 3.3, *Sensitive Noise Areas*, Measure C, G, and I.
5.4.5 Solar Energy Development		
Goal 1: Encourage safe and orderly commercial solar development.	Consistent.	Consistent with this goal, the proposed project requires consideration and approval of four Conditional Use Permits for the four project sites, as well as other discretionary actions that would ensure compliance with all applicable Kern County

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
		goals and policies of the General Plan. The proposed project would result in the development of a solar PV facility that would generate 165 MW of solar energy, and would offset an equivalent amount of fossil fuel-generated electrical power. The site is on vacant land, and while it would be located in proximity to isolated rural residences, it is not in proximity to any established communities. The location of the site would ensure a safe and orderly development of the solar facilities.
Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.	Consistent.	Consistent with this policy, the proposed project requires consideration and approval of four Conditional Use Permits (CUPs) as well as other discretionary actions that ensure compliance with all policies would develop solar PV facilities capable of generating 165 MW of solar energy. Operation of the proposed project would improve air quality within the County by reducing demand for energy produced with fossil fuels and it would 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 (165 MW and 245 MW of storage) in the desert region of Kern County. Final review of the proposed project by the Kern County Planning and Natural Resources Department, requires consideration and approval of four Conditional Use Permits as well as other discretionary actions that would ensure the proposed project would comply with all applicable goals and policies as well as ensuring that the project would adhere to all applicable local, state and federal regulations. This would ensure that the proposed project would not pose significant environmental or public health and safety hazards.

Table 4.11-2: Consistency Analysis with Kern County General Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Policy 4: The County shall encourage solar development in the desert and valley regions previously disturbed, and discourage the development of energy projects on undisturbed land supporting state or federally protected plant and wildlife species.	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 proposed project by the Kern County Planning and Natural Resources Department, requires consideration and approval of four Conditional Use Permits as well as other discretionary actions that ensure compliance with all policies as well as adherence to all applicable local, state and federal regulations.
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 proposed project by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable local, state and federal regulations, would ensure that the proposed project's transmission lines would not pose significant environmental or public health and safety hazards.
Policy 5: The County should discourage the siting of above-ground transmission lines in visually sensitive areas.	Consistent.	See 5.4.7, 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 Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
WILLOW SPRINGS SPECIFIC PLAN		
Land Use Element		
Goal 1: The Willow Springs Specific Plan will regulate developments to ensure compatible uses of land consistent with both short- and long-term planning objectives of this Specific Plan area.	Consistent	The proposed project would be consistent with the intent of the Willow Springs Specific Plan and the development within the project area. The project consists of a solar energy project which is consistent with both short and long term planning objectives as well as local, regional, and state goals and regulations pertaining to renewable energy.
Policy 2: Encourage only those industries that do not significantly increase air pollution levels.	Consistent with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-5.	Consistent with this policy, the proposed project would implement Mitigation Measures MM 4.3-1 through MM 4.3-5 of Section 4.3, *Air Quality*, of this EIR, which would reduce impacts to air quality to less than significant. The project would be in compliance with all applicable Eastern Kern County Air Pollution Control District, rules and regulations. Additionally, the project would be designed and constructed in accordance with energy conservation practices, such as those found in the Building Energy Efficiency Standards, and all State and local laws. See Sections 4.3, *Air Quality*, 4.6, *Energy*, and 4.8, *Greenhouse Gas Emissions*, of this EIR and complies with CEQA.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Policy 5: Encourage the maintenance of visual aesthetics in all new construction.	Consistent with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-7.	Visual impacts are evaluated in Section 4.1, *Aesthetics*, of this EIR. Consistent with this policy, the project would prepare a Maintenance, Trash Abatement, and Pest Management Program that will be submitted to the Kern County Planning and Natural Resources Department. Additionally, the project proponent/operator shall implement color treatment to blend in with the colors found in the natural landscape as well as maintain natural vegetation within the project boundary. The project cannot reduce impacts to less than significant even with required mitigation. Appropriate findings under CEQA would be required to be made by the decision makers in order to approve the project despite the significant and unavoidable cumulative impacts on aesthetics.
Policy 6: Require developers to clean up any identified hazardous waste sites prior to submittal of any land division or development project.	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. The proposed project site is not located on a hazardous waste site. In addition, consistent with this policy, the project would implement 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.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Policy 8: New and/or existing developments shall comply with the Kern County Zoning Ordinance and this Specific Plan. Where conflicts appear, the more restrictive requirements shall prevail.	Consistent with implementation of Mitigation MM 4.3-1 and MM 4.3-2.	The proposed project would be reviewed for consistency with zoning and associated requirements for the development of the project site with a solar energy use. The proposed project would not conflict with the requirements in any of the applicable planning or policy documents. Accordingly, the project site would be developed with a solar project and that is consistent with local and state guidelines. Consistency is shown throughout the sections of the EIR and applicable goals and policies are discussed and consistent with the Kern County General Plan, Zoning Ordinance, and the Willow Springs Specific Plan.
Policy 10: Require that construction sites be provided with a soil retardant measure approved by the County of Kern (Department of Planning and Development Services and the Environmental Health Services Department) to reduce fugitive dust or blowing sand.	Consistent with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-5.	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 proposed project would implement Mitigation Measures MM 4.3-1 through MM 4.3-5, which would further reduce fugitive dust emissions and overall air emissions during construction and operation in compliance with the County of Kern. Air quality mitigation measures include diesel emission-reduction measures during construction, fugitive dust control measures, and Valley Fever exposure minimization measures.
Policy 11: Retain vegetation until actual construction begins.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14.	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 to vegetation with mitigation. The proposed project would not clear any existing vegetation until needed from a construction efficiency standpoint, and where possible, existing vegetation would be left intact and undisturbed. Additionally, the project would be developed and operated in accordance with all local, state and federal laws pertaining to the preservation of sensitive species.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Implementation Measure 6: All discretionary permits will be required to be consistent with the Kern County Zoning Ordinance and the Willow Springs Specific Plan. Where conflicts appear, the more restrictive requirement shall prevail.	Consistent.	See *Land Use Element* Policy 8, above.
Implementation Measure 8: Every effort shall be made by the developer to control dust during construction activities by sprinkling the site with water or other soil retardants. Additionally, vegetative cover on the site shall be retained until actual construction begins	Consistent.	See *Land Use Element* Policy 10, above.
Implementation Measures 2: Review new industrial projects with respect to air quality constraints.	Consistent.	See *Land Use Element* Policy 2, above.
Resource		
Goal 3: Encourage retention of productive agricultural and dormant mineral resources by imposing a restriction on allowing urban type land uses on nearby adjacent lands.	Consistent.	Upon approval of the proposed zone changes, the project site would be located on land that is zoned as A (Exclusive Agriculture) and A-1 (Limited Agriculture), and implementation of the proposed project would prevent 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 EIR. Direct disturbance related to the project would be approximately 1,296 acres. Additionally, as discussed in the NOP/IS, the project site is not located within the bounds of a mineral resource area. The project site is not located in areas of agricultural use or in areas containing petroleum, or mineral resources. Therefore, the proposed project would be consistent with this goal.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Policy 1: Provide a method encouraging the preservation of agricultural land	Consistent.	See *Resource*, Goal 3, above. 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. Therefore, the proposed project would be consistent with this policy.
Policy 18: Initial development within the Update area shall, when possible, be directed towards previously impacted areas (i.e. agricultural fields).	Consistent.	See Resources Goal 3 and Policy 1, above. Consistent with this policy, the project proposes the development of solar PV power generation and storage facilities in the desert region of Kern County. Final review of the proposed project by the Kern County Planning and Natural Resources Department requires consideration and approval of a Conditional Use Permit as well as other discretionary actions that ensure compliance with all policies as well as adherence to all applicable local, state and federal regulations.
Policy 3: To ensure compliance with applicable State and federal laws and to protect the biological resources present in the Specific Plan area.	Consistent. Implement MM 4.4-1 through MM 4.4-14	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 accordance with all local, state and federal laws pertaining to the preservation of sensitive species.
Measure 15: Where possible, project development within the Specific Plan Update area shall be designed to avoid displacement of destruction of Joshua tree habitat, to the satisfaction of the Kern County Agricultural Commissioner's Office. Areas adjacent to the woodland shall have a 50-foot setback from the Joshua tree plants. Within that setback, a native plant cover should be restored to natural habitat values to serve as a bugger, if such plant cover is not present.	Consistent with implementation of special-status plant avoidance and minimization measures described in Mitigation Measure MM 4.4-1 through MM 4.4-14.	Biological resource impacts are evaluated in Section 4.4, *Biological Resources*, of this EIR. This EIR serves to comply with this measure and reduce potential impacts with mitigation. As discussed in Section 4.4, significant impacts could occur to plant species including Joshua tree and alkali mariposa lilly, on the project site. However, these impacts would be mitigated to a level of less than significant through the implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Measure 16: A Joshua Tree Preservation and Transportation Plan shall be developed by the applicants for each parcel where Joshua trees are located on site. The plan shall be submitted to the Kern County Agricultural Commissioner's office for review and approval to grading permit issuance.	Consistent with implementation of special-status plant avoidance and minimization measures described in Mitigation Measure MM 4.4-3.	See Resources, Measure 15, above. Biological resource impacts are evaluated in Section 4.4, *Biological Resources*, of this EIR.
Measure 18: Initial development within the Willow Springs Specific Plan Update area shall, when possible, be directed towards previously impacted areas (i.e., agricultural fields). Portions of the plan area with native vegetation, especially along the northern and western borders, shall be developed in the later phases of project buildout.	Consistent	Biological resource impacts are evaluated in Section 4.4, *Biological Resources*, of this EIR. The proposed project is not located within the northern or western borders of the Willow Springs Specific Plan Area and would minimize impacts to existing vegetation. The proposed project would not clear any existing vegetation until needed from a construction efficiency standpoint. Where possible, existing vegetation would be left intact and undisturbed. Additionally, the project would be developed and operated in accordance with all local, state and federal laws pertaining to the preservation of native vegetation and habitat.
Measure 23: A Joshua Tree Preservation and/or Transplantation Plan shall be developed by applicants of discretionary projects for each parcel where Joshua trees are located on site. The plan shall be submitted to the Kern County Agricultural Commissioner for review and approval prior to grading permit issuance.	Consistent with implementation of special-status plant avoidance and minimization measures described in Mitigation Measure MM 4.4-3.	See Resources, Measure 15, above. Biological resource impacts are evaluated in Section 4.4, *Biological Resources*, of this EIR.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Measure 24: Prior to issuance of any grading permits for individual projects, individual project applicants shall consult with the Regional Water Quality Control Board, State Department of Fish and Game and/or U.S. Fish and Wildlife Service, and the Army Corps of Engineers to identify potentially required permits. Compliance with this measure will be confirmed through the submittal of a letter (in conjunction with submittal of grading permit applications) to the County demonstrating compliance with the above-mentioned agencies.	Consistent.	Section 4.10, *Hydrology and Water Quality*, of this EIR, discusses required compliance with Kern County's NPDES Applicability legislation. This EIR serves to comply with this policy and reduce potential impacts with mitigation. As part of the CEQA environmental review process, state and federal agencies were consulted and mitigation incorporated. Prior to the issuance of any grading permit, additional consultation with the Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife, United States Fish and Wildlife Service, and United States Army Corps of Engineers (USACE) would occur as it related to water quality. Therefore, the County is complying with this policy for the project.
Measure 25: Prior to issuance of grading permits, individual project applicants shall obtain appropriate permits as determined necessary by the Regional Water Quality Control Board, U.S. Fish and Wildlife Service, State Department of Fish and Game, and Army Corps of Engineers.	Consistent.	See Resources, Measure 24, above. Refer to Section 4.4, *Biological Resources*, of this EIR. The proposed project would obtain all require applicable permits from the listed agencies. See also, the discussion of the State Water Resources Control Board and NPDES permits in Section 4.10, *Hydrology and Water Quality*, of this EIR.
Air Quality		
Goal 1: Imposition of appropriate mitigation measures to reduce where practical to do so, the effect short-term and long-term projects have on the area which involve grading activities, erosion controls, revegetation of disturbed sites, and provisions to introduce into the plan area a competitive job market to reduce travel times.	Consistent.	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 proposed project would implement Mitigation Measures MM 4.3-1 through MM 4.3-2, which would reduce impacts to air quality to the extent feasible. Air quality mitigation measures include diesel emission-reduction measures during construction, fugitive dust control measures, and Valley Fever exposure minimization measures.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Policy 1: Compliance with the Mitigation/Implementation Measures and enactment of an approved Air Quality Attainment Plan.	Consistent with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-2.	Air quality impacts are evaluated in Section 4.3, *Air Quality*, of this EIR. Consistent with this policy, the proposed project would implement Mitigation Measures MM 4.3-1 through MM 4.3-2, 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 1: To mitigate potential dust generation impacts, the Willow Springs Specific Plan Update project shall comply with applicable County regulations (to the satisfaction of the Kern County Air Pollution Control District), which require specific dust control measures.	Consistent with implementation of Mitigation Measure MM 4.3-2.	See Section 4.3, *Air Quality*, of this EIR. The project would implement Mitigation Measures MM 4.3 1 and MM 4.3 2 would be included and would reduce fugitive dust emissions by implementing exhaust reduction measures and a Fugitive Dust Control Plan. These measures would reduce PM_{10} and $PM_{2.5}$ emissions during construction and operation.
Measure 2: During construction, all grading activities shall be ceased during periods of high winds (i.e., greater than 30 miles per hour [mph]). To assure compliance with this measure, grading activities are subject to periodic inspections by County staff.	Consistent.	See Section 4.3, *Air Quality*, of this EIR and *Air Quality* Measure 1, above. The project would adhere to Chapter 17.28 of the Kern County Code, which regulates grading within the County. Specifically, MM 4.3-2 the project would adhere to Section 17.28.180 (Grading Inspection), which requires that grading operations must be inspected by the building official.
Measure 3: Construction equipment shall be fitted with the most modern emission control devices and be kept in proper tune. Motors out of proper tune can result in emissions that vastly exceed recommended standards.	Consistent with implementation of Mitigation Measure MM 4.3-1.	The project would implement Mitigation Measure MM 4.3-1, which is intended to limit diesel (NO_X and PM_{10}) emission reductions during construction. For example, Mitigation Measure MM 4.3-1 would require that off-road equipment engines over 25 horsepower be equipped with EPA Tier 3 or higher engines if locally available. Mitigation Measure MM 4.3-1 also outlines other specific measures to ensure that all equipment is used efficiently, such as reducing idling time and maintain all equipment in accordance with the manufacturer's specifications. See Section 4.3, *Air Quality*, of this EIR.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Measure 4: The project applicants shall, to the extent feasible, implement applicable control measures contained in the Attainment Plan in effect at the time of adoption of this Specific Plan, by the Air Pollution Control District in 1991. (See Environmental Impact Report Air Quality for additional recommended mitigation measures, page 162.).	Consistent with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-5.	See Air Quality, Policy 1, and Measure 1, 2, and 3 above. Further, air quality impacts are evaluated in Section 4.3, *Air Quality*, of this EIR.
Measure 7: All phases of the Willow Springs Specific Plan Update project shall comply with applicable rules and regulations of the Kern County Air Pollution Control District.	Consistent.	See Air Quality, Policy 1, and Measure 1, 2, and 3 above In addition, the proposed project would implement Mitigation Measures MM 4.3-2 which would require the implementation of a Fugitive Dust Control Plan. This would include fugitive PM emissions during construction and would comply with the Kern County Air Pollution Control District. See Section 4.3, *Air Quality*, of this EIR.
Biological Resources		
Policy 1: Where possible, development shall be designated to avoid displacement of sensitive species.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14.	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 to vegetation with mitigation. The proposed project would not clear any existing vegetation until needed from a construction efficiency standpoint, and where possible, existing vegetation would be left intact and undisturbed. Additionally, the project would be developed and operated in accordance with all local, state and federal laws pertaining to the preservation of sensitive species.
Policy 2: Focused surveys shall be conducted by a County-approved biologist to establish the presence or absence of sensitive species.	Consistent.	As discussed in Section 4.4, *Biological Resources*, of this EIR, focused surveys were conducted at the project site for multiple species.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Policy 3: Initial development within the area covered under the Willow Springs Specific Plan, when possible, will be directed towards previously impacted areas.	Consistent with implementation of Mitigation Measure MM 4.4-1 and MM 4.4-2.	As discussed in Section 4.4, *Biological Resources*, of this EIR, during construction, operations and maintenance, and decommissioning, the project proponent/operator and/or contractor(s) shall implement the general avoidance and protective measures, which includes containing vehicle traffic within the planned impact area or in previously disturbed areas. . The proposed project would not clear any existing vegetation until needed from a construction efficiency standpoint. Where possible, existing vegetation would be left intact and undisturbed. Additionally, the project would be developed and operated in accordance with all local, state and federal laws pertaining to the preservation of native vegetation and habitat.
Cultural Resources		
Goal 1: To preserve cultural resources contained on sensitive sites located within the Willow Springs Specific Plan area.	Consistent with implementation of Mitigation Measures MM 4.5-1, MM 4.5-2, MM 4.5-3, and MM 4.5-4.	Cultural resource impacts are evaluated in Section 4.5, *Cultural Resources*, of this EIR. This EIR serves to comply with this goal and includes Mitigation Measures MM 4.5-1 through MM 4.5-4 to promote the preservation of cultural and historic resources where necessary.
Policy 1: Archaeological investigations shall be required of specific properties proposed for development. There are, accordingly, a total of 10 extant archaeological sites within the Project study area, all of which are historical/Euro-American in origin. These include six refuse scatters (P-15-14593, -14597 and QKRS-SITE-2, -3, -4 and -5), one burned-down building (P-15-14902), one concrete equipment foundation (P-15-14907), one mid-to late-twentieth century alfalfa farm (QKRS-SITE-1), and one dirt two-track road (P-15-14598). Site P-15-14902, the vernacular house foundation with partial walls is located within a gen-tie route, and dates to the 1930 - 1940s.	Consistent with implementation of Mitigation Measures Mitigation Measures MM 4.5-2 and MM 4.5-3.	Cultural resource impacts are evaluated in Section 4.5, *Cultural Resources*, of this EIR. Consistent with this policy, impacts to archaeological resources are evaluated in accordance with CEQA. This EIR serves to comply with this policy.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Policy 2: Recorded archaeological sites shall be subjected to individual studies prior to development.	Consistent with implementation of Mitigation Measures Mitigation Measures MM 4.5-1 and MM 4.5-2.	See Cultural Resources, Policy 1, above. Further, impacts to cultural resources are evaluated in Section 4.5, *Cultural Resources*, of this EIR. This EIR and listed mitigation including inadvertent discovery and employee training requirements serve to comply with this policy.
Policy 15: Require cultural resources report for those areas with high probability for prehistoric activity prior to issuance of any grading permits.	Consistent with implementation of Mitigation Measures MM 4.5-1 through MM 4.5-3.	See Cultural Resources, Policy 1 and 2, above Cultural resource impacts are evaluated in Section 4.5, *Cultural Resources*, of this EIR. Consistent with this policy, cultural resources reports have been prepared. As outlined in Mitigation Measures MM 4.5-1 through MM 4.5-3, the project includes numerous strategies and methodologies to reduce impacts. Additionally, copies of reports have been provided to the Kern County Planning and Natural Resources Department and to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.
Measure 1: Prior to issuance of grading permits, archaeological investigations shall be required of specific properties proposed for development. This approach will eventually produce a complete record of all of the cultural resources present within the study area and should constitute a major contribution to the reconstruction of the Kitanemuk settlement pattern.	Consistent	Refer to *Cultural Resources* Goal 1, Policy 1, 2, and 15, above.
Measure 2: Prior to grading permit issuance, a recorded archaeological site found on a specific property proposed for development shall be subjected to individual study prepared at the expense of the developer by a qualified historian. Surface collection, text excavation, and laboratory analysis constitute procedures necessary to properly assess both the significance and the research potential of each individual resource.	Consistent.	Refer to *Cultural Resources* Goal 1, Policy 1, 2, and 15, above. In addition, MM-4.5-1 and 4.5-4 discuss requirements for employee training to recognize cultural and archaeological resources, and implementation of the inadvertent discovery protocol. If resources are found, they would be handled in accordance with all applicable local and state regulations to include notifications (authorities and tribal representatives), evaluation by qualified person, and development of a treatment plan. These measures are anticipated to reduce impacts to less than significant.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Measure 3: Larger "village" sites, such as CA-KER-129, cemeteries, and other sites of religious significance, may be found within the study area and shall require more intensive investigation and more complete preservation.	Consistent	Refer to *Cultural Resources* Goal 1, Policy 1, 2, and 15, and Measure 1, and 2 above. Any existing site or site located as part of any project action would be appropriately treated.
Seismic Safety and Safety Element		
Goal 7: Minimize damage to public facilities and utilities, such as water and gas mains, electric, telephone, and sewer lines, streets, and bridges located in areas of special flood hazard.	Consistent with implementation of Mitigation Measure MM 4.10-1.	See 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. Further, the project would be developed in accordance with the General Plan, Floodplain Management Ordinance and Mitigation Measure MM 4.10-2. Therefore, the proposed project would be consistent with this measure.
Goal 9: Comply with the requirements of the National Flood Insurance Program Regulations, Parts 59 and 60 of Title 44 of the Code of Federal Regulations.	Consistent with implementation of Mitigation Measure MM 4.10-1.	See Seismic Safety and Safety Element, Goal 7, of the Willow Springs Specific Plan, above.
Goal 15: To protect community residents from undue hazards and costs associated with road maintenance, slope instability, improper drainage, and inadequate sewage treatment.	Consistent with implementation of Mitigation Measure MM 4.10-1.	See *Seismic Safety and Safety Element* Goal 7, above. The project site is flat and does not contain any slopes that would be subject to instability. All roads would be maintained improved and maintained in conformance with County standards. Lastly, the project would use an on-site septic system because sewer systems are not available at the site and would be used to serve employees.
Policy 1: New development within the 100-year floodplain shall be regulated in accordance with the Floodplain Management Section of the Department of Planning and Development Services according to the Flood Damage Prevention Ordinance, the Kern Land Division Ordinance, and the Kern County Zoning Ordinance as may be amended from time to time.	Consistent with implementation of Mitigation Measure MM 4.10-1.	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. Further, the project would be developed in accordance with the General Plan, Floodplain Management Ordinance and Mitigation Measure MM 4.10-1. Therefore, the proposed project would be consistent with this measure.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Policy 7: Compliance with site-specific issues, goals, policies, and implementation measures contained in the Seismic/Safety Element of the Kern County General Plan.	Consistent.	See Seismic Safety and Safety Element, Goal 7, 15, and Policy 1.
Policy 9: All new construction in the plan area shall comply with Chapter 23 of the Uniform Building Code (UBC), which includes building pad and foundation design standards for structures in UBC Seismic Zone IV.	Consistent.	Construction of the proposed project would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08) and Chapter 23 of the International Building Code (which replaced the UBC). Compliance with this policy would be ensured upon final review by the Kern County Public Works Department.
Measure 3: Areas within the 100-year floodplain shall be zoned with the appropriate FPP, FP, or FPS designation.	Consistent with implementation of Mitigation Measure MM 4.10-1.	See Seismic Safety and Safety Element, Goal 7, and Policy 7, above.
Measure 4: New development within the 100-year floodplain shall be regulated in accordance with the Flood Damage Prevention Ordinance and the Kern County Zoning Ordinance as they may be amended from time to time.	Consistent with implementation of Mitigation Measures MM 4.10-1.	See Seismic Safety and Safety Element, Goal 7, and Policy 7, above. Water quality impacts are evaluated in Section 4.10, *Hydrology and Water Quality*, of this EIR. Consistent with this policy, the proposed project would implement best management practices during construction to avoid impacts to water quality.
Measure 24: In order to combat the stormwater pollution created by the various land uses the following source control mitigation measures are required: a) Periodic cleaning (i.e., street sweeping) of paved areas to remove small particle size sediments with absorbed pollutants caused by uses of the area. b) Utilize established Best Management Practices (BMPs) for small on-site control of urban runoff water quality. These measures include infiltration trenches, infiltration basins, water quality inlets, vegetative biofilter, grass swales, and porous pavement.	Consistent with implementation of Mitigation Measure MM 4.10-1.	See Seismic Safety and Safety Element, Goal 7 and Policy 1, above.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Public Facilities Element		
Goal 3: To restrict, if possible, any further and/or unnecessary drawdown of the water table within the plan area.	Consistent.	Public utility impacts are evaluated in Section 4.16, *Utilities and Service Systems*, of this EIR. As described therein, the project site is located within the Antelope Valley Groundwater Basin which has undergone adjudication, which restricts unnecessary drawdown of the basin water table. The adjudication process for the Antelope Valley Groundwater Basin was completed in 2015 which established a safe yield of 110,000 AFY. Because the amount of the water required for the project would be minimal and would be obtained from an existing source with existing water rights, impacts related to water supply would be less than significant. Thus, the project would be consistent with this goal.
Goal 4: To recognize early on the need for Southern Kern Unified School District to advise the County of the need to establish and/or expand educational facilities in the area.	Consistent	The proposed project includes development of a renewable solar energy facility and would not generate new residents that would increase demand on existing school facilities. The workforce, both for construction and operation are anticipated to come from the existing pool of workers in the region and thus, would not substantially increase demand for school.
Goal 5: The establishment of parks and recreational facilities of varying size, function, and location to serve Willow Springs residents.		The proposed project includes development of a renewable solar energy facility and would not generate new residents that would increase demand on existing park or recreational resources. The workforce, both for construction and operation are anticipated to come from the existing pool of workers in the region and thus, would not substantially increase demand for recreational sites.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Policy 2: In evaluating a development application, Kern County will consider both its physical and fiscal impact on the local school district and other public facilities. If it is found that the district or facilities involved will, as a result, require additional facilities or incur costs requiring additional local revenues, the development project will be required as a condition of approval to contribute funds to the district for the costs directly attributable to the project.	Consistent.	See Public Facilities Element, Goal 4, above. Further, public service impacts are evaluated in Section 4.13, *Public Services*, of this EIR. Consistent with this measure, the proposed project would implement Mitigation Measure MM 4.13-1, which would require preparation and implementation of a fire safety plan to ensure the provision of appropriate access. The project would implement Mitigation Measure MM 4.13-2 to provide a Cumulative Impact Charge (CIC) 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 that the county would otherwise receive for services and facilities.
Policy 4: New development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.	Consistent with implementation of Mitigation Measure MM 4.13-2.	See Public Facilities Element, Goal 4, and Policy 2, above. Further, public service impacts are evaluated in Section 4.13, *Public Services*, of this EIR.
Measure 6: The siting and establishment of solid waste transfer stations, landfills, recycling center, and cleanup programs shall be in accordance with Kern County's Solid Waste Management Plan.	Consistent with implementation of Mitigation Measure MM 4.16-1.	Public utility impacts are evaluated in Section 4.16, *Utilities and Service Systems*, of the EIR. The proposed project does not include use of the site for any waste management or disposal but waste would be recycled and properly disposed of. In addition, with the implementation of Mitigation Measure MM 4.16-1, 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.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Measure 10: New development shall contribute its pro rata share for circulation improvements, school impact fees, park land dedications/fees, and possible biota impact fees. As additional impact fees are adopted, they shall be incorporated into the Specific Plan text.	Consistent with implementation of Mitigation Measure MM 4.13-2.	Public service impacts are evaluated in Section 4.13, *Public Services*, of this EIR. Consistent with this measure, the project would implement Mitigation Measure MM 4.13-2 to provide a Cumulative Impact Charge (CIC) 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 that the county would otherwise receive for services and facilities. Consistent with this policy, the project proponent would fund improvements to on-site driveways and interior roadways that provide access to County, city, or State roads. Use of funding from the CIC taxes received by the county could be used to provide other public services and facilities thereby supporting a prosperous economy and assuring the provision of adequate public services.
Measure 11: The school district, along with the developer, shall provide Kern County with an alternative funding method, should an alternative be submitted with an impending development.	Consistent.	See *Public Facilities Element*, Goal 4, and Policy 2, above. Further, public service impacts are evaluated in Section 4.13, *Public Services*, of this EIR.
Measure 21: The projects shall comply with all applicable Kern County code and ordinance requirements for construction, access, water mains, fire flows, and fire hydrants.	Consistent with implementation of Mitigation Measure MM 4.13-1.	See Section 4.13, *Public Services*, of this EIR Consistent with this policy, the proposed project would be required to comply with the adopted Fire Code and the requirements of the Kern County Fire Department and applicable construction, access, water mains, fire flows, and fire hydrant.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Measure 24: Consideration shall be given to implementation of the following measure to reduce the impacts associated with solid waste generation: a) Compacting refuse would substantially reduce the number of refuse hauling trips and allow for more effective and sanitary disposal. b) Each project applicant shall comply with guidelines set forth by Kern County in accordance with AB 939 which mandates recycling programs for each jurisdiction in California and shall agree to be subject to universal collection for one- to four-unit residential projects and commercial. c) Where feasible, a community recycling center should be implemented to provide convenient recycling opportunities. d) Studies shall be conducted by Kern County prior to issuance of building permits, to determine a feasible location for an alternate landfill upon reaching capacity at Mojave-Rosamond concurrent with development approvals. County should initiate studies to site alternative landfill. e) Each project applicant shall comply with guidelines set forth by Kern County in accordance with AB 939 which mandates recycling programs for each jurisdiction in California and shall agree to be subject to universal collection for one- to four-unit residential projects and commercial.	Consistent with implementation of Mitigation Measure MM 4.16-1.	See Public Facilities Element Policy 3 and Measure 6, above. Public utility impacts are evaluated in Section 4.16, *Utilities and Service Systems,* of this EIR. As described therein, 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 including AB 939. Additionally, the proposed project would not generate a significant amount of waste that would exceed the capacity of local landfill. With the implementation of Mitigation Measure MM 4.16-1, 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.
Measure 25: The applicants are subject to school assessment fees pursuant to AB 2926.	Consistent.	See *Public Facilities Element*, Goal 4, and Policy 2, above. Further, public service impacts are evaluated in Section 4.13, *Public Services*, of this EIR.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Residential		
Policy 4: Encourage the maintenance of natural vegetation until actual construction begins.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14.	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 to vegetation with mitigation. The proposed project would not clear any existing vegetation until needed from a construction efficiency standpoint, and where possible, existing vegetation would be left intact and undisturbed. Additionally, the project would be developed and operated in accordance with all local, state and federal laws pertaining to the preservation of sensitive species.
Policy 8: Require cultural resources report for those areas with a high probability for prehistoric activity.	Consistent with implementation of Mitigation Measures MM 4.5-2 and MM 4.5-3.	See Cultural Resources, Policy 1 and 2, above Cultural resource impacts are evaluated in Section 4.5, *Cultural Resources*, of this EIR. Consistent with this policy, cultural resources reports have been prepared. As outlined in Mitigation Measures MM 4.5-1 through MM 4.5-3, the project includes numerous strategies and methodologies to reduce impacts. Additionally, copies of reports have been provided to the Kern County Planning and Natural Resources Department and to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Industrial Development		
Measure 15: Development of industrially-designated properties shall not occur until such time as urban infrastructure and services, such as roads, sewers, domestic water, police, and fire protection, are provided to the satisfaction of Kern County	Consistent with implementation of Mitigation Measures MM 4.13-2	See Public Facilities Element, Measure 10, above. Impacts are evaluated in Section 4.13, *Public Services, and Section 4.16 Utilities and Service Systems* of this EIR. Consistent with this measure, the project would implement Mitigation Measure MM 4.13-2 to provide a Cumulative Impact Charge (CIC) 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 that the county would otherwise receive for services and facilities. Consistent with this policy, the project proponent would fund improvements to on-site driveways and interior roadways that provide access to County, city, or State roads. The applicant also would provide for on-site wastewater treatment as no sewer facilities are available, would obtain water from a private provider. Use of funding from the CIC taxes received by the county could be used to provide other public services and facilities thereby supporting a prosperous economy and assuring the provision of adequate public services.
Noise Element		

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Goal 2: To minimize disruption to the quality of life resulting from excessive noise.	Consistent.	Noise-sensitive land uses are evaluated in Section 4.12, *Noise*, of this EIR. The proposed project includes installation and operation of a solar energy generation facility. These projects produce an inherently minimal level of noise even during routine maintenance and repair. An acoustical analysis was prepared for the proposed project that included representative noise measurements, recommended best management practices, estimated noise levels, in terms of CNEL, and estimates of noise exposure. The proposed project includes MM 4.12-1 through MM 4.12-3, and would not conflict with this policy. As discussed in that section, the proposed project would minimize disruption and noise impacts to sensitive receptors. Thus, the project would be consistent with this goal.
Goal 3: To maintain reasonable noise level standards, consistent with the Kern County Noise Element.	Consistent.	See *Noise Element*, Goal 2, above, and see Section 4.12, *Noise*, of this EIR. This section of the EIR discusses the land uses proposed by the project. As discussed in this section, the proposed project would be consistent with the Kern County Noise Element.
Policy 1: Noise emissions from new development will be controlled and off-site levels limited to the standards of the Kern County General Plan Noise Element.	Consistent.	See *Noise Element*, Goal 2 and Goal 3, above. The proposed project would be consistent with the Kern County General Plan Noise Element.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Policy 3: Land uses will be categorized in the following manner, and the noise level standards adopted in accordance with the Kern County Noise Element: • **Sensitive Land Uses.** Noise level does not affect the successful operation of these particular activities. A wide variety of uses can be included in this category, including public utilities, transportation systems, and other noise-related uses. • **Moderately Sensitive Land Uses.** Some degree of noise control must be present if these activities are to be successfully carried out. Included here are general business and recreational uses. • **Sensitive Uses.** Lack of noise control will severely impact these uses, reducing the quality of life. This category primarily contains residential uses. • **Highly Sensitive Uses.** A high degree of noise control is necessary for the successful operation of these activities. Examples include hospitals and churches.	Consistent.	See *Noise Element*, Goal 2 and Goal 3, above. The proposed project would be consistent with the Kern County General Plan Noise Element. Consistent with this policy, the proposed project will prepare an acoustical analysis in accordance with the requirements of Chapter 3, Noise Element, Measure G, of the Kern County General Plan.
Measure 2: The implementation measures of the Kern County Noise Element are hereby adopted by reference.	Consistent.	See Noise Element, Goal 2 and 3, and Policy 3, above. See Section 4.12, *Noise*, of this EIR. This section of the EIR discusses the land uses proposed by the project. As discussed in this section, the proposed project would be consistent with existing land use and zoning designations of the project site. The proposed project would be consistent with implementation measures of the Kern County Noise Element.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Circulation Element		
Goal 3: To maintain adequate traffic safety.		See Public Facilities Element, Measure 10, above. Impacts are evaluated in Section 4.13, *Public Services, and Section 4.16 Utilities and Service Systems* of this EIR. Consistent with this measure, the project would implement Mitigation Measure MM 4.13-2 to provide a Cumulative Impact Charge (CIC) 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 that the county would otherwise receive for services and facilities. Consistent with this policy, the project proponent would fund improvements to on-site driveways and interior roadways that provide access to County, city, or State roads. The applicant also would provide for on-site wastewater treatment as no sewer facilities are available, would obtain water from a private provider. Use of funding from the CIC taxes received by the county could be used to provide other public services and facilities thereby supporting a prosperous economy and assuring the provision of adequate public services.
Goal 4: To reduce potential traffic impacts to adjacent jurisdictions, such as Los Angeles County.		See *Circulation Element*, Goal 3, above. Consistent with this policy, the project proponent would fund improvements to on-site driveways and interior roadways that provide access to County, city, or State roads. The proposed project would not result in substantial changes to traffic circulation within Kern County or any areas within Los Angeles County.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Goal 5: To maintain public safety within the plan area by providing a more direct and efficient circulation system for law enforcement and fire protection vehicles.	Consistent with implementation of Mitigation Measure MM 4.15-1.	Section 4.14, *Transportation*, of this EIR, provides a discussion of circulation and preparation of a Traffic Control Plan. The project would include internal service roads and would take access from existing County roadways. All road improvements as well as connections to County roads would be completed per Caltrans and/or County code and regulations. Additionally, Mitigation Measure MM 4.14-1, states that the Traffic Control Plan would ensure access for emergency vehicles to the project site.
Goal 6: To reduce energy consumption and travel costs.	Consistent	Consistent with this policy, the proposed project requires consideration and approval of four Conditional Use Permits (CUPs) that would enable the development of a solar PV facility capable of generating 165 MW of renewable solar energy. Operation of the proposed project would help transition from generation of fossil fuel based energy produced with fossil fuels and it would assist the County in meeting attainment of this goal. In addition, the project is consistent with both short and long term planning objectives as well as local, regional, and state goals and regulations pertaining to renewable energy. Lastly, employees and workers during both construction and operations would largely come from local and regional areas. This would reduce energy consumption needed to travel to and from the site. In addition, only 2 permanent employees would be needed on-site during operations. This is consistent with this goal.
Goal 7: To provide an adequate circulation system which will support the proposed land uses.	Consistent with implementation of Mitigation Measure MM 4.14-1.	See Circulation Element, Goal 5 and 6, above. Further, transportation and circulation impacts are evaluated in Section 4.14, *Transportation*, of this EIR.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Policy 7: Require the widening of impacted roadways to handle increased traffic generated by new development.	Consistent with implementation of Mitigation Measure MM 4.14-1.	Traffic impacts are evaluated in Section 4.14, *Transportation*, of this EIR. The 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 not necessitating the widening of roadways. Additionally, implementation of Mitigation Measure MM 4.14-1 would require the preparation of a Construction Traffic Control Plan to be reviewed and approved by Kern County and Caltrans, which would further reduce impacts to traffic and transportation.
Policy 8: Encourage resourceful air quality improvement and reduction methods.	Consistent with implementation of Mitigation Measure MM 4.3-1.	See in Section 4.3, *Air Quality*, which evaluates air quality impacts and proposes mitigation to reduce effects Consistent with this policy, the proposed project would implement Mitigation Measures MM 4.3-1 through MM 4.3-5, which would reduce impacts to air quality including PM_{10} and $PM_{2.5}$ emissions, implementation of a Fugitive Dust Control Plan, minimization measures to reduce airborne disease vectors, and payment of fees, which would reduce impacts to the less than significant. The project would be in compliance with all applicable Eastern Kern County Air Pollution Control District, rules and regulations.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Policy 9: The proposed circulation pattern as shown on the Rosamond-Willow Springs Circulation Map, included in this chapter, is presently considered necessary and adequate to service the community growth pattern presented in the Land Use Element of the Willow Springs Specific Plan.	Consistent	Traffic impacts are evaluated in Section 4.14, *Transportation*, of this EIR. Consistent with this policy, the proposed project would comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, Development Standards, and would obtain approval of a Specific Plan Amendment (SPAs) regarding any roadway vacations that may be require as part of the development review and approval process. The vacations would occur in an area that is not densely developed and would not substantially affect current or future traffic volumes as a significant traffic volumes are not generated or anticipated and that the land would no longer be needed for public use. 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 Specific Plan Amendments and nonsummary vacation of public access easement, the proposed project would be consistent with this goal.
Measure 7: Any substantial deviation in the circulation system as shown on this Specific Plan map will require an amendment thereof.	Consistent	See *Circulation Element*, Goal 5, 6, and Policy 7, 8, and 9, above.
Measure 8: Road improvements as stated within the Rosamond/Willow Springs Transportation Impact Fee Study, shall supersede the above mitigation measures. Changes in the Circulation Element of this Plan will be processed concurrently with the Impact Fee Program. In addition to enhanced roadway improvements, these changes may also include the provision for a more formal program that may provide requirements for alternate transportation modes.	Consistent	See *Circulation Element*, Goal 5, 6, and Policy 7, 8, and 9, above. The proposed project also would be impact fees, and the County could use of funding from the CIC taxes to provide other public services and facilities thereby supporting a prosperous economy and assuring the provision of adequate public services.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Measure 9: A traffic study in accordance with the requirements of Kern County and CalTrans, as appropriate, shall be submitted for all discretionary projects. Study shall demonstrate consistency with the Willow Springs Specific Plan.	Consistent with implementation of Mitigation Measure MM 4.14-1	Traffic impacts are evaluated in Section 4.14, *Transportation*, of this EIR. This section of the EIR was prepared based on a project specific traffic study. Consistent with this measure, implementation of Mitigation Measure MM 4.14-1 would require the preparation of a Construction Traffic Control Plan to be reviewed and approved by Kern County and Caltrans, which would further reduce impacts to traffic and transportation.
Measure 13: The Traffic Impact Fee Program implements Mitigation Measure 10 of the Willow Springs Final Environmental Impact Report (EIR).	Consistent.	See *Circulation Element*, Goal 5, 6, and Policy 7, 8, and 9, above. Consistent with this measure, the project proponent would fund improvements to on-site driveways that provide access to County, city, or State roads.
Water Quality and Availability		
Goal 1: To ensure that new developments are provided with an adequate water supply and wastewater disposal/treatment facilities.	Consistent.	Public utility impacts are evaluated in Section 4.16, *Utilities and Service Systems*, of this EIR. As described therein, the project site is located within the Antelope Valley Groundwater Basin; which is under adjudication. The adjudication process for the Antelope Valley Groundwater Basin was completed in 2015 which established a safe yield of 110,000 AFY. Water required for the proposed would be minimal and would be obtained from an existing private supplier with existing water rights, impacts related to water supply would be less than significant and there would be sufficient water supply for other uses in Kern County. The proposed project would require water supply lines and septic systems (one for the O&M building(s)), in order to serve restroom for the estimated 2 full-time equivalent employees that would be on the project site during the operational phase. The septic system would be constructed in accordance with Kern County Public Health Services Department requirements and would treat

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
		sewage and would provide limited recharge to the nearby aquifer. While no offsite sewage or disposal connections to a municipal sewer system exist or are proposed. Portable toilets and hand washing facilities are also proposed; which would be serviced by truck and any resulting wastewater would be disposed of at an approved off-site disposal facility. Final review of the proposed project by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable local, state and federal regulations.
Policy 1: Water supply method and wastewater disposal/treatment facility shall be as required by Kern County.	Consistent.	See Water Quality and Availability, Goal 1, of the Willow Springs Specific Plan, above.
Policy 2: Separate environmental documentation shall be required for the methods of water supply and wastewater disposal/treatment selected.	Consistent.	See Water Quality and Availability, Goal 1, of the Willow Springs Specific Plan, above.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
Measure 4: The individual project applicants shall adhere to the following guidelines as established by the Department of Water Resources for flood damage prevention: -The slope and foundation designs for all structures shall be based on detailed soils and engineering studies.	Consistent with implementation of Mitigation Measure MM 4.9-1.	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 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. As discussed in Section 4.9, *Hydrology and Water Quality*, of this EIR, the proposed project would likely require one or more retention basins to meet County drainage requirement. Consistent with this policy, the proposed project would require the submission of a drainage plan to the County for review and would implement Mitigation Measure MM 4.9-1, which requires a final hydrologic study and drainage plan designed to evaluate and minimize potential increases in runoff from the project site.

Table 4.11-3: Consistency Analysis with Willow Springs Specific Plan for Land Use

Goals and Policies	Consistency Determination	Project Consistency
General Provision		
Goal 9: Fire flow provisions and on-site fire protection standards (i.e., sprinklers/water storage) shall be in compliance with minimum standards provided by the Kern County Fire Department.	Consistent with implementation of Mitigation Measures MM 4.13-1 and MM 4.13-2.	Consistent with this measure, the proposed project would implement Mitigation Measure MM 4.13-1, which would require preparation and implementation of a fire safety plan to ensure the provision of appropriate access. Additionally, the project would implement Mitigation Measure MM 4.13-2, which would require the project to provide a Cumulative Impact Charge (CIC) 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 that the county would otherwise receive for services and facilities.

Section 4.12
Noise

4.12.1 Introduction

This section of the EIR describes the affected environment and regulatory setting for the proposed project and provides an analysis of potential impacts related to noise and groundborne vibration from project implementation. Additionally, mitigation measures to reduce potential noise and vibration impacts are identified, where necessary. The information and analysis in this section is largely based on the *Environmental Noise Assessment* prepared by WJV Acoustics, Inc. (WJVA), located in Appendix J of this EIR (WJVA, 2021).

Noise Fundamentals

An understanding of the physical characteristics of sound is useful for evaluating environmental noise. The methods and metrics used to quantify noise exposure, human response, and relative judgment of loudness are also discussed, and noise levels of common noise environments are presented.

Noise is generally defined as loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity and interferes with or disrupts normal activities. The effects of noise on people can be grouped into four general categories:

- Subjective effects (dissatisfaction, annoyance);
- Interference effects (communication and sleep interference, learning);
- Physiological effects (startle response); and
- Physical effects (hearing loss).

Although exposure to high noise levels has been demonstrated to cause physical (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.

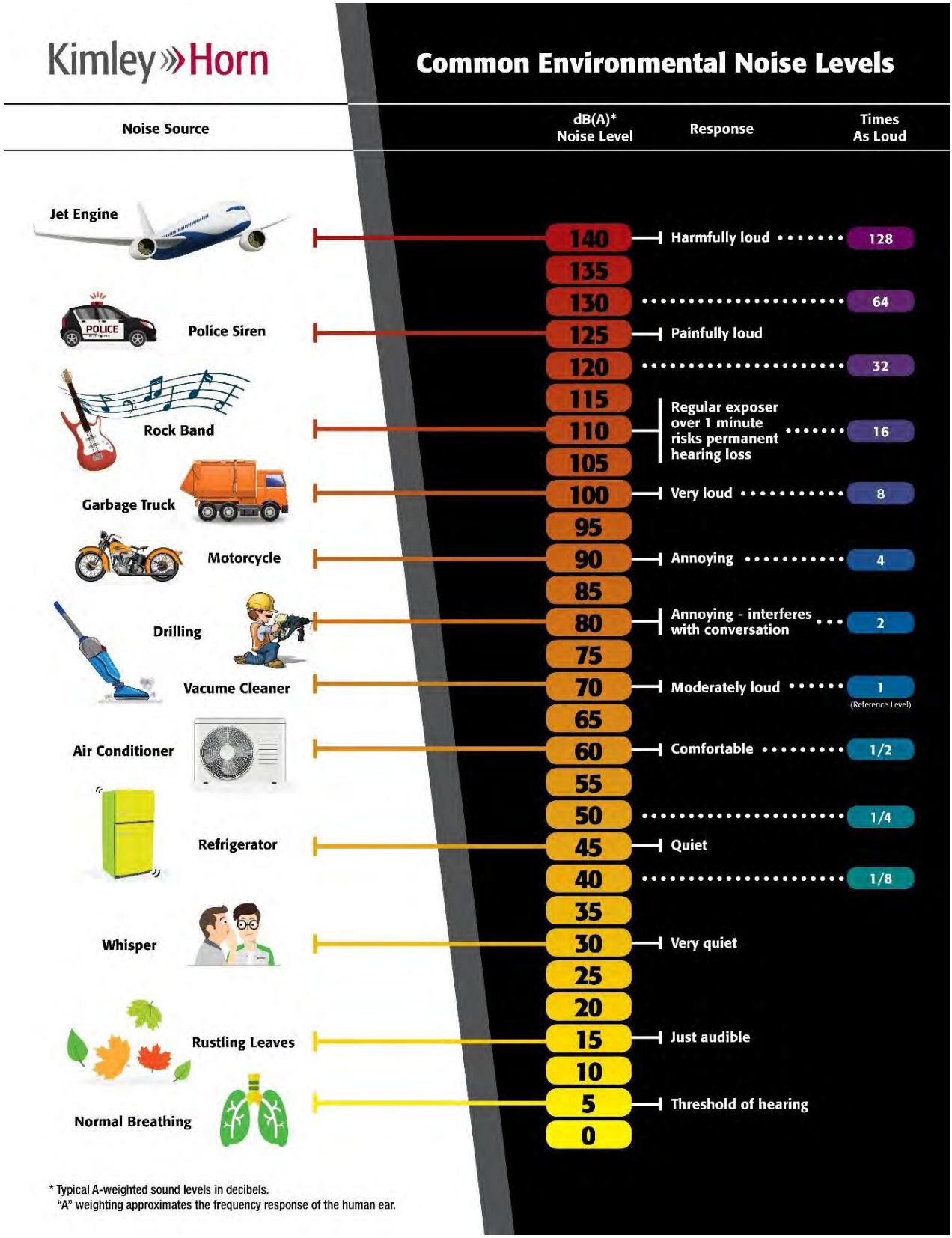
To describe the time-varying character of environmental noise, the statistical or percentile noise descriptors L_{10}, L_{50}, and L_{90} may be used, which represent the noise levels equaled or exceeded during 10 percent, 50 percent, and 90 percent of the measured time interval, respectively. Sound 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 p.m. to 7:00 a.m.). The L_{dn} is the descriptor of choice and used by nearly all federal, State, and local agencies throughout the United States to define acceptable land use compatibility with respect to noise. Within California, the Community Noise Equivalent Level (CNEL) is sometimes used. CNEL is very similar to L_{dn}, except that an additional 5 dBA penalty is applied to the evening hours (7:00 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 4.12-1**, *Common Noise Metrics*. To provide a frame of reference, common sound levels are presented in **Figure 4.12-1**, *Effects of Noise on People*.

Table 4.12-1: 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 (7:00 p.m. to 10:00 p.m.) and a 10 dBA penalty for sleeping hours (10:00 p.m. to 7:00 a.m.).
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 10:00 p.m. and 7:00 a.m.
L_{eq}	Equivalent Noise Level	The average acoustic energy content of noise for a stated period of time. The L_{eq} of a time-varying signal and that of a steady signal are the same if they deliver the same acoustic energy over a given time. The L_{eq} may also be referred to as the average sound level.
L_{max}	Maximum Noise Level	L_{max} represents the maximum instantaneous noise level experienced during a given period of time. It reflects peak operating conditions and addresses the annoying aspects of intermittent noise.
L_{min}	Minimum Noise Level	L_{min} represents the minimum instantaneous noise level experienced during a given period of time. It reflects baseline operating conditions and is commonly referenced as the noise floor.
L_1, L_{10}, L_{50}, L_{90}	Percentile Noise Exceedance Levels	The A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 1%, 10%, 50%, and 90% of a stated time period.



SOURCE: Kimley-Horn, 2021

FIGURE 4.12-1: Effects of Noise on People

Vibration Fundamentals

As described in the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment Manual* (FTA, 2018), groundborne 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, groundborne 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 groundborne 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), measured in inches per second (in/sec), is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe structural vibration impacts to buildings.

The root mean square (RMS) amplitude, measured in decibel notation (VdB), is defined as the average of the squared amplitude of the signal, which is most frequently used to describe human annoyance impacts.

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 a factor of 1.7 to 6 times greater than RMS vibration velocity therefore, the decibel notation acts to compress the range of numbers required to describe vibration (FTA, 2018). The decibel notation acts to compress the range of numbers required to describe vibration. Typically, groundborne 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 groundborne 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. Human annoyance from vibration often occurs when the vibration levels exceed the threshold of perception by only a small margin. However, a vibration level that causes annoyance will be well below the damage thresholds for normal buildings. The FTA measure of the threshold of architectural damage for conventional sensitive structures is 0.2 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 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 for many people (FTA, 2018).

4.12.2 Environmental Setting

Project Location

The proposed project is located in southeastern Kern County, approximately 11 miles west of the unincorporated community of Rosamond, CA in the western portion of the Mojave Desert. The project site is located 7 miles west of SR-14 (Antelope Valley Freeway) and approximately 3.5 miles north of SR-138. The project consists of four CUP Areas collectively referred to as the project site. The project site is located on land which is undeveloped (with the exception of one residence and outbuildings in CUP Area 2 and two non-residential structures in CUP Area 4) and privately-owned:

- CUP Area 1 is generally bordered by 170th Street West on the west, an existing SCE transmission line easement to the south, and undeveloped land to the north and east.
- CUP Area 2 is generally bordered by Holiday Avenue to the South, 140th Street West and undeveloped land to the west, Astoria Avenue, Rosamond Boulevard, and other solar uses to the north, 135th Street, undeveloped land, and solar uses to the east, Rosamond Boulevard, undeveloped land, and solar uses to the south, and 130th Street West, undeveloped land and solar uses to the east.
- CUP Area 3: is generally bordered by Gaskill Road and undeveloped land to the south, 100th Street West, 140th Street West, and undeveloped land to the west, Willow Avenue, Holiday Avenue, and undeveloped land to the north, and 130th Avenue west and undeveloped land to the east.
- CUP Area 4 is split from east to west by Gaskell Road and Kingbird Avenue, and is generally bordered by West Avenue A, undeveloped land and agricultural land to the south, 150th West Street, undeveloped, agricultural and rural residential use to the west, Buckhorn avenue, undeveloped land, and rural residential uses to the north, and 90th West Street, undeveloped land, and rural residential uses to the east.

The project site is generally flat desert vegetation. The area surrounding and in the vicinity of the project site includes open desert, fallow agriculture, active agriculture (irrigated and dry land), low-density residential, transmission infrastructure and renewable energy development.

Existing Noise Environment

The existing noise environment of the project site is characteristic of its location and adjacent noise sources. The proposed project is located approximately 11 miles west of the unincorporated community of Rosamond, CA, and 7 miles west of SR-14 and approximately 3.5 miles north of SR-138. The project site is bounded to some extent by local roadways. The closest airport to the project site is Rosamond Skypark, which is located approximately 9 miles east of the project site. The proposed project is not located within the boundaries of an Airport Influence Area, as identified in the Kern County Airport Land Use Compatibility Plan (ALUCP) (County of Kern, 2012). Therefore, the existing noise environment in the project area is defined primarily by vehicular traffic on area roadways, residential land uses, intermittent small aircraft overflights, and bird vocalizations. Daytime ambient noise levels would be anticipated to be generally characteristic of rural areas.

To characterize ambient noise levels in the vicinity of the project site, seven noise measurements, three long-term and four short-term noise measurements, were conducted by WJV Acoustics, Inc.

on Wednesday and Thursday, April 20–21, 2021, in proximity to the project site (WJVA, 2021), as shown on **Figure 4.12-2**, *Noise Measurement Locations*. the measured ambient daytime noise levels ranged from approximately 44.3 to 58.8 dBA L_{eq}.

Table 4.12-2: Ambient Noise Level Measurements

Noise Measurement Number	Time	Equivalent Noise Level (dBA L_{eq})
ST1	12:20 p.m.	44.3
ST2	12:55 p.m.	54.6
ST3	1:30 p.m.	58.8

The sound-level measurements were conducted using American National Standard Institute (ANSI) Type I sound level meters. Measurements were collected for approximately 15-minutes at each short-term measurement location and for approximately 24 hours at each long-term measurement location. Measurement details are included in the *Environmental Noise Assessment* (WJVA, 2021) located in Appendix J of this EIR.

Noise-Sensitive Receptors

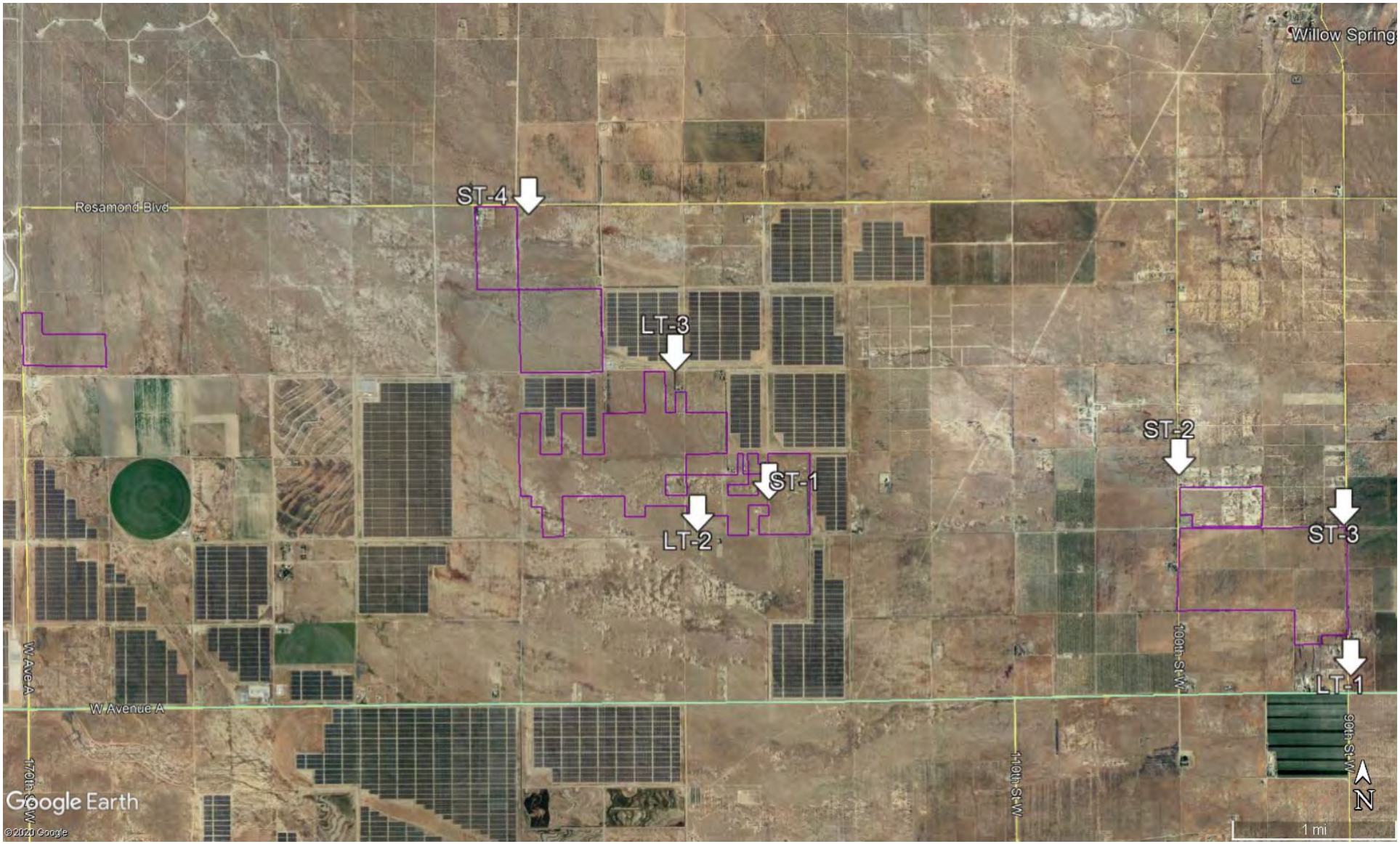
The noise-sensitive receptors in proximity to the project site consist primarily of rural single-family residences, as listed in **Table 4.12-3**, *Noise-Sensitive Receptors*, and shown in **Figure 4.12-3**, *Noise-Sensitive Receptor Locations*. The off-site noise-sensitive receptors nearest to the project site are sensitive receptors numbers 3,4, and 8 located approximately 100 feet from the project site.

Table 4.12-3: Noise-Sensitive Receptor Locations

Type	CUP Area	Sensitive Receptor Number	Distance from Project Site (feet)[a]	Direction from Project Site
Rural Residential (very low density)	2	1	470	North
		2	250	East
	3	3	100	North, east, south, west
		4	100	North, west
		5	200	East, west, south
		6	200	North
	4	7	250	West
		8	100	North
		9	265	South

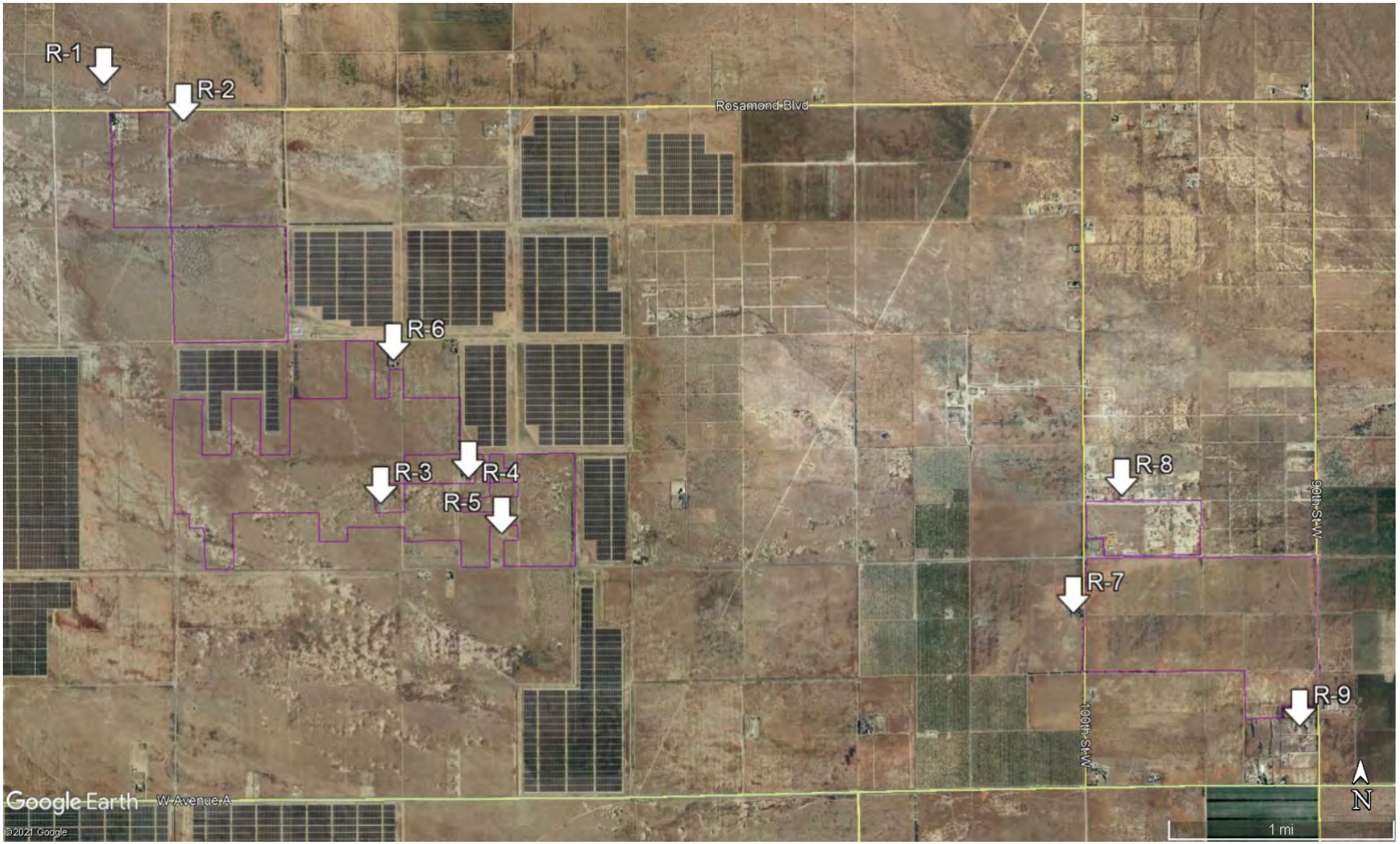
NOTES:

[a] Distances are measured from the exterior of the project site boundary only and not from individual construction areas within the interior of the project site.



SOURCE: Quad Knopf, Inc. 2021

FIGURE 4.12-2: Noise Measurement Locations



SOURCE: Quad Knopf Inc. 2021

FIGURE 4.12-3: Noise Sensitive Receptor Locations

SCE Interconnection Facilities

The SCE property is improved with the existing Whirlwind power station and has similar surroundings and settings as the project site.

4.12.3 Regulatory Setting

Federal

Noise Control Act of 1972

The Noise Control Act of 1972 (42 USC 4910) establishes a national policy to promote an environment for all Americans to be free from noise that jeopardizes their health and welfare. 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 the noise-emission and noise-reduction characteristics of such products to the public.

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 Health and Welfare with an Adequate Margin of Safety (USEPA, 1974), commonly referenced as the "Levels Document," that establishes an L_{dn} of 55 dBA, as the requisite level, with an adequate margin of safety, for areas of outdoor uses, including residences and recreation areas. The Levels Document does not constitute USEPA regulations or standards, but identifies safe levels of environmental noise exposure without consideration of technical or economic feasibility for achieving these levels or other potentially relevant considerations.

Federal Energy Regulatory Commission, Noise Guidelines

Federal Energy Regulatory Commission (FERC) *Noise Guidelines on Noise Emissions from Compressor Stations, Substations, and Transmission Lines* (18 CFR 157.206(d)5), require that the noise attributable to any new compressor stations, compression added to an existing station, or any modification, upgrade, or update of an existing station must not exceed a L_{dn} of 55 dBA at any pre-existing noise-sensitive area (such as schools, hospitals, or residences). This policy was adopted based on the USEPA-identified level of significance of 55 dBA L_{dn}.

Federal Highway Administration Noise Abatement Procedures (23 CFR Part 772)

The purpose of 23 CFR Part 772 is to provide procedures for noise studies and noise abatement measures to help protect the public health and welfare, supply noise abatement criteria, and establish requirements for information to be given to local officials for use in the planning and design of highways. It establishes five categories of noise-sensitive receptors and prescribes the use of the hourly L_{eq} as the criterion metric for evaluating traffic noise impacts.

Department of Housing and Urban Development, Environmental Standards

The Department of Housing and Urban Development (HUD) regulations (24 CFR Part 51) set forth the following exterior noise standards for new home construction, assisted or supported by HUD:

- 65 L_{dn} or less – Acceptable
- > 65 L_{dn} and < 75 L_{dn} – Normally unacceptable, appropriate sound attenuation measures must be provided
- > 75 L_{dn} – Unacceptable

HUD's regulations do not contain standards for interior noise levels. Rather, a goal of 45 dBA L_{dn} is set forth, and attenuation requirements are geared to achieve that goal.

Occupational Safety and Health Administration, Occupational Noise Exposure

Occupational Safety and Health Administration (OHSA), *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 $L_{eq(8)}$. The Hearing Conservation Program requirements consist of periodic area and personal noise monitoring, performance and evaluation of audiograms, provision of hearing protection, annual employee training, and record keeping.

State

The State requires all municipalities to prepare and adopt a comprehensive long-range general plan. General plans must contain a noise element (California Government Code Section 65302(f) and Section 46050.1 of the Health Safety Code). The requirements for the noise element of the general plan include describing the noise environment quantitatively using a cumulative noise metric such as CNEL or DNL, establishing noise/land use compatibility criteria, and establishing programs for achieving and/or maintaining land use compatibility. Noise elements should address all major noise sources in the community, including mobile and stationary noise sources. In California, most cities and counties have also adopted noise ordinances which serve as enforcement mechanisms for controlling noise.

The 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.

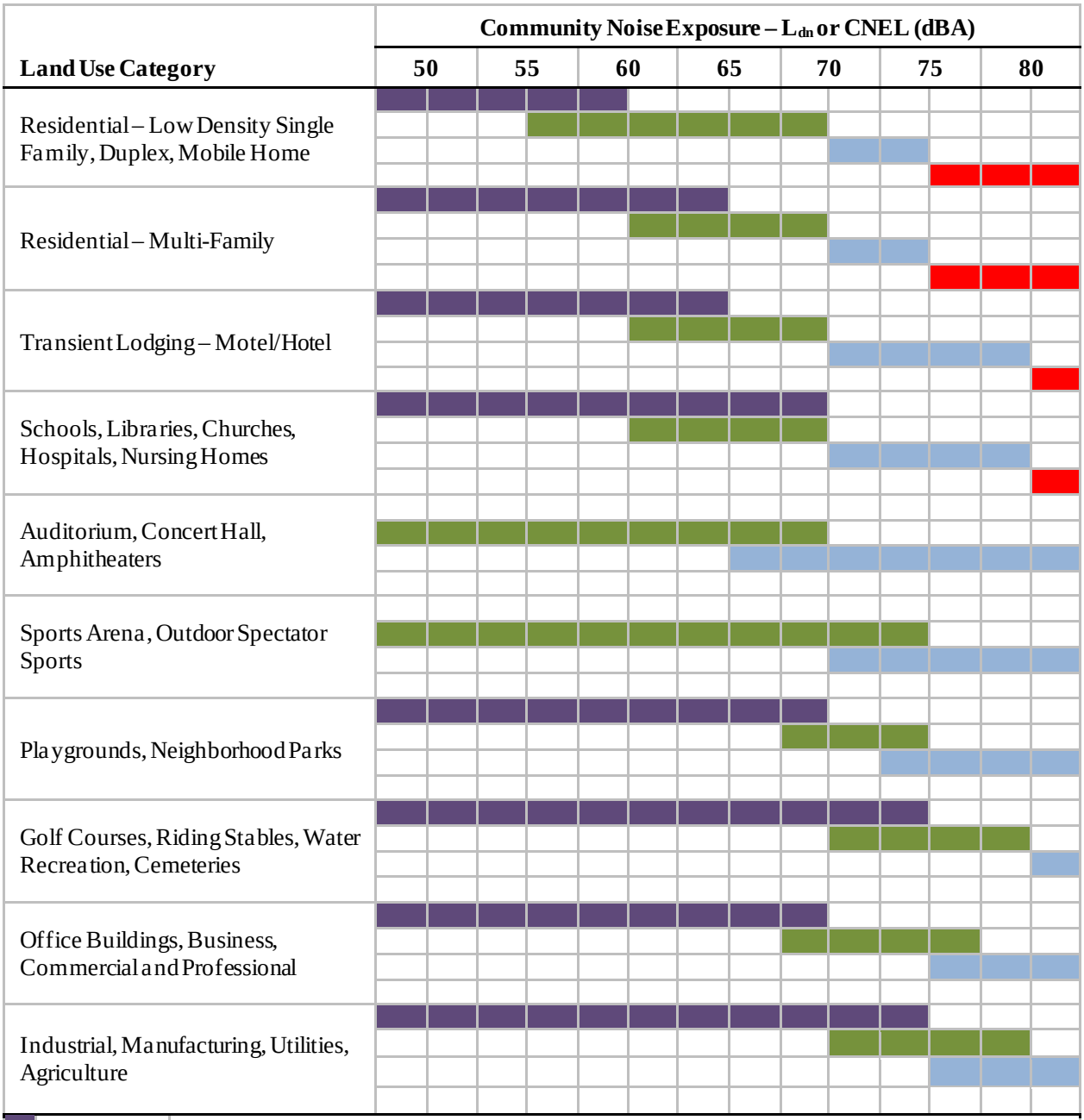
The land use compatibility for community noise environment chart identifies the normally acceptable range for several different land uses, as shown in **Figure 4.12-4**, *Land Use Compatibility for Community Noise Environment*. Persons in low-density residential settings are most sensitive to noise intrusion, 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.

CEQA Guidelines (PRC Section 21000 et seq.) requires the identification of "significant" environmental impacts and their feasible mitigation. Section XI of *CEQA Guidelines* Appendix G (CCR Title 14, Appendix G) lists some indicators of potentially significant impacts, which are included below under the heading "Thresholds of Significance."

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.

FIGURE 4.12-4: LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENT



Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements
Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.
Clearly Unacceptable	New construction or development generally should not be undertaken.

SOURCE: State of California, Governor's Office of Planning and Research, 2003.

Local

Kern County General Plan

The Noise Element of the Kern County General Plan (County of Kern, 2009) provides goals, policies, and implementation measures applicable to noise, which, as related to the project, are provided below. The major purpose of the County's Noise Element is to establish reasonable standards for maximum noise levels desired in Kern County, and to develop an implementation program which could effectively mitigate potential noise problems and not subject residential or other sensitive noise land uses to exterior noise levels in excess of 65 dBA L_{dn}, and interior noise levels in excess of 45 dBA L_{dn}. In accordance with the Energy Element, Policy 10, of the General Plan, the County may also require the preparation of an acoustical analysis for energy project proposals that might impact sensitive and highly-sensitive uses. Applicable goals, policies, and implementation measures from the County's General Plan that are relevant to the proposed project are summarized below.

Chapter 3. Noise Element

3.3 Sensitive Noise Areas

Goals

Goal 1: Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.

Goal 2: Protect the economic base of Kern County by preventing the encroachment of incompatible land uses near known noise producing roadways, industries, railroads, airports, oil and gas extraction, and other sources.

Policies

Policy 1: Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses,

Policy 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.

Willow Springs Specific Plan

The project site is subject to the provisions of the Willow Springs Specific Plan (WSSP), which 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 Willow Springs Area. The noise-related policies and measures contained in the WSSP that are applicable to the project are outlined below (Kern County Department of Planning and Development Services 2008). The WSSP limits operational nighttime and daytime noise levels to 45 dBA L_{50} and 55 dBA L_{50}, respectively near sensitive land uses, which includes residential uses. Additionally, the average-daily noise levels near sensitive land uses are limited to 65 dBA L_{dn}/CNEL. Construction activities would be conducted consistent with Kern County Ordinance Section 8.36.020 regarding hours of construction or as approved by Kern County.

Noise Element

Goals

Goal 2: To minimize disruption to the quality of life resulting from excessive noise.

Goal 3: To maintain reasonable noise level standards, consistent with the Kern County Noise Element.

Policies

Policy 1: Noise emissions from new development will be controlled and off-site levels limited to the standards of the Kern County General Plan Noise Element.

Policy 3: Land uses will be categorized in the following manner, and the noise level standards adopted in accordance with the Kern County Noise Element:

- **Insensitive Land Uses.** Noise level does not affect the successful operation of these particular activities. A wide variety of uses can be included in this category, including public utilities, transportation systems, and other noise-related uses.
- **Moderately Sensitive Land Uses.** Some degree of noise control must be present if these activities are to be successfully carried out. Included here are general business and recreational uses.
- **Sensitive Uses.** Lack of noise control will severely impact these uses, reducing the quality of life. This category primarily contains residential uses.
- **Highly Sensitive Uses.** A high degree of noise control is necessary for the successful operation of these activities. Examples include hospitals and churches.

Mitigation/Implementation Measures

Measure 2: The implementation measures of the Kern County Noise Element are hereby adopted by reference.

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.

Chapter 8.36 of the Kern County Code of Ordinances also addresses noise issues, including acceptable hours of construction, and limitations on construction-related noise impacts on adjacent

sensitive receptors. Noise producing 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 p.m. to 6:00 a.m. on weekdays, and 9:00 p.m. to 8:00 a.m. on weekends. However, 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.
2. Emergency work is exempt from this section.

Groundborne Vibration

There are currently no federal, State, or local regulatory standards for groundborne vibration. However, the California Department of Transportation (Caltrans) has developed vibration criteria based on potential structural damage risks and human annoyance. While the proposed project would not be subject to Caltrans oversight, guidance by the agency nonetheless provides groundborne vibration criteria that are useful in establishing thresholds of impact. Caltrans' threshold criteria pertaining to building damage and human annoyance for continuous and transient events are summarized in **Table 4.12-4**, *Vibration Criteria for Structural Damage*, and **Table 4.12-5**, *Vibration Criteria for Human Annoyance*, respectively below.

As indicated in **Table 4.12-4**, *Vibration Criteria for Structural Damage*, the structural damage threshold, at which there is a risk to normal structures from continuous or frequent vibration sources, is 0.3 in/sec PPV for older residential structures and 0.5 in/sec PPV for newer building construction. The 0.5 in/sec PPV threshold also represents the structural damage threshold applied to older structures for transient vibration sources. With regard to human perception (refer to Table 4.12-5), 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.

Table 4.12-4: Vibration Criteria for Structural Damage

	Vibration Level (in/sec PPV)	
Structure and Condition	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
Newer residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

NOTES:

Transient sources create a single isolated vibration event, such as blasting or ball drops. Traffic, train, and most construction vibrations are considered continuous.
in/sec ppv = inches per second peak particle velocity

SOURCE: Caltrans, 2013.

Table 4.12-4: Vibration Criteria for Structural Damage

Structure and Condition	Vibration Level (in/sec PPV)	
	Transient Sources	Continuous/Frequent Intermittent Sources

Table 4.12-5: Vibration Criteria for Human Annoyance

Human Response	Vibration Level (in/sec PPV)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.1
Annoying to people in buildings	—	0.2
Severe	2.0	0.4

NOTES:
Transient sources create a single isolated vibration event, such as blasting or ball drops. Traffic, train, and most construction vibrations are considered continuous.
in/sec ppv = inches per second peak particle velocity
— = not available.

SOURCE: Caltrans, 2013.

4.12.4 Impacts and Mitigation Measures

Methodology

Noise impacts associated with the proposed project were assessed in this section based primarily on the *Environmental Noise Assessment* for the proposed project (Appendix J). Potential significant impacts associated with the project were evaluated on a quantitative and 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 draft EIR.

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 U.S. Department of Transportation, Federal Highway Administration's (FHWA) Roadway Construction Noise Model (version 1.1) and representative data obtained from similar construction projects. Construction noise levels were predicted assuming an average noise attenuation rate of 6 dB per doubling of distance from the source.

Long-Term Operational Stationary-Source Noise

Predicted noise levels associated with on-site stationary noise sources and activities were calculated based on representative data obtained from existing literature and noise assessments prepared for similar projects. Operational noise levels were predicted assuming an average noise-attenuation rate of 6 dB per doubling of distance from the source. Operational noise levels were calculated at the project site property lines and nearby land uses for comparison to the County noise standards.

Construction Groundborne Vibration

Groundborne vibration levels associated with construction-related activities were evaluated utilizing typical groundborne vibration levels rates associated with construction equipment, obtained from the Caltrans Transportation and Construction Vibration Guidance Manual (CalTrans, 2020). Groundborne 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 4.12-4 and Table 4.12-5).

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 the adjacent off-site 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 groundborne vibration or groundborne 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.

Effects Found Not to be Significant

d. The project is not located within the Kern County Airport Land Use Compatibility Plan and would not expose people residing or working in the area to excessive noise levels.

The project site is not located within the Kern County ALUCP. The nearest airports to the project sites are the privately owned Rosamond Skypark approximately 9 miles to the north east, the Mojave Air and Space Port approximately 25 miles to the northeast, and the Mountain Valley

Airport approximately 25 miles to the north. The nearest public airport to the project site is Palmdale Regional Airport located approximately 18 miles southeast of the project site. Implementation of the proposed project is not anticipated to expose people residing or working in the area to excessive noise levels. Therefore, further analysis of this impact in the EIR is not warranted

Substantial Temporary or Permanent Ambient Noise Increase in Excess of Standards

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 p.m. and 6:00 a.m. on weekdays and 9:00 p.m. and 8:00 a.m. on weekends. However, as previously stipulated, 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. Given that a 5 dBA change in the community noise environment is considered to be readily perceptible by the human ear, construction activities occurring outside of the acceptable construction hours established by the County that increases the ambient noise levels at a noise-sensitive land use by 5 dBA or more is considered to be a violation of the County's construction noise regulations, provided the construction site is within 1,000 feet of an occupied residential building.

For operational noise, the Kern County General Plan Noise Element requires that 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}. Additionally, the WSSP further identifies both daytime and nighttime noise standards for land uses in the WSSP area. For sensitive land uses, which include residential uses, the WSSP has established operational noise limitations of 55 dBA L_{50} during the daytime hours and 45 dBA L_{50} during the nighttime hours. The WSSP also identifies an average daily (24-hour) noise level limit of 65 dBA L_{dn}/CNEL for residential uses, which is consistent with the Kern County General Plan Noise Element. Therefore, in assessing the potential noise impacts resulting from the proposed project's use of stationary operational equipment, the nearby noise-sensitive land uses that are within the WSSP area are evaluated based on the daytime and nighttime noise level limitations established by the WSSP, while the nearby noise-sensitive land uses that are outside of the WSSP area are evaluated based on the County's average daily noise level limit of 65 dBA L_{dn}. As such, operational noise impacts from stationary equipment are assessed by determining if the proposed project would result in a substantial increase in ambient noise levels that would exceed the applicable County and WSSP noise standards at the outdoor activity area of the nearest noise-sensitive land use.

Generation of Excessive Groundborne Vibration

For the purposes of assessing potential groundborne vibration impacts associated with the proposed project, Caltrans's vibration criteria for potential structural damage risks and human annoyance was used in this analysis. Accordingly, groundborne vibration levels would be considered significant if predicted short-term construction or long-term operational groundborne vibration

levels attributable to the proposed project would exceed the recommended criteria for structural damage or human annoyance (i.e., 0.25 and 0.1 in/sec PPV, respectively) at the nearest off-site existing structure (refer to Table 4.12-4 and Table 4.12-5). These thresholds are considered to represent a conservative level at which construction-related activities would result in either 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 groundborne vibration.

Project Impacts

Impact 4.12-1: The project would result in generation of a substantial temporary or permanent increase in the ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies.

The noise-sensitive receptors in proximity to the project site are residences located within 1,000 feet of any of the project site boundaries, as shown in bold in **Table 4.12-3**, *Noise-Sensitive Receptors,* and Figure 4.12-3. The 1,000-foot distance was chosen for the analysis because the Kern County Noise Ordinance limits hours of construction for projects located within 1,000 feet of an occupied residential dwelling. There are total of 9 residences located within the 1,000-foot distance of the project site. Residences are located approximately 470 feet to the north and 250 feet to the east of CUP Area 2; 100 and 200 feet to the north, east, south, and west of CUP Area 3; and approximately 250 feet west, 100 feet north, and 265 feet south of CUP Area 4. There are no other sensitive noise receptors, such as schools, hospitals, rest homes, long-term care and mental care facilities, churches, libraries, and parks, found within the 1,000-foot distance of the boundaries of the project site.

Construction Noise

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. 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.

Project construction would generate noise during the operation of heavy-duty construction equipment, such as a crane, excavator, grader, roller, scraper, tractor/loader/backhoe, and trencher. Typical maximum noise levels generated by individual pieces of construction equipment proposed to be used for project construction are summarized in **Table 4.12-6**, *Estimated Construction Equipment Noise Levels.*

Table 4.12-6: Estimated Construction Equipment Noise Levels

	Individual Equipment Noise Levels (dBA)[a]		
Type of Equipment	**100 Ft.**	**300 Ft.**	**500 Ft.**
Backhoe	72	62	58
Compactor (ground)	77	67	63
Compressor (air)	72	62	58
Concrete Batch Plant	77	67	63
Concrete Mixer Truck	73	63	59
Concrete Saw	84	74	70
Crane	75	65	61
Dozer	76	66	62
Dump Truck	70	60	56
Flat Bed Truck	68	58	54
Excavator	75	65	61
Front End Loader	73	63	59
Generator	75	65	61
Grader	79	69	65
Impact or Vibratory Pile Driver	95	85	81
Jackhammer	83	73	69
Paver	71	61	57
Pneumatic Tools	79	69	65
Pumps	75	65	61
Rollers	74	64	60
Tractor	78	68	64

[a] Based on estimated major noise-generating construction equipment. Not all equipment may be represented.
SOURCE: FHWA 2006.

As shown in **Table 4.12-6**, *Estimated Construction Equipment Noise Levels,* the highest noise level from the proposed construction equipment is estimated to be approximately 95 dBA at 100 feet, 85 dBA at 300 feet, and 81 dBA at 500 feet. Assuming a conservative scenario where all construction equipment per activity would be operating simultaneously and in the same location, construction noise levels for the noisiest equipment (impact or vibratory pile driver) could reach up to approximately 95 dBA L_{eq} at 100 feet, 85 dBA at 300 feet, and 81 dBA at 500 feet from the source.

Assuming that all four CUP Areas would be constructed simultaneously, the combined effect of construction activities within the project site may expose sensitive receptors (residential uses) to further increased noise levels. However, most residential uses in the project area would only be exposed to construction noise from the nearest CUP Area due to their location and distance from the other CUP Areas. Additionally, the Kern County General Plan and Noise Ordinance does not set a quantitative noise level limit or threshold for temporary construction activities; therefore, project construction-generated noise levels would not conflict with noise standards established in local land use plans. As such, construction of the project would not result in a substantial temporary increase in ambient noise levels in excess of local noise standards.

Additionally, the Kern County Noise Control Ordinance does limit construction hours of the day for noise-generating construction activities that are audible at 150 feet from the construction site, if construction occurs within 1,000 feet of an occupied residential dwelling. In such instances and with the exception of emergency work or County-approved work, construction activities would 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. However, as previously stipulated, 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. These construction hour limitations would apply to the proposed project, and compliance with these hourly restrictions would substantially decrease levels of annoyance and potential sleep disruption to occupants of nearby residential dwellings. Construction within 1,000 feet of a residential dwelling would occur in compliance with the Kern County Noise Ordinance.

As shown in **Table 4.12-6**, *Estimated Construction Equipment Noise Levels* construction noise levels would result in a temporary increase ambient noise levels at nearby sensitive receptors listed in **Table 4.12-3**, *Noise-Sensitive Receptors* compared to existing conditions. However, implementation of noise reduction measures MM 4.12-1 through MM 4.12-3 would minimize noise effects generated by the project by limiting and/or reducing potential construction noise during construction, as well as providing notice to nearby residents of construction activities and a contact number for noise complaints. Because construction of the proposed project would also comply with the hourly limitations identified in the County's noise-control ordinance, impacts would be less than significant.

Operational Noise

Once construction has been completed, noise generated by project operations would mostly occur from the on-site operation of transformers, inverters, shared substations, and power conversion stations. Once fully operational, the proposed project would operate for seven days a week on a regular basis. Additionally, because the proposed project may employ fixed-tilt or tracker technology, and may include either horizontal single-axis tracker (HSAT) systems or dual-axis tracker (DAT) systems in order to orient the solar panels toward the sun, the operation of the electrical motors used to power the HSATs and/or DATs would generate intermittent noise levels. As low background noise levels exist, corona discharge (defined as the electrical breakdown of the air into charged particles, often resulting in audible noise) could also be potentially detectable in the proposed vicinity of the transmission lines, more so during high humidity conditions. Furthermore, additional operational noise sources would also include on-site vehicle operations and intermittent maintenance activities.

Estimated operational noise levels at studied sensitive receptors have been determined based on their respective nearest distance to each of the project's applicable noise sources. Operational noise levels were evaluated to determine whether they would comply with applicable thresholds established by Kern County and the WSSP. The operational noise level exposure for sensitive receptors from project components is summarized in **Table 4.12-7**, *Summary of Project-Related Noise Levels at Receptor Locations.*

Table 4.12-7: Summary of Project-Related Noise Levels at Receptor Locations

Sensitive Receptor	Noise from Project Operation (dBA)			Noise Standards		Does Project Noise Exceed Noise Standards?
	PV Inverter	Substation	BESS	WSSP (dBA L_{50})	Kern County (dBA L_{dn})	
R-1	27	11	12	28	34	No
R-2	28	12	24	30	36	No
R-3	30	12	24	31	37	No
R-4	28	9	21	29	35	No
R-5	29	8	20	30	36	No
R-6	34	11	24	34	40	No
R-7	32	25	39	40	46	No
R-8	33	19	31	35	41	No
R-9	30	10	22	31	37	No

Source: WJV Acoustics, Inc.

As shown in **Table 4.12-7**, *Summary of Project-Related Noise Levels at Receptor Locations*, the project would not result in noise in excess of either the WSSP standard or the Kern County standard. As such, the project would not result in a substantial permanent increase in ambient noise levels noise levels in excess of local noise standards.

Project Decommissioning

At such time the proposed project is decommissioned, equipment operation and site restoration activities would result in a temporary increase in ambient noise levels in the project area. 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. Similar to the construction noise analysis above, decommissioning of project would result in potentially increased noise levels compared to existing conditions. Therefore, it is recommended that noise reduction measures MM 4.12-1 through 4.12-3 be implemented during decommissioning activities to reduce temporary noise levels at off-site receptors.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. The nearest sensitive receptor is approximately 3,500 feet away from the station. These facilities would not result in generation of a substantial temporary or permanent increase in the ambient noise levels in the vicinity.

Mitigation Measures

MM 4.12-1: 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. 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 and laydown areas shall be located at the furthest practical distance from nearby residential land uses. To the extent possible, staging and laydown areas should be located at least 500 feet from existing residential dwellings.

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. On-site 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 4.12-2: Prior to the issuance of grading permits, a "noise disturbance coordinator" shall be established. The project operator shall submit evidence of methods of implementation and shall continuously comply with the following during construction: The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures such that the complaint is resolved.

MM 4.12-3: Prior to the issuance of grading permits, the project operator shall submit evidence of the following: Construction contracts shall specify that notices shall be sent out to all residences within 1,000 feet of the construction areas at least 15 days prior to commencement of construction. The notices shall include the construction's schedule and a telephone number where complaints can be registered with the noise disturbance coordinator. A sign legible at a distance of 50 feet shall also be

posted at the construction site throughout construction, which includes the same details as the notices.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.12-1 through MM 4.12-3 impacts would be less than significant with mitigation incorporated for the project. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Impact 4.12-2: The project would generate excessive groundborne vibration or groundborne noise levels.

In addition to noise, groundborne vibration and groundborne 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 groundborne vibration and/or groundborne 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 groundborne vibration levels, which decrease rapidly with distance. Caltrans has published standard vibration velocities for construction equipment operations. Vibration levels typically associated with construction equipment are summarized in **Table 4.12-9**, *Representative Vibration Source Levels for Construction Equipment*.

Construction

As shown in **Table 4.12-9**, *Representative Vibration Source Levels for Construction Equipment,* the maximum groundborne 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 is conservatively approximated as pile driving. Post driving would only occur during construction of the PV modules on-site. 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. Therefore, no sources of groundborne 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 groundborne vibration levels. Groundborne vibration impacts resulting from project construction would be less than significant.

Table 4.12-9: 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 Transportation and Construction Vibration Guidance Manual

Operation

The operation of the proposed project 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 over 100 feet from the project site boundaries. Due to distance attenuation from these sources to the surrounding sensitive receptors, the vibration effect of the operation of the proposed project would be minimal. Therefore, groundborne 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's construction activities. Therefore, decommissioning of the project would result in unnoticeable vibration levels at off-site receptors.

Therefore, groundborne vibration impacts resulting from project construction, operation and decommissioning would be less than significant.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. These facilities would not generate excessive groundborne vibration or groundborne noise levels.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project and SCE Interconnection Facilities.

Impact 4.12-3: The project would result in 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 on-site operation of transformers, inverters, 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 on-site vehicle operations and intermittent maintenance activities.

As discussed in Impact 4.12-1, the operation and maintenance activities associated with the proposed project would result in nominal noise impacts to surrounding sensitive receptors. As shown in **Table 4.12-7** *Summary of Project-Related Noise Levels at Receptor Locations*, noise levels from project operation would not exceed the standards established by Kern County. Additionally, as shown in **Table 4.12-2**, *Ambient Noise Level Measurements*, the existing ambient noise at the project site ranges from 44.3 L_{eq} to 58.8 $L_{eq.}$ The maximum operational noise from the proposed project would be 39 dBA at sensitive receptor R-7 from operation of the BESS. This noise level would not exceed the existing ambient noise for the project site. Therefore, project operation would not cause the ambient noise level measured at the property line of affected uses to increase by 5 dBA or greater.

Project operations would require up to 2 FTE personnel (or personnel hours totaling 2 FTE positions) consisting of plant operators and maintenance technicians to manage and operate the proposed project. The FTE staff would conduct routine visits for panel cleaning and repairs; panel washing could be done one or two times per year. Limited deliveries would be necessary for replacement PV modules and equipment during project operation. These activities are not expected to occur on a daily basis and would not generate a significant amount of traffic or create a substantial increase of vehicular noise in the area. Any increase in traffic would be minimal and sporadic; therefore, impacts from vehicular noise would be minimal.

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 are less than significant.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. These facilities would not result in a substantial permanent increase in ambient noise levels.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project and SCE Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

As described in Section 3.9, *Cumulative Projects*, and listed in **Table 3-4**, *Cumulative Projects List*, there are a total of 16 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 (i.e., within approximately 1,000 feet per Chapter 8.36 of Kern County Code of Ordinances (County of Kern, 2010)) of the project site.

The proposed project's construction activities, in combination with the construction of other reasonably foreseeable projects in the area could result in increased short-term construction noise levels in the project area (depending upon the specific timing of the construction of those other projects and proximity to the project site). Construction activities associated with other projects in proximity to the project site could occur at the same time as the proposed project. Implementation of mitigation measures MM 4.12-1 through MM 4.12-3 would reduce and minimize construction noise levels; noise levels would be less than significant level on a project level basis.

The Kern County Code of Ordinances (Chapter 8.36 – Noise Control) establishes hours of construction and limitations on construction-related noise impacts on adjacent sensitive receptors; noise producing 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 p.m. to 6:00 a.m. on weekdays, and 9:00 p.m. to 8:00 a.m. on weekends. Such noise producing construction activities occurring outside of these acceptable construction hours is considered to be a violation of the County's noise control ordinance. However, as previously stipulated, 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. Implementation of mitigation measures MM 4.12-1 through MM 4.12-3 would reduce and minimize construction noise levels and ensure the project's consistency with the County's noise control ordinance; noise levels would be less than significant on a project level basis. Construction activities associated with other projects in proximity to the project site similarly would be subject to the County's noise control ordinance. As a result, construction of the proposed project would not result in a cumulatively considerable contribution to noise impacts at residences located within approximately 1,000 feet of the project site. At receptor locations further than 1,000 feet from the project site, project-generated construction noise would diminish to near ambient levels and would not result in a cumulatively considerable contribution to construction noise levels associated with other construction projects. 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.

Cumulative construction may also result in the exposure of people to or the generation of excessive groundborne vibration. The same receptor as identified for construction noise would be the closest to be impacted by all projects with respect to construction related vibration as well. Due to these distances, and the rapid attenuation of groundborne vibration, the project and the nearest related

project are not in close enough proximity to this sensitive receptor such that any sensitive receptor would be exposed to substantial groundborne vibration levels. Construction of the collection lines, and decommissioning activities would result in similar noise and vibration levels identified for the construction of the proposed project. Therefore, cumulative impact in terms of groundborne vibration would be less than significant.

With respect to operational noise, as discussed for cumulative construction noise, there are several projects located within 1 mile of the project site including other solar facilities. As discussed under Impact 4.12-4, the maximum operational noise level of 39 dBA at the nearest receptor (R-7) would be much lower than the County's 65 dBA L_{dn} exterior noise standard for residential use. As such, cumulative impacts associated with operational noise from the proposed project and cumulative projects are anticipated to be negligible at sensitive receptors. During operation, the gen-tie 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 groundborne vibration. However, since operation of the proposed project and related projects would involve operational traffic, including O&M 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 adjacent off-site sensitive receivers. 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.

SCE Interconnection Facilities

The SCE property is already developed with an electrical substation. The addition of the SCE Interconnection Facilities would develop improvements and new interconnection-related components such as additional control equipment on property that is already developed with electrical transmission facilities. The SCE Interconnection Facilities would not result in cumulative noise impacts.

Mitigation Measures

Implement Mitigation Measures MM 4.12-1 through MM 4.12-3.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.12-1 through MM 4.12-3, cumulative impacts would be less than significant for the project. Cumulative impacts would be less than significant for the SCE Interconnection Facilities, and no mitigation would be required for the SCE Interconnection Facilities.

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Section 4.13
Public Service

4.13.1 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 the potential impacts on public services that would result from implementation of the project and the mitigation measures to reduce these potential impacts. Information for this section was taken from numerous publicly available sources, including websites, databases, and service agency plans.

4.13.2 Environmental Setting

Fire Protection

The Kern County Fire Department (KCFD) provides primary fire protection services, fire prevention, emergency medical, and rescue services to more approximately 839,631 people in unincorporated areas of Kern County and nine incorporated cities (i.e., the cities of Arvin, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco). KCFD operates 47 full-time fire stations within 7 battalions and is equipped with 55 fire engines, 4 ladder trucks, 41 patrol vehicles, 25 command vehicles, 21 reserve engines and patrols, 6 dozers, 2 helicopters, 2 hazardous material response teams, and other ancillary vehicles and equipment. KCFD is staffed with 625 permanent employees, which includes 546 uniformed firefighters (KCFD, 2021). KCFD has experienced several budget and staffing cuts in recent years but was approved for a new budget by the Kern Board of Supervisors on August 25, 2020, granting the fire department funds to continue protecting the community (23ABC News, 2020a). Additionally, KCFD was awarded 2.9 million dollars by the Federal Emergency Management Agency (FEMA) from the Assistance to Firefighters Grant for critically needed equipment (23ABC News, 2020b).

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 consists of eight stations (KCFD, 2018) and covers 951,600 acres of which 351,276 acres is State Responsibility Area (SRA) land area, which the California Department of Forestry and Fire Protection (CAL FIRE) has a legal responsibility to provide fire protection for this SRA land area. The SRA land area is bounded by the Mojave Desert on the east, the Tehachapi Mountains in the center, and the Central Valley to the west. The California Department of Forestry and Fire Protection (CalFire) publishes Fire Hazards Severity Zone Maps for the State Responsibility Areas (SRA), however the project site is not located within a State Responsibility Area. The project site is located in a local responsibility area (LRA) for which the County of Kern is responsible for providing fire protection. The CalFire LRA maps show the project within two LRA Fire Severity Zones: (a) LRA moderate and (b) LRA unzoned. (See **Figure 4.18-1**, *Fire Hazard Severity Zones for Local Responsibility Areas* and **Figure 4.18-2**, *Fire Hazard Severity Zones for State Responsibility Areas*, located in Section 4.18, *Wildfire*, of this EIR).

Fire Station No. 15 (Rosamond), located at 3219 35th Street West, is approximately 11 miles to the east of the project site and would be the primary responder to a fire or emergency at the project site. In the event of a major fire or when short-staffed, other stations would be called on to respond, as necessary, including Fire Station No. 14 (Mojave), located at 1953 State Highway 58, Fire Station No. 12 (Tehachapi), located at 800 South Curry Street, and Fire Station No. 13 (Tehachapi), located at 21415 Reeves Street. Information on the three closest fire stations to the project site is included in **Table 4.13-1**, *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, 2017).

Table 4.13-1: List of Nearby Fire Stations

Agency	Facility	Address	Approximate Distance from Project Site
KCFD	Station No. 15	3219 35th West Street Rosamond, CA 93560	8 miles east of the project site
KCFD	Station No. 14	1953 State Highway 58 Mojave, CA 93501	16 miles northeast of the project site
KCFD	Station No. 12	800 South Curry Street Tehachapi, CA 93561	20 miles north of the project site
KCFD	Station No. 13	21415 Reeves Street Tehachapi, CA 93561	21 miles north of the project site

Kern County has 14 mutual-aid agreements with neighboring fire suppression organizations to further strengthen the emergency services (KCFD, 2020). The KCFD has a mutual aid agreement with the Los Angeles County Fire Department (LACFD) in the event that KCFD is unable to be the primary responder to an emergency. The LACFD has 177 fire stations throughout Los Angeles County. The LACFD is divided into 22 battalions with over 4,775 personnel (LACFD, 2020; LACFD, 2019). The nearest LACFD fire station to the project site is Station No. 112, located at 8812 W. Ave. E-8 Lancaster, approximately 6 miles south of the project site. The project site is not within an area of high or very high fire hazard, as determined by the County CAL FIRE (CAL FIRE, 2007).

Kern County applies and utilizes the National Fire Code set forth by the National Fire Protection Association, the California Fire Code, the California Building Code, and the Kern County Ordinance Code to regulate fire safety.

The Kern County Emergency Medical Services Division (EMS) is the lead agency for the emergency medical services system in Kern County and is responsible for coordinating all system participants in the County, which include the public, fire departments, ambulance companies, other emergency service providers, hospitals, and Emergency Medical Technician (EMT) training programs throughout the County. The EMS includes a system of services organized to provide rapid response to serious medical emergencies, including immediate medical care and patient transport to a hospital setting. EMS covers day to day emergencies, disaster medical response

planning and preparation, and preventative health care. The department also provides certification and re-certification for EMT's, paramedics, specialized nurses (MICN), and specialized dispatchers (EMD) (Kern County Public Health Services Department, 2020). The nearest hospitals are the Antelope Valley Hospital, located at 1600 W. Avenue J in the City of Lancaster approximately 15 miles southeast of the project site, and the Adventist Health Tehachapi Hospital, located at 1100 Magellan Drive in the City of Tehachapi approximately 22 miles north of the project site. The East Kern Health Care District has four facilities located in California City, approximately 30 miles northeast of the project site.

The Kern County Fiscal Year 2020-21 Recommended Budget (Kern County, 2020b) shows on-going deficiencies in funding for staffing and a $60 million backlog for capital equipment costs for the Fire Department. While the adopted Budget provides a transfer from the General Fund reserves, the County Administrative Office (CAO) report confirms this is not sustainable.

Law Enforcement Protection

Kern County Sheriff's Department

The Kern County Sheriff's Office (KCSO) provides basic law enforcement services in the unincorporated areas of the County, which includes the project area. The KCSO enforces local, State, and federal laws and is responsible for crime prevention, field patrol (ground and air), crime investigation, the apprehension of offenders, regulation of noncriminal activity, and related support services such as, patrolling off-highway vehicle recreation areas in the desert and mountainous areas of the County. Traffic and parking control functions are also provided along with some investigation of property damage reports and traffic accidents. Complete investigations are conducted for injury, fatal, intoxication-related, and hit and run accidents.

The KCSO is currently staffed with 1,202 sworn and civilian employees, 567 deputy sheriffs, 338 detention deputy positions, and 297 professional support staff (KCSO, 2021a). The headquarters for the KCSO is located at 1350 Norris Road in the City of Bakersfield. The KCSO consists of 14 substations and an Off Highway Vehicle Enforcements Team that provide general patrol services, and that patrol riding areas, respectively (KCSO, 2021b). The nearest substation that would provide service to the project site is the Rosamond Substation located approximately 11 miles east of the project site, at 1379 Sierra Highway in the unincorporated community of Rosamond. This substation provides services to approximately 20,000 residents in the southeastern most end of Kern County (KCSO, 2020c). Other substations in proximity to the project site include the Mojave Substation, Tehachapi Substation and Boron Substation. Information on the four closest substations to the project site is included in **Table 4.13-2**, *List of Nearby Sheriff Substations.*

Table 4.13-2: List of Nearby Sheriff Substations

Agency	Facility	Address	Approximate Distance from Project Site
KCSO	Rosamond Substation	1379 Sierra Highway Rosamond, CA 93560	11 miles east of the project site
KCSO	Mojave Substation	1771 State Highway 58 Mojave, CA 93501	16 miles northeast of the project site
KCSO	Tehachapi Substation	22209 Old Town Road Tehachapi, CA 93581	22 miles north of the project site
KCSO	Boron Substation	26949 Cote Street Boron, CA 93516	39 miles east of the project site

The KCSO strives to respond to calls as quickly as possible. Life-threatening calls that involve a danger to someone's personal safety are given first priority. Response time is defined as the time required to respond to a call for service, measured from the time a call is received until the time a patrol car arrives at the scene. Response times naturally vary depending on the severity of the call, available staff, and location of patrol car. Average response time for the KCSO is five minutes or less for an emergency or immediate-response incident (e.g., a crime that is in progress and/or a life-or-death situation) and 8 to 10 minutes for routine calls (e.g., a crime that has already occurred and/or an incident that is not life-threatening). In 2018, the KCSO reported that the County's fiscal emergencies have impacted and affected staffing and have created a number of shortages in the East Kern area, including Mojave. This could mean potential delays in response times due to a limited budget, and consequently, less staff (Barnwell, 2018).

Response time to an emergency at or near the project site would vary depending on the level of demand at the substation at the time of the call. If demand is high, the response time would be longer than the average times given above. The response time for a nonemergency call could be eight minutes or more, depending on staffing and the number of other calls for service. In some areas, response may not occur at all for nonemergency calls due to funding deficiencies.

The Kern County Fiscal Year 2020-21 Recommended Budget (Kern County, 2020b) shows on-going deficiencies in funding for staffing, training and equipment. While the adopted Budget provides a transfer from the General Fund reserves to prioritize law enforcement, the CAO report confirms this is not sustainable.

Off-Highway Vehicle (OHV) Enforcement Team

In 2000, the KCSO created the Off-Highway Vehicle (OHV) Enforcement Team that can be deployed to off road riding areas and adjacent communities in Kern County, as needed. The goal of the OHV Enforcement Team is to provide a safe and secure environment for the OHV community and nearby residents, and to help protect sensitive natural resources. Kern County attracts over 800,000 visitors a year to the local OHV riding areas and approximately 500,000 visitors in east Kern area. The OHV Enforcement Team patrols numerous off road riding areas in Kern County, including a popular riding area near a portion of the Pacific Crest Trail that runs through Rosamond, Mojave, and Tehachapi. The OHV Enforcement Team works closely with officers from the Bureau of Land Management (BLM), California State Parks, and other local law enforcement agencies (KCSO, 2020d).

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, including CHP headquarters in Sacramento, that provide services in areas of California (CHP, 2021a). The project site is within the jurisdiction of the Inland Division, which includes the most intensely-congested roads in the nation at the intersections of Interstates 10, 15, 215, and Highways 60, 71, 91, and 210 (CHP, 2021b). The nearest Inland Division office to the project site is located at 1313 Highway 58, in the unincorporated community of Mojave, approximately 18 miles northeast of the project site (CHP, 2021b).

Schools/Parks/Other Public Facilities

The project site is located within the Southern Kern Unified School District (SKUSD), which consists of Rosamond High School Early College Campus, Rosamond Elementary, Tropico Middle School, Westpark Elementary, Rare Earth High Continuation, Rosamond High School Early College Campus, and Abraham Lincoln Alternative (SKUSD, 2021a, 2020b). Other school districts located in the vicinity include Arvin Union Elementary School District (4), Tehachapi Unified School District (7), Mojave Unified School District (9), and Muroc Joint Unified School District (5), which include 25 other school facilities (Kern County Superintendent of Schools, 2021). The closest school to the project site is the Tropico Middle School, located approximately 4.5 miles east of the project site (SKUSD, 2021).

The Kern County Parks and Recreation Department manages an extensive system of large regional parks designed to serve the entire countywide population, and small neighborhood and community parks intended primarily to meet the recreational needs of nearby residents in unincorporated communities. Kern County Parks & Recreation manages 8 regional parks, 40 neighborhood parks, and 25 public buildings, supervises three golf courses and landscapes 76 county buildings (Kern County, 2021).

Other public facilities include library facilities, post office facilities, and courthouses. The Kern County Library has 24 branches and 2 mobile libraries, which serve 850,000 residents within the County, including incorporated municipalities (Kern County Library, 2021). Additionally, there are currently 348 post offices that serve the County (United States Postal Service [USPS], 2021). Furthermore, there are currently 13 facilities serving the Superior Court of California in Kern County (Superior Court of California, 2021).

The Kern County Fiscal Year 2020-21 Recommended Budget (Kern County, 2020b) shows on-going deficiencies in funding libraries and parks with closings and lack of maintenance for facilities.

SCE Interconnection Facilities

The SCE property is developed currently with an electrical substation and electrical transmission facilities.

4.13.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

California Fire Code

The 2019 California Fire Code (Title 24, Part 9 of the California Code of Regulations) establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operation. Chapter 6 (Building Services and Systems) of the Code focuses on building systems and services as they relate to potential safety hazards and when and how they should be installed. Building services and systems are addressed include emergency and standby power systems, electrical equipment, wiring and hazards, and stationary storage battery systems. Chapter 33 (Fire Safety During Construction and Demolition) of the Code outlines general fire safety precautions to maintain required levels of fire protection, limit fire spread, establish the appropriate operation of equipment and promote prompt response to fire emergencies. Features regulated include fire protection systems, fire fighter access to the site and building, means of egress, hazardous materials storage and use and temporary heating equipment and other ignition sources.

California Department of Forestry and Fire Protection (CALFIRE)

Under Title 14 of the California Code of Regulations (CCR), CALFIRE has the primary responsibility for implementing wildfire planning and protection for State Responsibility Areas (SRAs). CALFIRE develops regulations and issues fire-safe clearances for land within a fire district of the SRA. More than 31 million acres of California's privately-owned wildlands are under CALFIRE's jurisdiction.

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. According to the Fire Hazard Severity Zones map published by the California Department of Forestry and Fire Protection (CalFire), the project site is not located within or near State Responsibility Areas (SRAs) or lands classified as very high fire hazard severity zones. The project site is classified as Local Responsibility Area (LRA) Moderate; thus, the potential for wildfire on the project site exists, but is not considered high (CalFire, 2007).

In addition to wildland fires, CALFIRE's planning efforts involve responding to other types of emergencies that may occur on a daily basis, including residential or commercial structure fires, automobile accidents, heart attacks, drowning victims, lost hikers, hazardous material spills on highways, train wrecks, floods, and earthquakes. Through contracts with local government, CALFIRE provides emergency services in 36 of California's 58 counties (CALFIRE, 2020b).

Local

Construction and operation of the project would be subject to applicable policies and regulations including those contained in the Kern County General Plan, Willow Springs Specific 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 related to public services 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

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

Policy 4: The provision of parks and recreational facilities of varying size, function, and location to serve County residents will be encouraged. Special attention will be directed to providing linear parks along creeks, rivers, and streambeds in urban areas.

Policy 5: Seek to provide recreational facilities where deficiencies have been identified

Policy 6: The County will ensure adequate fire protection to all Kern County residents.

Policy 7: The County will ensure adequate police protection to all Kern County residents.

Implementation Measures

Measure B: Determine local costs of County facility and infrastructure improvements and expansion which are necessitated by new development of any type and prepare a schedule of charges to be levied on the developer at the site of approval of the Final

Map. This implementation can be effectuated by the formation of a County work group.

Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.

Measure D: Involve utility providers in the land use and zoning review process.

Measure L: Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in the County shall not be approved unless adequate fire protection facilities and resources can be provided.

Measure N: Secure complete and accurate information on all hazardous wastes generated, handled, stored, treated, transported, and disposed of within or through Kern County.

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.

Willow Springs Specific Plan

The entire project site is located within and subject to the provisions of the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in April 2008 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 Willow Springs Area. The public services-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project are outlined below (Kern County, 2008). Note that only applicable goals, policies, and standards are included here; those goals, policies, and standards that are not applicable are not included below.

Public Facilities

Goals

Goal 4: To recognize early on the need for the Southern Kern Unified School District to advise the County of the need to establish and/or expand educational facilities in the area.

Goal 5: The establishment of parks and recreational facilities of varying size, function, and location to serve Willow Springs residents.

Policies

Policy 2: In evaluating a development application, Kern County will consider both its physical and fiscal impact on the local school district and other public facilities. If it is found that the district or facilities involved will, as a result, require additional facilities or incur costs requiring additional local revenues, the development project will be required as a condition of approval to contribute funds to the district for the costs directly attributable to the project.

Policy 4: New development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

Mitigation/Implementation Measures

Measure 10: New development shall contribute its pro rata share for circulation improvements, school impact fees, park land dedications/fees, and possible biota impact fees. As

additional impact fees are adopted, they shall be incorporated into the Specific Plan text.

Measure 11: The school district, along with the developer, shall provide Kern County with an alternative funding method, should an alternative be submitted with an impending development.

Measure 12: The school district, along with the developer, shall provide Kern County with an alternative funding method, should an alternative be submitted with an impending development.

Measure 25: The applicants are subject to school assessment fees pursuant to AB 2926.

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 LRA Moderate and LRA Unzoned (CAL FIRE, 2007).

Kern County Fire Department Hazards Mitigation Plan

The purpose of the KCFD Multi-Jurisdiction Hazard Mitigation Plan (MJHMP) is to guide hazard mitigation planning to better protect the people and property of the County from the effects of hazard events. The plan was also developed to ensure Kern County and participating jurisdictions' continued eligibility for certain federal disaster assistance, specifically the FEMA Hazard Mitigation Assistance (HMA) grants, including the Hazard Mitigation Grant Program (HMGP), Building Resilient Infrastructure and Communities (BRIC), and Flood Mitigation Assistance Program (FMA). This multi-jurisdictional plan includes Kern County, and the incorporated municipalities Arvin, Bakersfield, California City, Delano, Maricopa, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco. The plan also covers 37 special districts that include school, recreation and park, water, community service and other districts. The plan was been formally adopted in April of 2021 and is required to be updated a minimum of every five years (KCFD, 2021).

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 2019 California Fire Code and the 2018 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, 2021).

Kern County Fire Department Unit Strategic Fire Plan

The KCFD Unit Strategic Fire Plan was update in April 2020 is the most current document that assesses the wildland fire situation throughout the SRA within the County. Similar to other plans, this document includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan provides for a comprehensive analysis of fire hazards, assets at risk, and level of services to systematically assess the existing levels of wildland protection services and identifies high-risk and high-value areas that are potential locations for costly and damaging wildfires. Additionally, the plan provides an annual report of unit accomplishments, which, in 2019, included Alpine Forest Park Road Clearance, Kern County Pile Burning, Los Padres fuel break maintenance, Alta Sierra Hazard tree removal, CDAA/LTM funded hazard tree removal projects throughout Kern County, continuing work on Alta Sierra Fuel Modification and Kern River Valley Communities protection project, and hosted a wildfire safety expo and conducted chipper days.

According to the plan, 69 percent of Kern County areas are within a SRA. The County is broken up into six different fuel management areas, Tehachapi, Western Kern, Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley. The project site is located within Battalion 1 (Tehachapi) and the project site is designated as a moderate fire hazard severity zone within the Tehachapi fire plan management area (KCFD, 2020).

Fire Prevention Standard No. 503–507 Solar Panels

The Kern County Fire Department Fire Prevention Division adopted Standard No. 503–507 Solar Panels (Ground Mounted, Commercial & Residential) on March 27, 2019 and have been updated April 8, 2021. The standard is implemented in accordance with the 2016 CFC and Kern County Ordinance and is an official interpretation of the Kern County Fire Marshal's Office. This standard uses guidelines from several sources which outline solar panel installation requirements. This standard will be associated with the proper installation of photovoltaic ground mounted and roof mounted solar systems. It will be applied indefinitely and reviewed/revised as part of the new code adoption process or as otherwise necessary. 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).

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 (California State Board of Equalization, 2020). It 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 site 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."*

The value of the underlying land and 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. The statue is now scheduled to sunset on January 1, 2025 (CBOE, 2021). 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 that they would normally pay (Kern County, 2020c). 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 2020-2021 Recommended Budget details the General Fund, which funds many County operations, as totaling $883.1 million, a decrease of $76.5 million, or 7.97% from the 2019-2020 budget. The 2019-2020 budget was the end of a four-year fiscal emergency with a deficient of over $40 million.

4.13.4 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. The contribution of the project through established property tax revenues was reviewed to fully document the projects contribution to all government services and facilities that provide for stability in communities and prevent decline of the communities' physical neighborhoods.

As discussed in the Notice of Preparation prepared for the proposed project, impacts to schools and parks would not occur.

During project construction, a relatively small number of construction workers would be required. It is anticipated that most of these workers would live in the broader region and commute to the project site from surrounding communities where their children are already enrolled in school and where their contribution to local taxes, including funds for schools, is assessed locally. The

proposed project would not require employees or their children to relocate to the project area. Therefore, substantial temporary increases in population that would adversely affect local school populations are not expected.

Similarly, these workers and their families would also be anticipated to use existing recreational resources, and because a substantial increase in population would not occur, there would not be a resultant substantial new demand on existing parks or recreational facilities or demand for new resources. Finally, the two full-time equivalent (FTE) employees would not result in construction of numerous new housing units that could significantly increase the local population and related demand for schools of for public parkland. Thus, no impacts would occur and further discussion is not required.

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 public services.

A project could have a significant adverse effect 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 could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services:

   i. Fire Protection

   ii. Law Enforcement Protection

   iii. Schools

   iv. Parks

   v. Other Public Facilities

Effects Found not to be Significant

iii. During project construction, a relatively small number of construction workers would be required. It is expected that most of these workers would live in the broader region and commute to the project site from surrounding communities where their children are already enrolled in school and where their contribution to local taxes, including funds for schools, is assessed locally. The proposed project would not require employees or their children to relocate to the project area. Therefore, substantial temporary increases in population that would adversely affect local school populations are not expected. Likewise, the operational workforce is small (approximately two full-time positions) and not expected to generate a permanent increase in population that would impact school populations. Therefore, no significant impacts to schools are anticipated to occur.

iv. The population increase that would be experienced during the construction phase of the proposed project would be temporary and limited to construction workers at the project site. Such conditions would not result in a substantial new demand for parks or recreational facilities. The number of employees required for project operations would be minimal and they would not likely frequent any public parks during, before, or after their work shifts. The two

full-time equivalent (FTE) employees would not result in construction of numerous new housing units that could significantly increase the local population and related demand for public parkland. Therefore, no significant impacts to parks are anticipated to occur.

Project Impacts

Impact 4.13 -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 services.

Fire Protection

Construction

The project would include an operation and maintenance (O&M) building that would measure approximately 100 feet by 50 feet and that would be located entirely within the project site boundaries. The O&M building would include office and storage space for spare parts and materials for the day-to-day operations and maintenance of the facility.

The average and peak number of construction workers to be onsite would be approximately 120 and 630, respectively. The presence of construction workers at the project site would be temporary, anticipated to last a maximum a total of 12 months. Peak construction would be approximately 3 months. The project would include the development of four closely located photovoltaic (PV) solar facilities within individual CUP Areas (Areas 1, 2, 3, and 4) and associated infrastructure necessary to generate a combined total of approximately 154 megawatts (MW) of renewable electrical energy including up to 200 MW of energy storage using a battery energy storage system (BESS, an O&M building, communication facilities, and underground and above collection lines, connections to and within the Whirlwind and Teddy substations, on approximately 1,292 acres of privately-owned land in unincorporated portions of 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, 2007).

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. While the construction of the proposed project would increase the number of people on the project site, typically during construction, the increase would be temporary. In addition, fire hazards from the project construction could increase the need for response from fire for emergency services as well as fire protection. Typically, however, service demands per employee are less than service demands per resident. Thus, while the proposed project could increase calls for service above existing levels, the presence of construction workers on the site would be temporary, as the construction period for the proposed project is anticipated to last a total of 12 months.

It should be noted, the project site is not within an area of high or very high fire hazard as determined by the County (Kern County, 2009) or CAL FIRE (CAL FIRE, 2020a), and the project would be required to prepare and implement a fire safety plan, plan that contains notification procedures and emergency fire precautions consistent with the 2019 California Fire Code and Kern County Fire Code. This is required as stated in Mitigation Measure MM 4.13-1. The aforementioned fire safety plan would be for use during the anticipated 12-month construction period, as well as during operations and decommissioning, and would include emergency fire precautions for vehicles and equipment as well as implementation of fire rules and trainings so temporary employees are equipped to support handling fire threats. Given the temporary nature of the project's construction phase and implementation of Mitigation Measure MM 4.13-1, impacts to fire protection services and facilities during project construction would be less than significant.

Operation

Once constructed, the project would have up to 2 full time equivalent employees within the O&M building(s) and to manage the site during the operational phase of the project. Employees would monitor the site and conduct minor maintenance activities. For larger maintenance requirements contractors would be hired and come to the site. Although unlikely, maintenance activities could introduce fire risks to the project site. All maintenance activities would be required to comply with the fire safety plan implemented per Mitigation Measure MM 4.13-1, and would help reduce fire risks onsite. In addition, all project facilities would be designed and constructed in accordance with the 2019 California Fire Code and Kern County Fire Code such that fire hazards are reduced and/or avoided.

The project includes a BESS facility that would have a fire rating in conformance with County and California Building 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 4.13-1, a fire safety plan would be prepared to ensure the energy storage facilities are constructed and operated in accordance with County and California Building Code standards. This would minimize potential impacts to public services and associated fire hazards.

The proposed project includes Mitigation Measure MM 4.13-2, which requires the operator to pay the Kern County cumulative impact fee (CIC). This would 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. This would help make up for the shortfall from revenue that the county would otherwise receive from other types of services and facilities that support 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 megawatt per year, then that entity shall pay the taxes plus the amount necessary to equal the equivalent of $3,000 per megawatt. The amount shall be paid for all years of operation, through implementation of Mitigation Measure MM 4.13-3. Lastly, as required by the implementation of Mitigation Measure MM 4.13-4, 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. Thus, implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4 would reduce potential operational impacts on fire protection services. Finally, due to the short term and anticipated minimal calls for service during construction, the proposed 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 4.13.2, *Environmental Setting*, the KCSO provides primary law enforcement protection services for the project site and surrounding areas. The Rosamond Substation, located approximately 11 miles to the east of the project site, would provide primary law enforcement services to the project site. Similar to fire protection services, the need for police protection services would increase during construction of the proposed project as well as after construction.

The project site is located in a relatively remote location surrounded by undeveloped land, solar facilities, sparse rural residential developments and residential accessory structures. The proposed project is in an area with relatively small volume of traffic and would not contain uses that are likely to make project facilities susceptible to crime. Thus, a large increase for KCSO services is not expected. However, construction activities may temporarily increase traffic volumes along SR-58 and SR-14 during the 12-month construction period. Locally, traffic volumes would increase along roadways used to access the project site such as Rosamond Boulevard, Gaskell Road, West Avenue A, and some of the north-south trending roads between 170th Street West to access CUP Area 1 to 90th Street West to access CUP Area 4 on the east. 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.

To help further reduce unauthorized access for safety and security purposes, fences would be installed around the perimeter of each CUP Area and other areas requiring controlled access. All fencing shall comply with all applicable requirements of the Kern County Public Works Department/Building Inspection Division. The fencing would remain for the life of the project.

While construction of the project would increase the number of people on the project site, the increase would be temporary and, thus, would not substantially increase the service demand for law enforcement protection services in Kern County. However due to existing budget constraints, substations may close or be modified to address fiscal limitations.

Operation

The proposed project would require operational procedure generally limited to intermittent cleaning of panels and other routine maintenance, monitoring the site from within the O&M building, and site security patrols and monitoring. As discussed above, the proposed project would not contain products or materials that would be particular sensitive to theft, but project operation could attract vandals or present other security risks such as trespassers. In addition, 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. Further, the security fencing around the perimeter of each site and other areas requiring controlled access and controlled access gates would minimize the need for surveillance and response by KCSO during project operation. Accordingly, access to the project site would be limited to facility personnel, contractors, agency personnel, and visitors who would be logged in and out of the facility at the main office located at each of the proposed O&M Building(s) during normal business hours.

Due to the limited risk and minimal anticipated increased calls for service, new or physically altered KCSO facilities would not be required to accommodate the proposed project. Calls for service are anticipated to be responded to by deputies and CHP officers who would have responsibility for patrol in project vicinity. Calls for service may increase from the additional volume of vehicles associated with workers commuting to the project site needed during routine maintenance, but this would be minor and is not expected to adversely affect traffic (see Section 4.15, *Transportation and Traffic*, for more details). Therefore, impacts to the deputy and CHP patrol are not anticipated.

The proposed project also would implement Mitigation Measure MM 4.13-2 requiring a CIC 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. This would help offset revenue that the county would otherwise receive for development and operation of other services or facilities that would help assure 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 megawatt per year, then that entity shall pay the taxes plus the amount necessary to equal the equivalent of $3,000 per megawatt. The amount shall be paid for all years of operation, through implementation of Mitigation Measure MM 4.13-3. Through implementation of Mitigation Measure MM 4.13-4, 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. Impacts would be less than significant.

Other Public Facilities

Construction

As stated above, the proposed project would have up to 2 permanent onsite staff at the O&M building and would require a peak number of 630 construction workers to be onsite and an average of approximately 120 per day over the 12-month construction period. The presence of construction workers at the project site would be temporary and only occur through the duration construction period. Most of the construction workers are anticipated to come from an existing local and/or regional construction labor force and would it is unlikely they would relocate their households as a consequence of working on the project. If temporary housing should be necessary, it is expected that accommodations would be available in the nearby hotels in Lancaster, Palmdale, or other local communities. Therefore, the short-term increased employment of construction workers needed for the project would not result in a notable increase in the residential population of the area surrounding the project site. To help ensure that the majority of workers are from local areas, prior to the issuance of any building permits on the property, the project operator will submit a letter detailing these hiring efforts. This will occur in accordance with implementation of Mitigation Measure MM 4.13-5, which encourages all contractors of the project site to hire at least 50 percent of their workers from local Kern County communities. This measure would be implemented prior to commencement of construction. Therefore, project construction workers would not result in a substantial increased demand for local public facilities such that substantial physical deterioration of such facilities would occur, nor would the project require the construction or expansion of these facilities which might have an adverse effect on the environment. Similarly, this would not result in substantial adverse physical impacts associated with the construction of new or physically altered facilities in order to maintain acceptable service. Impacts resulting from project construction would be less than significant.

Operation

The operation of the proposed project would require up to 2 full-time equivalent (FTE) personnel (one FTE position is equivalent to 40 personnel hours per week). Operations staff would typically work during regular business hours Monday through Friday and would work mainly indoors within the O & M building(s). Employees for routine maintenance and monitoring activities could be needed up to seven days a week, 24 hours a day. These employees are anticipated to be drawn from the local labor force and would commute to the project site. When non-routine maintenance or major repairs are needed, the maintenance staff also are anticipated to come from the local labor force and would typically work at night when the project is not generating power. The project also could utilize 24-hour security, but security personnel would be minimal and not add substantial number of employees during security shifts.

Even if the maintenance employees were hired from out of the area and had to relocate to southern 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 as accommodations for temporary housing would be available in the nearby hotels in Rosamond, Mojave, Lancaster, or other local communities. Therefore, staff required during operation would not increase demand for public facilities such that substantial physical deterioration of such facilities would occur, nor would project construction require the construction or expansion of public facilities which might have an adverse effect on the environment. Thus, the proposed project would not result in substantial adverse physical impacts associated with the construction of new or physically altered facilities in order to maintain acceptable service ratios and impacts would be less than significant.

Unlike other businesses in California, large scale solar has an exclusion from property taxes on their equipment. This property tax exclusion could result in the project not generating an adequate amount of revenue, compared to other land uses (i.e. residential, commercial) needed to provide services and facilities for both the project and the communities that prevent decline of the physical neighborhoods in unincorporated Kern County. This is a direct impact from the project structure and the land because if it were built with another type of land use, that use would produce more property tax revenue. The increased revenue could be used to provide necessary services (including law enforcements and fire) as well as other public facilities. Use of these funds also assists in maintenance and prevention of physical decline of facilities, homes, and businesses because vacancy can increase the demand for these and other services (i.e. code enforcement, roads, and health and safety services for elder care and child protection services).

The cumulative loss of funds from this active solar tax exclusion over the life of the over 36,000 acres of projects has resulted in a loss to the General Fund over the last 10 years of over $103 million and deepened the on-going fiscal emergency of the county. To help account for and make up the loss, public policies in the Kern County General Plan and Willow Springs Specific Plan require development to address economic deficiencies in public services and facilities costs. Further the cumulative impacts of all the projects in addition to this project on various resources including aesthetics, air and biological resources have contributed to changing the visual and community character of the unincorporated communities and caused decline due to using land for a use that does not provide normal property tax revenue.

The project operator would also be required to implement Mitigation Measures MM 4.13-2KC and MM 4.13-2 to pay a Kern County Cumulative Impact Charge (CIC) 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 that the County and City would otherwise receive for services and facilities thereby supporting a prosperous economy and assuring the provision of adequate public services and facilities. Mitigation Measure MM 4.13-2 provides a CIC calculated on net acreage that excludes assessable structures and permanent improvements (Operation and Maintenance Building and Energy Storage) and legally unbuildable land (recorded easements). The charge factor was calculated based on the fair share under the Government Code that the project would have paid if the Tax Exclusion was not present. The amount the project should pay is calculated as $550 per net acre annual charge. This is in addition to the normal property tax revenue legally assessed on the property as the fair share that is provided to the Kern County General fund. As this project application had already been deemed complete and commenced processing when the Dec 8, 2020 report on the amount of the deficiency in the revenue from the State of California Active Solar Energy Exclusion was presented to the Kern County Board of Supervisors, an accommodation is included in the mitigation that requires a one-time charge for the General fund contribution. In addition, 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 that entity shall pay the taxes plus the amount necessary to equal the equivalent of $3,000 per megawatt. The amount shall be paid for all years of operation, through implementation of Mitigation Measure MM 4.13-3. Through implementation of Mitigation Measure MM 4.13-4, 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 this CIC and assessed taxes if the project is sold, the project impacts on public services and facilities and contribution to decline of communities is less than significant.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation. As such, construction and operation of these Facilities would not require new government facilities related to fire protection, law enforcement or other public services.

Mitigation Measures

MM 4.13-1: Prior to the issuance of grading or building permits the project proponent/operator shall develop and implement a fire safety plan for use during construction, operation and decommissioning.

The project proponent/operator shall submit the plan, along with maps of the project site and access roads, to the Kern County Fire Department for review and approval. A copy of the approved Fire Safety Plan shall be submitted to the Kern County Planning and Natural Resources Department. The Fire Safety Plan shall contain notification procedures and emergency fire precautions including, but not limited to, the following:

a. All internal combustion engines, both stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order.

b. Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. These vehicle types will maintain their factory-installed (type) muffler in good condition.

c. Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees.

d. Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials.

e. Personnel shall be trained in the practices of the fire safety plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires to prevent them from growing into more serious threats.

f. The project proponent/operator shall make an effort to restrict the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to periods outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to personnel.

MM 4.13-2: The following Cumulative Impact Charge (CIC) shall be implemented as payment on approved Conditional Use Permit acreage.

a. Submittal of Building Permit and Phasing

i. Any building permit submitted shall be accompanied by a map and legal description showing a defined phase for which permits are being requested. All phases shall be numbered sequentially for identification.

ii. The map for either the total project or a phase shall calculate the Cumulative Impact Charge (CIC) net acreage as follows:

a) Total gross acreage (Phase)

b) Total acres for Operations and Maintenance building permanent accessory improvements

c) Total acres for Energy Storage structure and permanent accessory improvements

d) Total acres of recorded easements

iii. Formula: Net Acreage = (ii)a minus the sum of [(ii)b + (ii)c + (ii)d].

iv. Temporary storage areas or non-permanent commercial coaches or cargo containers for construction or operations are not eligible for inclusion under (ii)b or (ii)c, above.

v. All areas of buildings, accessory improvements and easement used in the calculations shall be shown on the submitted Phase Map.

vi. Any property included in the approved Conditional Use Permit that is not included in a phase must be included in the last phase or a formal modification processed to remove it from the Conditional Use Permit.

b. Calculation and Payment of Cumulative Impact Charge (CIC)

i. A payment of $620 per net acre for the map shown with the building permit submittal shall be paid upon issuance of the first building permit. If it is

not paid within 30 days after the issuance of the first building permit for the phase regardless of the total number of building permits or type of building permit issued, all such permits shall be suspended until the fee is paid in full.

ii. 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 and phase number.

iii. Any acres denoted for an operation and maintenance building or energy storage that are not built, cannot be used for solar panels unless payment is provided for the Cumulative Impact Charge (CIC)

MM 4.13-3: 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. The SCIC payments shall be made annually by April 30 directly to the County Administrative Office Fiscal Division (CAO) and labeled "Supplemental Cumulative Impact Charge (SCIC)" with the project name and phase number.

MM 4.13-4: 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 4.13-5: 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 implementation of Mitigation Measures MM 4.13-1 through MM 4.13-5, impacts would be less than significant. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative impacts are two or more individual impacts that, when considered together, are considerable or that compound or substantially increase other environmental impacts. Cumulative impacts for a project are considered significant if the incremental effects of the individual projects are considerable when viewed in connection with the effects of past projects, and the effects of other projects located in the vicinity of the project site. The cumulative impact analysis area for public services includes the service areas for each of the fire, police and other governmental offices/facilities serving the project site. For both the KCSO and the KCFD, service areas comprise unincorporated areas of Kern County. As discussed above, police and fire service impacts related to the proposed project would be less than significant. Mitigation Measure MM 4.13-1 requires implementation of a fire safety plan during project construction, operation and decommissioning 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 4.13-2 through MM 4.13-5 require the project proponent to pay a CIC to reduce significant impacts to all public services, including fire and law enforcement services, provided by the Kern County General Fund. Implementation of Mitigation Measures MM 4.13-2 through MM 4.13-5 would also prevent the decline of services in unincorporated communities that result in physical impacts on neighborhoods. Such cumulative impacts include increase in vandalism on public spaces such as parks, lack of road and park facilities maintenance, 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 homelessness prevention programs, as well as lack of services and facilities for elder, adolescent and child health and safety services and general mental health facilities. With payment of the required mitigation charge as assessed by the Kern County Planning and Natural Resources Department for transfer to the Kern County General Fund, impacts from the project's cumulative contribution to decline of services would be appropriately mitigated. Therefore, the project would not create a cumulatively considerable impact on public services even from the State of California Active Solar Energy Exclusion which creates a lack of fair share funding by the project for public services.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation. As such, construction and operation of these Facilities would not require new government facilities related to fire protection, law enforcement or other public services.

Mitigation Measures

Implement Mitigation Measures MM 4.13-1 through MM 4.13-5.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.13-1 through MM 4.13-5, cumulative impacts would be less than significant. Cumulative impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Section 4.14
Transportation and Traffic

4.14.1 Introduction

This section of the EIR describes the affected environment, regulatory setting, and project impacts for transportation. It also describes mitigation measures that would reduce these impacts, where applicable. The information and analysis in this section is largely based on the Transportation and Traffic Impact Analysis Memorandum (Ruettgers & Schuler, April 6, 2021), which is provided in Appendix K of this EIR.

4.14.2 Environmental Setting

The proposed project is located on approximately 1,292 acres in the southeastern portion of Kern County, approximately 50 miles southeast of the City of Bakersfield, 19 miles south of the City of Tehachapi, and 11 miles west of the unincorporated community of Rosamond. The circulation system in the vicinity of the proposed project site is made up of a combination of State and County-jurisdiction facilities. Major components of the project are discussed below and shown in Chapter 3, *Project Description*, **Figure 3-2**, *Site Vicinity*, of this EIR.

Regional Setting

Major Highways

The project site is located near four major highways that would provide access to the general vicinity of the proposed project during the construction and operation phases. Interstate 5 (I-5) is the largest highway that would provide regional access to the project site from the north and the south directions. State Route 138 (SR-138) intersects with I-5 and State Route 14 (SR-14) and runs south of the project site. SR-14 (Antelope Valley Freeway) connects SR-138 to population centers northeast and southeast of the project site, providing primary access. State Route 58 (SR-58) intersects with I-5 west of Bakersfield and runs east-west, north of the project site.

Interstate 5 is a major, four-lane divided freeway that extends north from the Mexican border to the Canadian border and provides access for goods movement, shipping, and travel. This highway crosses the western portion of Kern County and is designated as an arterial/major highway by the Kern County General Plan Circulation Element. The project site is located approximately 23 miles east of I-5.

State Route 138 is a two-lane highway that runs east-west across the northern part of Los Angeles County, providing regional access from I-5 to SR-14. SR-138 is located approximately 4 miles south of the project site.

State Route 14 is a divided highway that runs parallel to I-5 in the eastern portion of Kern County, providing regional access to the project site (SR-14 is located approximately 7 miles east of the project site). SR-14 connects Santa Clarita (Los Angeles County) and Inyokern (Kern County). SR-

14 is a four-lane divided freeway with a grade-separated interchange near the project site at Rosamond Boulevard.

State Route 58 is an east-west divided highway that provides regional access to the project site (SR-58 is located approximately 18 miles north of the project site). SR-58 connects San Luis Obispo County and San Bernardino County. In the project vicinity, SR-58 is a four-lane divided freeway with grade-separated interchanges at East Tehachapi Boulevard and SR-14.

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 4.14.3, *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 approximately 23 miles northeast of CUP Area 1 and 18 miles northwest of CUP Area 4. Prominent views along SR-14 and SR-58 add 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.

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. According to the Kern County Bicycle Master Plan, there are over 67 miles of existing bicycle facilities in the unincorporated portions of Kern County (Kern County, 2012). 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 10 miles west of the project site.

Other Transportation Facilities

Public Transportation

Public transportation in Kern County is provided by Kern Transit, which offers 14 fixed routes throughout the County and a dial-a-ride general public transportation service for residents in most communities. Route 100 provides fixed route scheduled bus service between Bakersfield and Lancaster on SR-58 and SR-14, with stops in the communities of Tehachapi, Keene, Mojave, and Rosamond. Route 250 provides fixed route scheduled bus service between California City and Lancaster on SR-14, with stops in the unincorporated communities of Mojave and Rosamond. No public transit routes pass or stop near the project site (Kern Transit, 2021).

Railways

The closest railway, the Mohave Subdivision, is operated by the Union Pacific Railroad and is located approximately 16 miles northeast of the project site.

Airport Facilities

Lloyd's Landing Airport is the nearest private airstrip, located approximately 6 miles to the north of the project site. Lloyd's Landing Airport is a private facility with two dirt runways, approximately 2,300 feet and approximately 1,370-feet in length. The facility receives no regular scheduled flights and is not publicly accessible (Airport-data.com, 2021a).

Rosamond Skypark is a privately-owned and operated residential airport that is open for public use and is located about 6 miles east 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 (skypark.org, 2021).

General William J. Fox Airfield is a public airfield located about 10 miles southeast 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 (Los Angeles County Airports, 2021).

Mountain Valley Airport is a private airport that allows public access located approximately 17 miles to the north 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 (airnav.com, 2021).

Mojave Air and Space Port is a public airfield located about 17 miles northeast of the project site. This airport has three asphalt runways (with lengths of 4,746, 7,050 and 12,500 feet) and primarily serves general aviation aircraft, with some commercial, air taxi, and military flights also using the facility. The facility was first opened in 1935 as a small, rural airfield serving the local gold and silver mining industry but evolved into a flight research center and in 2004 the facility was the first to be certified as a spaceport by the FAA (Mojave Air & Space Port, 2021a and b).

Edwards Air Force Base is a military base and airstrip located approximately 24 miles east of the project site. 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.

Local Setting

Site Access

CUP Area 1 is directly accessed by Rosamond Boulevard, Holiday Avenue, and 170th Street west. CUP Area 2 is directly accessed via Rosamond Boulevard, Holiday Avenue, and 140th Street West. CUP Area 3 is directly accessed via Holiday Avenue, Gaskell Road, 140th Street West, and 120th Street West. CUP Area 4 is directly access via Gaskell Road, 100th Street West, and 90th Street West.

Public Access Vacations

The project proponent also requested vacations of public access easements within the CUP area boundaries. These public access easements are not developed and would not be useable once the project is implemented. It is highly unlikely given the area and the development of multiple solar facilities that these roadways would ever be developed for public use. Vacating this access easements will not restrict or limit surrounding property owners from access to non-project parcels.

These include the following, which are depicted on Figure 3-6b and Figure 3-6c:

- A portion of Kingbird Avenue from Kildeer Ave to 90th Street W
- A portion of 90th Street W from Kingbird Ave extending approximately 800 feet south
- A portion of Holiday Avenue from 130th Street W to 140th Street W
- A portion of Willow Avenue from 130th Street W to 140th Street W
- A portion of 130th Street W from Holiday Ave to Willow Ave
- A portion of 140th Street W from Holiday Ave to Willow Ave
- A portion of Sue Ave from 132nd Street W to 130th Street W
- A portion of 126th Street W from Buckhorn Ave to Gaskell Road
- Public assess easement running north of Gaskell Road created by Parcel Map 214

Traffic Analysis

Considering the access routes described above, the traffic impact analysis evaluated nine study intersections in the vicinity of the project site, where project traffic would contribute traffic volumes and vehicle turning movements:

1. 170th Street W & Rosamond Boulevard (all-way stop controlled)
2. 90th Street W & Rosamond Boulevard (all-way stop controlled)
3. State Route 14 Southbound Ramps & Rosamond Boulevard (signal)
4. State Route-14 Northbound Ramps & Rosamond Boulevard (signal)
5. 170th Street W & W Avenue A (Avenue A stop controlled)
6. 90th Street W & W Avenue A (all-way stop controlled)
7. State Route 14 Southbound Ramps & W Avenue A (off-ramp stop controlled)
8. State Route 14 Northbound Ramps & W Avenue A (off-ramp stop controlled)
9. 170th Street W & W Avenue D (Avenue D stop controlled)

The gen-tie and Southern California Edison (SCE) infrastructure for the proposed project, would consist of both existing and new gen-tie and/or connection lines, are proposed within or proximate to existing transmission infrastructure and solar facilities. The environmental setting characteristics relating to transportation for the construction, operation, and decommissioning of the gen-tie and SCE infrastructure are substantially similar to the project site.

Existing AM and PM peak hour turning movement volumes were field measured at the study intersections in March 2021[1]. As shown in **Table 4.14-1**, *Existing Conditions AM and PM Peak Hour Level of Service* (LOS), the intersections serving the project area currently operate at LOS B or better during the analyzed time periods based on average intersection delay and roadway volume-to-capacity (v/c) ratios.[2]

Table 4.14-1: Existing Conditions AM and PM Peak Hour Level of Service

Study Intersection		Control Type	AM Peak Hour	PM Peak Hour
1. 170th Street W & Rosamond Boulevard		AWSC	LOS A	LOS A
2. 90th Street W & Rosamond Boulevard		AWSC	LOS A	LOS A
3. State Route 14 Southbound Ramps & Rosamond Boulevard		Signal	LOS B	LOS A
4. State Route-14 Northbound Ramps & Rosamond Boulevard		Signal	LOS A	LOS B
5. 170th Street W & W Avenue A	Eastbound	Avenue A stop controlled	LOS A	LOS A
	Westbound		LOS A	LOS A
6. 90th Street W & W Avenue A		AWSC	LOS A	LOS A
7. State Route 14 Southbound Ramps & W Avenue A		off-ramp stop controlled	LOS A	LOS A
8. State Route 14 Northbound Ramps & W Avenue A		off-ramp stop controlled	LOS A	LOS A
9. 170th Street W & W Avenue D	Eastbound	Avenue D stop controlled	LOS A	LOS A
	Westbound		LOS B	LOS B

Abbreviations: AWSC = All way stop controlled.
Source: Ruettgers & Schuler, 2021

SCE Interconnection Facilities

The SCE property is improved with the existing Whirlwind power station. The environmental setting characteristics relating to transportation for the SCE infrastructure are substantially similar to the project site.

4.14.3 Regulatory Setting

Federal

Federal Aviation Administration (FAA)

The FAA regulates aviation at regional, public, and private airports. The FAA regulates objects affecting navigable airspace. According to 49 Code of Federal Regulations Part 77.9, any person/organization

[1] Counts were compared to pre-COVID turning movement volumes and it was determined no adjustment was needed due to traffic being generally similar.
[2] The minimum LOS for conformance with the Kern County General Plan is LOS D.

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

Senate Bill 375

Senate Bill (SB) 375 (codified in the Government Code and the Public Resources Code) took effect in 2008 and provides a new planning process to coordinate land use planning, regional transportation plans, and funding priorities in order to help California meet the greenhouse gas (GHG) reduction goals established by Assembly Bill (AB) 32. SB 375 requires metropolitan planning organizations (MPO) to incorporate a Sustainable Communities Strategy in their Regional Transportation Plans to achieve GHG emissions reduction targets by reducing vehicle miles traveled from light-duty vehicles through the development of more compact, complete, and efficient communities.

SB 375 required the California Air Resources Board (CARB) to set regional targets for reducing GHG from passenger vehicle use. In 2010, CARB established targets for 2020 and 2035 for each region in California governed by an MPO. Kern Council of Governments (Kern COG) is the MPO for the Kern Region as designated by the federal government, and the Regional Transportation Planning Agency (RTPA) as designated by the State of California.

Senate Bill 743

SB 743 was signed into law September 2013 and includes several changes to CEQA for projects located in areas served by transit (e.g., transit-oriented development, or TOD). Most notably with regard to transportation and traffic assessments, SB 743 changes the way that transportation impacts are analyzed under CEQA (see Public Resources Code Section 21099). SB 743 required the Governor's Office of Planning and Research to amend the CEQA Guidelines to exclude level of service (LOS) and auto delay when evaluating transportation impacts.

With implementation of SB 743, new criteria have been established to promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. The Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA (Guidelines) provided recommendations for updating the State's CEQA Guidelines in response to SB 743 and contained recommendations for a vehicle miles traveled (VMT) analysis methodology in an accompanying Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory).

The Guidelines, including the Technical Advisory, recommended use of automobile VMT per capita as the preferred CEQA transportation metric, along with the elimination of automobile delay/LOS for CEQA purposes statewide. Public Resources Code Section 21099 and CEQA Guideline Section 15064.3 reflect this change. Under Section 21099, automobile delay, as measured by LOS or similar measures of traffic congestion or vehicular capacity, is not considered a significant effect on the environment.

California Department of Transportation (Caltrans)

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, 2019).

Regional

Regional Transportation Plan

The most recent adopted Regional Transportation Plan (RTP) was prepared by the Kern Council of Governments (COG) and was adopted on August 16, 2018. The RTP is in the process of being updated and a Program EIR (PEIR) is being prepared for the 2022 plan. Because it is not yet adopted, the 2018 RTP is applicable to the proposed project. The 2018 RTP is a 24-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County. It was developed through a continuing, comprehensive, and cooperative planning process, and provides for effective coordination between local, regional, State, and federal agencies. Included in the 2018 RTP is the Sustainable Communities Strategy (SCS), which is required by California's Sustainable Communities and Climate Protection Act, of Senate Bill (SB) 375. The California Air Resources Board (CARB) set a goal of Kern County reducing greenhouse gas (GHG) emissions from passenger vehicles and light-duty trucks by 5 percent per capita by 2020 and 10 percent per capita by 2035, as compared to 2005. In addition, SB 375 provides for closer integration of the RTP/SCS with the Regional Housing Needs Allocation (RHNA), ensuring consistency between low-income housing needs and transportation planning. Kern COG engaged in the RHNA process concurrently with the development of the 2014 RTP. This process required Kern COG to work with its member agencies to identify areas within the region that can provide sufficient housing for all economic segments of the population and ensure that the State's housing goals are met.

The intent of the SCS is to achieve the State's emissions reduction targets for automobiles and light trucks. The SCS will also provide opportunities for a stronger economy, healthier environment, and safer quality of life for community members in Kern County. The RTP/SCS seeks to improve economic vitality; improve air quality; improve the health of communities; improve transportation and public safety; promote the conservation of natural resources and undeveloped land; increase access to community services; increase regional and local energy independence; and increase opportunities to help shape the community's future. The RTP/SCS financial plan identifies available funding to support the region's transportation investments.

The plan includes a core revenue forecast of existing local, State, and federal sources along with funding sources that are considered to be reasonably available over the time horizon of the RTP/SCS. Funding sources include adjustments to State and federal gas tax rates based on historical trends and recommendations from two national commissions (National Surface Transportation Policy and Revenue Study Commission and National Surface Transportation Infrastructure Financing Commission), leveraging of local sales tax measures, local transportation impact fees, potential national freight program/freight fees, future state bonding programs, and mileage-based user fees (Kern COG, 2018).

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan Circulation Element for transportation that are applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more

general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference. The design level-of-service (LOS) for Kern County is LOS C. The minimum LOS for conformance with the Kern County General Plan is LOS D.

Circulation Element

2.1 Introduction

Goals

Goal 4: Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.

Goal 5: Maintain a minimum [level of service] LOS D for all roads throughout the County (unless the roads are part of an adopted Community Plan or Specific Plan which utilizes Smart Growth policies that encourage efficient multi-modal movements (see Section 1.10.8).

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 California Environmental Quality Act (CEQA) process would help identify alternatives to or mitigation for such developments. Mitigation could involve amending the Land Use, Open Space, and Conservation Element to establish jobs/housing balance if projected trips in any traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build offsite transportation facilities. These enhancements would reduce traffic congestion to an acceptable level.

Policy 4: As a condition of private development approval, developers shall build roads needed to access the existing road network. Developers shall build these roads to County standards unless improvements along state routes are necessary then roads shall be built to California Department of Transportation (Caltrans) standards. Developers shall locate these roads (width to be determined by the Circulation Plan) along centerlines shown on the circulation diagram map unless otherwise authorized by an approved Specific Plan Line. Developers may build local roads along lines other than those on the circulation diagram map. Developers would negotiate necessary easements to allow this.

Policy 5: When there is a legal lot of record, improvement of access to County, city or State roads will require funding by sources other than the County. Funding could be by

starting a local benefit assessment district or, depending on the size of a project, direct development impact fees.

Policy 6: The County may accept a developer's road into the County's maintained road system. This is at Kern County's discretion. Acceptance would occur after the developer follows the above requirements. Roads are included in the County road maintenance system through approval by the Board of Supervisors.

Implementation Measures

Measure A: The County should relate traffic levels to road capacity and development levels. To accomplish this, the Kern County Roads Department and the Kern County Planning and Natural Resources Department should set up a monitoring program. The program would identify traffic volume to capacity ratios and resulting level of service. The geographic base of the program would be traffic zones set up by Kern Council of Governments.

Measure C: Project development shall comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.

2.3.6 Vacation of Existing or Recorded Future Streets, Highways, or Public Easements

Goal

Goal 2: Kern County intends to set up a system maintaining and coordinating road vacation procedures in all elements of the General Plan and the incorporated cities general plans.

Policies

Policy 1: A road vacation influencing the construction or operation of expressway, an arterials or collector highway may occur with, or after, amending this Element. Kern County will not vacate any public expressway, arterial or collector highway right-of-way without amendment to this Element. The County will need to amend the right-of way status to local or commercial-industrial streets.

Policy 2: A study, prepared at the applicant's expense, shall accompany the road vacation application. The study should provide information that will aid in finding the importance of the entire length of the right-of-way. The study would include a review of existing and proposed land uses and localized traffic modeling. This will help Kern County decide what corresponding changes are needed to the Land Use, Open Space and Conservation Element, or affected specific plan. This also will help Kern County decide if additional public road services or other traffic management are required elsewhere.

Policy 3: If the road vacation applicant is a private entity, all costs for the public hearing shall be borne by the applicant. Also, costs associated with providing any necessary additional public road services or other traffic management caused by the road vacation shall be paid by the applicant.

Policy 4: The vacation of a road shall not take away legal access to adjacent properties or "land-lock" any legal lot or parcel of record. Legal access shall be determined through a report submitted with the application for road vacation.

Policy 5: If Kern County determines that the right-of-way is not needed for circulation in the general area, a road vacation may be authorized. An acceptable project shall be determined through a report submitted with the road vacation application and in keeping with traffic modeling parameters of this Plan.

Policy 6: A road vacation may be authorized if physical conditions such as natural, or manmade topography prevent rational extension of the facility. Physical conditions affecting roadways shall be determined through a report submitted with the road vacation application.

Policy 7: A road vacation shall only affect public, recorded rights-of-way or public service easements. The potential effects of a road vacation upon rights-of-way and easements are to be determined by a report submitted with the road vacation application. A vacation of private access or private service easement is not under County jurisdiction. Kern County considers these matters "civil" actions. These civil actions should be acted upon accordingly.

Policy 8: A road vacation may be authorized if the right-of-way is not improved or used for its original purpose. Existing improvements and facility use shall be determined by a report submitted with the road vacation application.

Policy 9: A road vacation may be authorized to remove excess right-of-way caused by relocation, or at the beginning of a general plan amendment proceeding. Excess right-of-way shall be determined through a report submitted with the road vacation application.

Policy 10: A road vacation may be approved if there is an agreement to close a public street. A road vacation may be approved with acknowledgment of an impassable street. A road vacation may be approved with a land division map over the area of vacation if the project has comparable methods of vehicular access.

Policy 11: A road vacation procedure may be used for considering public service easement or utility service easement abandonments. The procedure is the same as any public right-of-way vacation.

Policy 12: A vacation of improved road right-of-way, or public service easement, should not occur until the lead agency makes findings. One important finding is the land is no longer needed for public use. A vacation of improved road right-of-way, or public service easement, should not occur until the right-of-way is superseded by relocation, and improved to acceptable Kern County Development standards. The Board of Supervisors shall have accepted the replacement facility into the maintained road system.

Policy 13: A general vacation proceeding (consistent with State of California Streets and Highway Code) will require a public hearing when the vacation affects existing in place facilities or is a project caused by relocating right-of-way.

Policy 14: A summary vacation shall be consistent with State of California Streets and Highway Code. A summary vacation may be used when the right-of-way does not exist, is unused, or moved. A summary vacation may be used where right-of-way is impassable, unnecessary for present or prospective public use, or is excess or public service easement land.

Implementation Measures

Measure A: Kern County should require a research fee to determine if a complex vacation application is acceptable.

Measure B: In resolving a vacation request, the Board of Supervisors will follow the policies and laws applicable to such vacation request. Before taking final action, the Board of Supervisors may require the applicant to submit additional study(s). Staff shall oversee the applicant's information gathering process and suggest alternatives if necessary.

Measure C: The Planning Department shall issue guidelines for applicants to use in the preparation of road vacation applications and attendant reports.

2.3.10 Congestion Management Programs

State law requires that urbanized counties prepare an annual congestion management program (CMP). City and county eligibility for new gas tax subventions is contingent upon their participation in the congestion management program. To qualify for funding provided through the State Transportation Improvement Program (STIP) or the Federal Transportation Improvement Program (FTIP), the regional transportation agency must keep current a Regional Transportation Program (RTP) that contains the CMP. Also, the CMP offers local jurisdictions the opportunity to find cooperative solutions to the multi-jurisdictional problems of air pollution and traffic congestion.

The CMP has links with air quality requirements. The California Clean Air Act requires that cities and counties implement transportation control measures (TCMs) to attain, and maintain, the State air quality standard.

Goals

Goal 1: To satisfy the trip reduction and travel demand requirements of the Kern Council of Government's Congestion Management Program.

Goal 2: To coordinate congestion management and air quality requirements and avoid multiple and conflicting requirements.

Policies

Policy 1: Pursuant to California Government Code 65089(a), Kern County has designated Kern Council of Governments as the County's Congestion Management Agency (CMA).

Policy 2: The Congestion Management Agency is responsible for developing, adopting, and annually updating a Congestion Management Plan. The Plan is to be developed in

consultation with, and with the cooperation of, the regional transportation agency (also Kern Council of Governments), regional transportation providers, local governments, Caltrans, and the air pollution control district.

Implementation Measures

Measure A: Kern County Council of Governments should request the proper consultation from County of Kern to develop and update the proper congestion management program.

Measure B: The elements within the Kern Congestion Management Program are to be implemented by each incorporated city and the County of Kern. Specifically, the land use analysis program, including the preparation and adoption of deficiency plans is required. Additionally, the adoption of trip reduction and travel demand strategies are required in the Congestion Management Program.

2.5.1 Trucks and Highways

The Kern County road network handles a high ratio of heavy truck traffic. State highways carry most of this traffic. Most of the trucks are interstate carriers. As such, interstate trucking is not under the direct control of County officials. In as much as this traffic affects County residents and taxpayers, they need actions to guarantee State highways in Kern County receive a fair share of California's transportation investment.

Goals

Goal 1: Provide for Kern County's heavy truck transportation in the safest way possible.

Goal 2: Reduce potential overweight trucks.

Goal 3: Use State Highway System improvements to prevent truck traffic in neighborhoods.

Policies

Policy 1: 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.

Willow Springs Specific Plan

The entire project is subject to the provisions of the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in April 2008 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 Willow Springs Area. The transportation-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project are outlined below (Kern County, 2008). Note that only applicable goals, policies, and standards are included here; those goals, policies, and standards that are not applicable are not included.

Circulation Element

Goals

Goal 3 To maintain adequate traffic safety.

Goal 4 To reduce potential traffic impacts to adjacent jurisdictions, such as Los Angeles County.

Goal 5 To maintain public safety within the plan area by providing a more direct and efficient circulation system for law enforcement and fire protection vehicles.

Goal 6 To reduce energy consumption and travel costs.

Goal 7 To provide an adequate circulation system which will support the proposed land uses.

Policies

Policy 7 Require the widening of impacted roadways to handle increased traffic generated by new development.

Policy 8 Encourage resourceful air quality improvement and reduction methods.

Policy 9 The proposed circulation pattern as shown on the Rosamond-Willow Springs Circulation Map, included in this chapter, is presently considered necessary and adequate to service the community growth pattern presented in the Land Use Element of the Willow Springs Specific Plan.

Mitigation/Implementation Measures

Measure 7 Any substantial deviation in the circulation system as shown on this Specific Plan map will require an amendment thereof.

Measure 8 Road improvements as stated within the Rosamond/Willow Springs Transportation Impact Fee Study, shall supersede the above mitigation measures. Changes in the Circulation Element of this Plan will be processed concurrently with the Impact Fee Program. In addition to enhanced roadway improvements, these changes may also include the provision for a more formal program that may provide requirements for alternate transportation modes.

Measure 9 A traffic study in accordance with the requirements of Kern County and Caltrans, as appropriate, shall be submitted for all discretionary projects. Study shall demonstrate consistency with the Willow Springs Specific Plan.

Measure 13 The Traffic Impact Fee Program implements Mitigation Measure 10 of the Willow Springs Final Environmental Impact Report (EIR).

Kern Council of Governments Congestion Management Program

All urbanized areas with a population larger than 200,000 residents are required to have a Congestion Management System, program, or process. The Kern Council of Governments (Kern

COG) refers to its congestion management activities as the Congestion Management Program (CMP). Kern COG was designated as the Congestion Management Agency (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 level of service (LOS) performance standards and air quality improvement. The program attempts link land use, air quality, transportation, advanced transportation technologies as integral and complementary parts of this region's plans and programs.

The purpose of defining the CMP network is to establish a system of roadways that will be monitored in relation to established LOS standards. At a minimum, all State highways and principal arterials must be designated as part of the Congestion Management System of Highways and Roadways. Kern County has 18 designated state highways.

Kern County Airport Land Use Compatibility Plan (ALUCP)

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. Lloyd's Landing, a private airstrip, is located approximately 6 miles north of the project site. The Rosamond Skypark is located approximately 6 miles east of the project site. The General William J. Fox Airfield is located approximately 10 miles southeast of the project site. The Mountain Valley Airport is located approximately 17 miles north of the project site. The Mojave Air and Space Port is located approximately 17 miles northeast of the project site. The project is also located approximately 24 miles west of the airstrips at Edwards Air Force Base. The project is not located within a designated Airport Land Use Compatibility zone.

4.14.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to transportation have been evaluated using a variety of resources, including the Transportation and Traffic Impact Analysis Memorandum (Ruettgers & Schuler, 2021) attached as Appendix K of this EIR.

Project Trip Generation, Distribution, and Assignment

Based on the information gathered, 40 percent of the construction personnel will be from the local population, which is considered to be the greater Rosamond Area. The remaining 60 percent of the construction personnel will be from surrounding population centers. It was assumed that 25 percent of personnel will be from Tehachapi, 25 percent from Lancaster, and 10 percent from other population centers.

Analysis was conducted in order to capture the highest impact the project may have on the adjacent roadway system. For typical operations, it is anticipated that project traffic will use multiple access

points. Based on the existing roadway network, it is anticipated that project traffic would mainly utilize SR-14 to travel to and connect with Rosamond Boulevard and West Avenue A for east and west travel to and from the project site. Some vehicles also are anticipated to use SR-138, which is located approximately three miles to the south of the project site. Vehicles using SR-138 would then be anticipated to use 170th Street West, 140th Street West, and 110th Street West for access to the southerly side of the project site. The other roadways connecting SR-138 to northerly areas are unpaved.

The average trip length for construction personnel travelling to and from the site was determined to be approximately 26.5 miles and it is anticipated that trip length for project operation would be similar. The average VMT of 26.5 miles per vehicle per day is less than the baseline average VMT of 43.2 miles.

In order to establish the anticipated VMT profile for the Rosamond South Solar Project, a study of the personnel trips involved in the construction processes was conducted. The primary factor involved in this evaluation was the location of the project site in relation to the surrounding population centers and points of origin for equipment, supplies, and personnel. Heavy truck trips were screened out of the VMT analysis per Office of Planning and Research (OPR) Guidelines.

Following the Highway Capacity Manual guidelines, heavy truck volumes were converted to passenger-car equivalent volumes using a factor of 2.0 trips per day to account for the effective reduction in free-flow speed (mean traffic speed under low-flow conditions) caused by the presence of heavy vehicles in the traffic flow. Heavy truck trips were estimated to be 80 per day based on assumptions regarding daily deliveries of materials, equipment, and water anticipated for construction. It was assumed that the trucks would enter the facility throughout the day, and therefore only a portion of the trucks are shown in the peak AM and PM hours.

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, as follows:
   i. Metropolitan Bakersfield General Plan LOS C, and
   ii. Kern County General Plan LOS D
b. Conflict or be inconsistent with *CEQA Guidelines* section 15064.3, subdivision (b);
c. Substantially increases hazards due to a geometric design feature (such as sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); and
d. Result in inadequate emergency access.

Project Impacts

Impact 4.14-1: The project would conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, as follows: Metropolitan Bakersfield General Plan LOS C and Kern County General Plan LOS "D."

The project is located in eastern Kern County, outside the boundaries and jurisdiction of the Metropolitan Bakersfield General Plan. Therefore, the analysis presented herein will address impacts related to Kern County General Plan LOS D.

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 brought on site 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/off-site hauling, the majority of the trips would be associated with construction workers traveling to and from the site during the peak hours. An average of 120 workers per day is anticipated to be required during construction of the proposed project. During the peak construction period up to approximately 630 workers may be on the project site for short periods of time.

Traffic accessing the project is anticipated to come mainly from surrounding population centers such as Rosamond, Tehachapi, Lancaster, and Palmdale as well as from other nearby population centers. Traffic generated by construction of the proposed project would include personal vehicles and heavy trucks. These vehicles would access the project site via 170th Street West, Rosamond Boulevard, and 90th Street West. Project traffic, existing traffic, existing plus project traffic, build year cumulative traffic, and build year cumulative plus project traffic are shown in **Table 4.14-2:** *Project Trip Generation – Construction Phase*. As shown below, during the peak of construction operations, it is anticipated that an average 583 workers and 40 heavy trucks will be on site daily. This assumption results in 1,166 daily personal vehicle trips (combined inbound and outbound). Should there be any workers that carpool, the number would be reduced and reduce the number of daily vehicle trips.

Table 4.14-2: Project Trip Generation – Construction Phase

			AM Peak Hour Trips		PM Peak Hour Trips	
Traffic Types	Variable	ADT	In Trips	Out Trips	In Trips	Out Trips
Personnel	583 (average per day)	1,166	100%	0%	0%	100%
			583	0	0	583
Heavy Trucks	40 (per day)	801	100%	0%	0%	100%
			72	0	0	72
Total Trips		1,246	590	0	0	590

[1] Represents heavy truck trips with no adjustment for PCE.
[2] Represents trips arriving during Peak Hour only.

Intersection LOS

The impacts to intersection LOS during the construction phase due to the increase in vehicle trips from the proposed project, is anticipated to peak in 2023. The guidelines in the Caltrans publication *Guide for the Preparation of Traffic Impact Studies* (December 2002), states that a facility is required to be analyzed when a project will generate more than 50 peak hour trips at a facility operating above a LOS C. While the proposed project would generate more than 50 peak hour trips at some of the study intersections, the scope also took into account the routes used to access the project site, by personnel and heavy trucks, and the intersections where the project traffic had the highest volumes. **Table 14-1.3** - *Intersection Level of Service AM Peak Hour*, shows the anticipated LOS of intersections in proximity to the project site that would be used by employees, workers, and vehicles (trucks, deliveries, etc.) to access the site for morning trips.

Table 14.4-4: *Intersection Level of Service PM Peak Hour*, shows the anticipated LOS of intersections in proximity to the project site that would be used by employees, workers, and vehicles (trucks, deliveries, etc.) to access the site for evening trips.

As shown in Tables 4.14-3 and 4.14-4 above, all intersections currently operate at acceptable levels of service, and would continue to do with the addition of project construction traffic.

Table 4.14-3: Intersection Level of Service AM Peak Hour

#	Intersection	Control Type	2021	2023	2023 + Project
1	170th Street West & Rosamond Blvd.	AWSC	A	A	A
2	90th Street West & Rosamond Blvd.	AWSC	A	A	A
3	SR 14 SB Off Ramp & Rosamond Blvd.	Signal	B	C	C
4	SR 14 NB Off Ramp & Rosamond Blvd.	Signal	A	A	A
5	170th St. & W Avenue A	EB	A	A	A
		WB	A	A	A
6	90th Street West & W Avenue A	AWSC	A	A	A
7	SR 14 SB Offramp/SR 14 SB Onramp & West Avenue A	SB	A	B	B
8	SR 14 NB Onramp/SR 14 NB Offramp & W Avenue A	NB	A	A	B
9	170th Street & West D. Avenue	NB	B	B	C
		SB	A	B	B

Table 4.14-4: Intersection Level of Service PM Peak Hour

#	Intersection	Control Type	2021	2023	2023 + Project
1	170th Street West & Rosamond Blvd.	AWSC	A	A	A
2	90th Street West & Rosamond Blvd.	AWSC	A	A	B
3	SR 14 SB Off Ramp & Rosamond Blvd.	Signal	A	A	A
4	SR 14 NB Off Ramp & Rosamond Blvd.	Signal	B	B	B
5	170th St. & W Avenue A	EB	A	A	B
		WB	A	A	A
6	90th Street West & W Avenue A	AWSC	A	A	B
7	SR 14 SB Offramp/SR 14 SB Onramp & West Avenue A	SB	A	B	B
8	SR 14 NB Onramp/SR 14 NB Offramp & W Avenue A	NB	A	B	B
9	170th Street & West D. Avenue	NB	A	A	A
		SB	A	B	B

Roadway Capacity

The ADT and analysis for the proposed project are shown in **Table 4.14-5***: Roadway ADT Volumes & Analysis*, below, and show the results of project traffic volumes for roadway segments in the vicinity of the proposed project. As defined in the Highway Capacity Manual, a volume-to-capacity ratio (v/c) of greater than 0.80 would correspond to a LOS C. As shown in the table, the only roadway segments evaluated and found to exceed the 0.80 v/c ratio are Rosamond Blvd: 90th St. West – SR-14 SB and Rosamond Blvd: SR 14 SB – SR 14 NB. Although, these segments would be greater than the 0.80 v/c ratio that signifies a LOS C, all roadway segments within the scope of the study currently operate with acceptable LOS in the existing year and would continue to do so with the addition of cumulative and project construction traffic in the year 2023.

Operation and Maintenance

As noted previously, the proposed project is expected to generate fewer than 50 trips during the weekday AM and PM peak hours during operations. 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. The County's guidelines require that analysis be conducted at intersections

where a project would generate 50 or more peak hour trips. Therefore, an analysis of LOS conditions for project operation and maintenance was not conducted, and the impact is presumed to be less than significant.

Table 4.14-5 – Roadway ADT Volumes & Analysis

Street Segment	2021 ADT	Project ADT	2023 ADT	2023 Plus Project	Existing Capacity	Volume to Capacity Ratio		
						2021	2023	2023 Plus Project
Rosamond Blvd: 170th St. West – 90th St. West	1,502	207	1,504	1,711	15,000	0.10	0.10	0.11
Rosamond Blvd: 90th St. West – SR-14 SB	13,120	207	13,120	13,327	15,000	0.87	0.87	0.89
Rosamond Blvd: SR 14 SB – SR 14 NB	15,710	103	15,779	15,882	15,000	1.05	1.05	1.06
West Avenue A: 170th St. West – 90th St. West	889	206	944	1,150	15,000	0.06	0.06	0.08
West Avenue A: 90th Street West – SR 14 SB	660	206	660	866	15,000	0.04	0.04	0.06
West Avenue A: SR 14 SB – SR 14 NB	3,591	74	3,911	3,985	15,000	0.24	0.26	0.27
170th St. West: Rosamond Blvd – West Avenue D	538	177	569	746	15,000	0.04	0.04	0.05

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 of the proposed project would result in impacts similar to those caused by the project construction traffic, but the duration would be about one-third less than project construction (approximately four months). Therefore, all intersections and roadways would operate at acceptable levels of service with the addition of project decommissioning traffic.

Thus, the proposed project would not create any significant impacts to any of the intersections or roadways anticipated to be used for the proposed project during construction, operation, and decommissioning would not result in significant increases in VMT. Impacts in this regard would be less than significant and mitigation is not required. Nonetheless, the proposed project would include MM 4.14-1, below that includes traffic control measures that would further reduce impacts.

Public Access Easement Vacations.

As noted previously, the project proponent has requested approval to allow the vacation of existing public access easements on the project site as shown in Figure 3-6a, Figure 3-6b, and Figure 3-6c, that show public roadway street vacation. Approval of the road vacations would facilitate the optimal layout of solar panels by removing recorded but undeveloped public rights-of-way on vacant land. These easements have been created by grant deed or parcel maps, and some dirt roads exist within the project refinement.

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 proponent would be responsible for recording private easements for access purposes prior to the vacation being recorded. In most cases, the proposed private easements would be recorded along with the vacation of the original public easement.

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 vacation 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 road vacations would be less than significant.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. Construction and operation of these facilities would not conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

Mitigation Measures

MM 4.14-1: Prior to the issuance of construction or building permits for each Facility, the project proponent/operator shall:

a. Prepare and submit a Construction Traffic Control Plan to Kern County Public Works Department-Development Review and the California Department of Transportation offices for District 9, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues:

   i. Timing of deliveries of heavy equipment and building materials. To the extent feasible, restrict deliveries and vendor vehicle arrivals and departures during either the AM and PM peak periods;

   ii. Directing construction traffic with flaggers along the Rosamond Corridor;

   iii. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;

iv. Ensuring access for emergency vehicles to the project sites;

v. Coordinate construction activities with schools that could be affected by increased vehicle delay along Rosamond Boulevard (i.e., Tropico Middle School and Rosamond High School);

vi. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;

vii. Maintaining access to adjacent properties;

viii. Specifying both construction-related vehicle travel and oversize load haul routes and avoiding residential neighborhoods to the maximum extent feasible; and

ix. Consult with the County to develop coordinated plans that would address construction-related vehicle routing and detours adjacent to the construction area for the duration of construction overlap with neighboring projects. Key coordination meetings would be held jointly between applicants and contractors of other projects for which the County determines impacts could overlap.

b. Obtain all necessary encroachment permits for the work within the road right-of-way or use of oversized/overweight vehicles that will utilize county-maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Natural Resources Department, the Kern County Public Works Department-Development Review, and Caltrans.

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.

Level of Significance after Mitigation

With implementation of Mitigation Measure 4.14-1, impacts would be less than significant for the project. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's

standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Impact 4.14-2: The project would conflict 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 shifts the focus from driver delay to reduction of greenhouse gas emissions, creation of multimodal networks, and promotion of a mix of land uses. Vehicle miles traveled, or VMT, is a measure of the total number of miles driven to or from a development and is sometimes expressed as an average per trip or per person.

The newly adopted guidance provides that a lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide. Kern County is currently engaged in this process and have not yet formally adopted its updated transportation significance thresholds or its updated transportation impact analysis procedures. Since the regulations of SB 743 have not been finalized or adopted by the County, guidance from the State of California Office of Planning and Research's (OPR) December 2018 *Technical Advisory on Evaluating Transportation Impacts in CEQA* (Technical Guidelines), was relied upon in this EIR to determine the significance of transportation impacts (OPR, 2018).

VMT data was obtained from the Kern Council of Governments (KernCOG) in order to establish a baseline for daily vehicle miles travelled in the Kern County area. KernCOG's data is estimated based on Select Zone Analyses conducted for the region for establishing traffic models of existing and future land development projects. Based on household and employment populations in the greater Kern County area, as well as travel patterns throughout the region, KernCOG data shows an average VMT per trip of 43.2 miles.

Impacts due to construction activities would be temporary and would not result in any meaningful long-term or permanent change in VMT. Therefore, the evaluation of VMT is focused on project operation. As defined in CEQA Guidelines section 15064.3, subdivision (a), VMT refers to the amount and distance of automobile travel attributable to a project. The Technical Guidelines further explain that the automobile in section 15064.3 "refers to on-road passenger vehicles, specifically cars and light trucks." For this reason, this VMT analysis only considers passenger vehicle (i.e., cars and light trucks) trips generated by the project.

The Technical Guidelines provide a screening criterion that could be used to determine if VMT analysis is warranted for small projects, which are defined as projects that would generate fewer than 110 trips per day and may generally be assumed to cause a less-than-significant transportation impacts. Operation of the project is anticipated to need two full time equivalent employees, as well as workers to handle repairs, and other operational needs, and maintenance. Therefore, vehicle trips generated by project operations are expected to minimal and infrequent and would be well below OPR's recommended screening criterion threshold of 110 trips per day. The project's impact to VMT would be less than significant.

Further, based on analysis, it was determined that 40percent of the construction personnel would be from the local population, which is considered to be the greater Rosamond area. The remaining

60 percent of the construction personnel will be from surrounding population centers. It was assumed that 25 percent of personnel will be from Tehachapi, 25 percent from Lancaster, and 10 percent from other population centers. In regard to the average trip length for construction personnel travelling to and from the site was determined to be approximately 26.5 miles.

Operation of the project is anticipated to need two full time equivalent employees, as well as workers to handle repaints, and other operational needs, and maintenance. In regard to the average trip length for these employees and contract workers the average trip length also is anticipated to be approximately 26.5 miles because this workforce would come from the same locations as listed above.

Thus, upon review of the proposed project and corresponding analysis it is concluded that the proposed project would not create any significant impacts to any of the intersections or roadways anticipated to be used for the proposed project during the construction phase and would not create a significant VMT impact. Therefore, impacts from the proposed project in this regard would be less-than-significant, and mitigation is not required.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. These facilities would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project and the SCE Interconnection Facilities.

Impact 4.14-3: The project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

During construction, the project would require the delivery of heavy construction equipment and PV 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. Thus, potential impacts would be less than significant.

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. Chain-link security fencing would be installed around the perimeter of the facilities and other areas requiring controlled access, prior to commencement of construction, in order to restrict public access during construction and operations. 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.

While impacts would be less than significant, Mitigation Measure MM 4.14-1 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 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.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. These facilities would not substantially increase hazards due to a geometric design feature.

Mitigation Measures

Implement 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 for the project. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Impact 4.14-4 - Result in inadequate emergency access.

The project site is located in a rural area with the primary access to the CUP Areas being from Rosamond Boulevard, Holiday Avenue, 170th Street West, 140th Street West, Gaskell Road, 120th Street West, Gaskell Road, 100th Street West, and 90th Street West. The project has been designed and access points have been located to enable adequate egress and ingress to the site in the event of an emergency. Additionally, as part of the project, internal access roads would be constructed and would enable emergency access throughout the interior of the site. 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 cause a significant increase in congestion and or significantly worsen the existing service levels at intersections on area roads. Thus, the project-related traffic would not affect emergency access to the project site or any other surrounding location. In addition, the proposed project would not require closures of public roads during either construction or operation and would not inhibit access by emergency vehicles in this regard. For these reasons construction and operation would have a less-than-significant impact on emergency access.

Implementation of Mitigation Measures MM 4.14-1 would require the preparation of a Construction Traffic Control Plan that considers access for emergency vehicles to the project site and reduces the potential to impact emergency access to the project to a less than significant level.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. These facilities would not result in inadequate emergency access.

Mitigation Measures

Implement Mitigation Measures MM 4.14-1.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.14-1 impacts would be less than significant for the project. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

As noted above in Section 4.14.2, *Environmental Setting*, existing AM and PM peak hour turning movement volumes were field measured at the study intersections in March 2021. The existing volumes were projected out to the ear 2023 using growth rates ranging from 0.72 to 7.41 percent in order to analyze traffic for the build year scenario. Growth rates were determined from the Kern COG model.

In order to evaluate the project considering cumulative traffic conditions, a list of cumulative projects in the vicinity of the project site was provided by the Kern County Planning Department. Based on the locations and types of projects provided in the cumulative projects list, peak hour turning movement volumes were calculated and added to the 2023 volumes to account for these cumulative conditions. It was determined that project traffic generated by cumulative projects located further then six miles from the project site would not have a noticeable effect on traffic conditions at study intersections or roadway segments, and therefore vehicle trips that would be generated by those projects were not considered in the cumulative traffic analysis for the proposed project.

Cumulative impacts from the proposed project, when considered with nearby, reasonably foreseeable planned projects, would occur only during project construction because project operation traffic would be minimal. As stated above in the evaluation of operational impacts, there would be minimal trip generation once construction activities have concluded. Therefore, operation of the project would result in less-than- significant cumulative impacts.

The potential for cumulative construction impacts exists where there are multiple projects proposed in an area that have overlapping construction schedules that could affect similar resources. The analysis of 2023 traffic conditions in Impact 4.14-3 includes project construction traffic in combination with traffic that would be generated by cumulative projects. As discussed above, and as reflected in Table 4.14-3: *Intersection LOS AM Peak Hour* and Table 4.14-4: *Intersection LOS PM Peak Hour***,** none of the study intersections would operate below an acceptable level of service during one or both peak hours with the addition of project construction traffic and cumulative traffic through the year 2023 with the project. Therefore, cumulative construction traffic impacts would be less than significant.

On the project-level (including the development of the gen-tie lines), the proposed project would not include a design feature or utilize vehicles with incompatible uses that would create a hazard on the surrounding roadways. The proposed project also includes MM 4.14-1, that would further ensure the project's cumulative contribution to transportation impacts would be less than significant.

SCE Interconnection Facilities

The SCE property is already developed with an electrical substation. The addition of the SCE Interconnection Facilities would develop improvements and new interconnection-related components such as additional control equipment on property that is already developed with electrical transmission facilities. The SCE Interconnection Facilities would not result in cumulative transportation impacts.

Mitigation Measures

Implement Mitigation Measures MM 4.14-1

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.14-1, cumulative impacts would be less than significant for the project. Cumulative impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Section 4.15
Tribal Cultural Resources

4.15.1 Introduction

This section provides an assessment of potential impacts related to tribal cultural resources that could result from implementation of the proposed project. The analysis in this section is based on the results of the Cultural Resources Study located in Appendix D and the Native American consultation conducted by the County for purposes of compliance with Senate Bill 18 (SB 18) and CEQA requirements prompted by Assembly Bill 52 (AB 52).

This section is also primarily based on the Phase 1 Survey prepared for the proposed project by ASM Affiliates (August 2021; Appendix D), which details the results of a cultural resources records search and field survey for the project. Due to the confidential nature of the location of tribal cultural resources, information regarding location of cultural resources has been redacted from the report and is not included in the appendix.

4.15.2 Environmental Setting

Refer to Section 4.5, *Cultural Resources*, of this EIR for discussion of the cultural resources including additional analysis of the tribal cultural resources environmental setting.

Existing Tribal Cultural Resources

Native American SB 18 and AB 52 Consultation

As indicated in the Phase I Cultural Resources Survey for the project (Appendix D), a Sacred Lands File (SLF) search through the NAHC did not identify sacred sites or tribal cultural resources in the project vicinity. A second search of the SLF, dated December 18, 2020 and requested by the County for purposes of SB 18 compliance, also returned negative results.

As part of the County's government-to-government responsibilities pursuant to AB 52, on February 22, 2021, the County sent consultation notification letters via certified mail to six California Native American tribal contacts on the County's Master List for AB 52 consultation. Similarly, as part of the County's government-to-government consultation responsibilities pursuant to SB 18, on October 12, 2021, the County sent outreach letters via certified mail to 11 California Native American tribal contacts identified by the NAHC. Results of the outreach are shown in **Table 4.15-1**, *AB 52 and SB 18 Native American Consultation*. To date, one response has been received from Ryan Nordness, Cultural Resource Analyst for the San Manuel Band of Mission Indians (San Manuel), requesting formal consultation pursuant to AB 52 and SB 18. The correspondence between the County and San Manuel is summarized below following **Table 4.15-1,** *B 52 and SB 18 Native American Consultation*.

Table 4.15-1: AB 52 and SB 18 Native American Consultation

Contact	Tribe	Legal Requirement	Date of Letter	Response
Anthony Madrigal, Jr., Tribal Grants Administrator	Twenty-Nine Palms Band of Mission Indians	AB 52	February 22, 2021	No response
Darrell Mike, Tribal Chairman	Twenty-Nine Palms Band of Mission Indians	AB 52	February 22, 2021	No response
Michael Mirelez, Cultural Resources Coordinator	Torres Martinez Desert Cahuilla Indians	AB 52	February 22, 2021	No response
Ryan Nordness, Cultural Resources Analyst	San Manuel Band of Mission Indians	AB 52 and AB18	February 22, 2021 and October 12, 2021	Ryan Nordness, cultural resources analyst for San Manuel responded with a request for formal consultation.
Donna Yocum, Chairperson	San Fernando Band of Mission Indians	SB18	October 12, 2021	No response
Danelle Gutierrez, Tribal Historic Preservation Officer	Big Pine Paiute Tribe of the Owens Valley	SB 18	October 12, 2021	No response
Sally Manning, Environmental Director	Big Pine Paiute Tribe of the Owens Valley	SB 18	October 12, 2021	No response
James Rambeau, Chairperson	Big Pine Paiute Tribe of the Owens Valley	SB18	October 12, 2021	No response
Julio Quair, Chairperson	Chumash Council of Bakersfield	SB 18	October 12, 2021	No response
Jill McCormick, Historic Preservation Officer	Quechan Tribe of the Fort Yuma Reservation	SB18	October 12, 2021	No response
Robert Robinson, Chairperson	Kern Valley Indian Community	AB 52 and SB18	February 22, 2021 and October 12, 2021	No response
Delia Dominguez, Chairperson	Kitanemuk and Yowlumne Tejon Indians	SB 18	October12, 2021	No response
Octavio Escobedo, Chairperson	Tejon Indian Tribe	SB18	October 12, 2021	No response
Colin Rambo, Cultural Resource Management Technician	Tejon Indian Tribe	AB 52 and SB18	February 22, 2021 and October 12, 2021	No response

In an email dated February 25, 2021, Ryan Nordness, Cultural Resource Analysist for the San Manuel Band of Mission Indians, replied to the County's AB 52 consultation notifications stating

the project is located within Serrano ancestral territory and that San Manuel elects to engage in formal consultation regarding the project. In the email, Mr. Nordness also requested the following for review upon availability.

- Cultural report
- Geotechnical report (if required for the project)
- Project plans showing the depth of proposed disturbance

  In response, the County subsequently sent the following information to San Manuel Band of Mission Indians on (DATE):

- Phase I Cultural Resources Survey (on October 30, 2018)
- Geotechnical report (on September 6, 2018)
- Project plans showing the depth of proposed disturbance (on September 6, 2018)

Refer to Section 4.5, *Cultural Resources,* for a discussion of impacts to archaeological resources and a list of mitigation measures.

SCE Interconnection Facilities

The SCE property is developed with the existing Whirlwind power station. The SCE interconnection facilities would be constructed within the existing power station and would not have the potential to impact tribal cultural resources

4.15.3 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 Native American Heritage Commission (NAHC), the duties of which include inventorying places of religious or social significance to Native Americans and identifying known graves and cemeteries of Native Americans on private lands. Section 5097.98 of the PRC specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

Assembly Bill 52 and Related Public Resources Code Sections

AB 52 was approved by California State Governor Edmund Gerry "Jerry" Brown, Jr. on September 25, 2014. The act amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a Notice of Preparation (NOP) or a Notice of Intent (NOI) to Adopt a Negative

Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC Section 21074(a)(1) and (2) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are either included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR) or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the *CEQA Guidelines*, which was approved by the Office of Administrative Law on September 27, 2016.

PRC Section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency's formal notification and the lead agency must begin consultation within 30 days of receiving the tribe's request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project's impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an EIR or adopt an MND for a project with a significant impact on an identified tribal cultural resource (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

Senate Bill 18

Senate Bill 18 (SB 18) (Statutes of 2004, Chapter 905), which went into effect January 1, 2005, requires local governments (city and county) to consult with Native American tribes before making certain planning decisions and to provide notice to tribes at certain key points in the planning process. The intent is to "provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places" (Governor's Office of Planning and Research, 2005).

The purpose of involving tribes at these early planning stages is to allow consideration of cultural places in the context of broad local land use policy, before individual site-specific, project-level, land use designations are made by a local government. The consultation requirements of SB 18 apply to general plan or specific plan processes proposed on or after March 1, 2005.

According to the *Tribal Consultation Guidelines: Supplement to General Plan Guidelines* (Governor's Office of Planning and Research, 2005), the following are the contact and notification responsibilities of local governments:

- Prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes (on the contact list maintained by the NAHC) of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to, cultural places located on land within the local government's jurisdiction that is affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe (Government Code Section 65352.3).
- Prior to the adoption or substantial amendment of a general plan or specific plan, a local government must refer the proposed action to those tribes that are on the NAHC contact list and have traditional lands located within the city or county's jurisdiction. The referral must allow a 45-day comment period (Government Code Section 65352). Notice must be sent regardless of whether prior consultation has taken place. Such notice does not initiate a new consultation process.
- Local government must send a notice of a public hearing, at least 10 days prior to the hearing, to tribes who have filed a written request for such notice (Government Code Section 65092).
- 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 (NAGPRA) of 2001

Codified in the California Health and Safety Code Sections 8010-8030, the California Native American Graves Protection and Repatriation Act 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 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. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

Local

Construction, operation, and decommissioning 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 the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to tribal cultural resources. There are no policies, goals, and implementation measures in the Kern County General Plan related to tribal cultural resources that are applicable to the project. 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.

4.15.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to tribal cultural resources have been evaluated using a variety of resources, including an SLF search conducted by the NAHC. SB 18 and AB 52 notification letters were sent to Native American groups and individuals indicated by the NAHC to solicit information regarding the presence of tribal cultural resources. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

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

A project would have a significant impact on tribal cultural resources if it would:

1) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
    a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
    b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public

Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Project Impacts

Impact 4.15-1a: 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 on December 18, 2020, as part of the cultural resources report did not indicate the presence of sacred sites or traditional cultural places within or adjacent to the study area. In addition, the cultural resources report noted that the study area, based on the NAHC *Sacred Lands File*, appear to have a low sensitivity for prehistoric/Native American cultural resources, with the majority of these expected to be isolated artifacts rather than archaeological site, per se.

As a result of AB 52 and SB 18 consultation, the San Manuel Band of Mission Indians identified the proposed project being located within the Serrano ancestral territory. There were eight lithic isolates found on the project during the intensive Phase 1 Cultural Resources Survey (see Appendix D of this EIR)., However, they were determined to be not eligible for the California Register of Historical Resources (CRHR).

The remaining cultural resources identified during the survey were historic refuse dumps and a partially burned down house. These cultural features are all historical/Euro-American in origin. There are no other known tribal cultural resources identified on the project.

As noted in Section 4.16.2, *Environmental Setting*, the County imposed mitigation measures to avoid impacts to archaeological and historic resources. Mitigation Measure MM 4.5-1 requires the preparation of a Treatment Plan if avoidance of historical resources P-15-14902 is not feasible, which also outlines the necessary steps to protect that feature. MM 4.5-2 outlines steps to be taken if any currently unknown archaeological resources that might be inadvertently discovered during construction. Including engaging a qualified archaeologist and consultation with the San Manuel Band of Mission Indians. Mitigation Measure MM 4.5-3 requires that during construction work would immediately halt within 100 feet if human remains are found, and to contact the Kern County Coroner to evaluate the remains human remains.

Refer to Section 4.5, *Cultural Resources,* for a discussion of impacts to archaeological resources and a list of mitigation measures.

Thus, impacts to tribal cultural resources are anticipated to be less than significant.

Pursuant to Section 21080.3.2(b)(1) of AB 52, the lead agency considers the consultation concluded, as the parties have agreed to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource.

SCE Interconnection Facilities

Impacts associated with construction of the SCE Interconnection Facilities are expected to encompass a relatively small footprint and minimal ground disturbance within the existing Whirlwind power station. 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.

Mitigation Measures

Implement Mitigation Measures MM 4.5-1 through MM 4.5-3, see Section 4.5 *Cultural Resources.*

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.5-1 through MM 4.5-3 impacts would be less than significant for the project. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's best management practices and APMs, and no mitigation is required for the SCE Interconnection Facilities

Impact 4.15-1b: 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, San Manuel Band of Mission Indians identified the proposed project being located within Serrano ancestral territory as part of the AB 52 and SB 18 consultation process. The County participated in consultation and agreed to avoid any newly discovered unknown tribal cultural resources during construction, as consistent with PRC section 21084.3. Because the potential tribal cultural resources will be avoided, impacts would be less than significant. As noted in Section 4.16.2, *Environmental Setting*, the County and San Manuel also agreed to mitigation measures to avoid impacts to archaeological resources. Refer to Section 4.5, *Cultural Resources*, for a discussion of impacts to archaeological resources and a list of mitigation measures.

Pursuant to Section 21080.3.2(b)(1) of AB 52, the lead agency considers the consultation concluded, as the parties have agreed to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource.

SCE Interconnection Facilities

Impacts associated with construction of the SCE Interconnection Facilities are expected to encompass a relatively small footprint and minimal ground disturbance within the existing

Whirlwind power station. 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 historical 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.

Mitigation Measures

Implement Mitigation Measures MM 4.5-1 through MM 4.5-5, see Section 4.5 *Cultural Resources*.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.5-1 through MM 4.5-5, impacts would be less than significant. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's BMPs and APMs, and no mitigation is required for the SCE Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

An analysis of cumulative impacts takes into consideration the entirety of impacts that the project discussed in Chapter 3, *Project Description*, of this EIR, would have on tribal cultural resources. The geographic area of analysis for tribal cultural resources includes the western Antelope Valley. This geographic scope of analysis is appropriate because the resources within this area are expected to be similar to those that occur on the project area because of their proximity, their similarities in environments and landforms, and their location within the same Native American tribal territories. This is a large enough area to encompass any effects of the project on tribal cultural resources that may combine with similar effects caused by other projects and provides a reasonable context wherein cumulative actions could affect tribal cultural resources.

Numerous discretionary projects, including solar energy production facilities, are proposed throughout the Antelope Valley. Cumulative impacts to tribal cultural resources in the Antelope Valley could occur if other related projects, in conjunction with the proposed project, had or would have impacts on cultural resources that, when considered together, would be significant.

Potential impacts of the project to tribal cultural resources, in combination with other projects in the area, could contribute to a cumulatively significant impact due to the overall loss of resources unique to the region. As discussed above a there were no known or identified tribal cultural resources on the project site. With implementation of Mitigation Measures MM 4.5-1 through MM 4.5-5, no tribal cultural resources are anticipated to be impacted as a result of project implementation and the project would not have a cumulatively considerable contribution to impacts to tribal cultural resources.

SCE Interconnection Facilities

Excavation required for installation of the Interconnection Facilities has the potential to cause impacts to tribal cultural resources that could become cumulatively considerable in combination with other excavation occurring throughout the rest of the analysis area; however, implementation of SCE's standard BMPs and APMs would reduce these impacts and the impacts from decommissioning of these facilities to less than significant levels. Therefore, cumulative impacts would be less than significant

Mitigation Measures

Implement Mitigation Measures MM 4.5-1 through MM 4.5-5, see Section 4.5 Cultural Resources.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.5-1 through MM 4.5-5, cumulative impacts would be less than significant. Cumulative impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard BMPs and APMs for pre-construction study, data recovery, and halting of construction if resources are discovered. No mitigation is required for the SCE Interconnection Facilities.

Section 4.16
Utilities and Service Systems

4.16.1 Introduction

This section of the EIR describes the affected environment and regulatory setting of the Rosamond South Solar Project (project) pertaining to demand for operational utilities (water supply, stormwater, electricity, natural gas, telecommunications, and solid waste disposal). This section describes existing infrastructure and levels of service and evaluates whether any improvements would be necessary to accommodate the project. The information and analysis in this section is based on the project-specific *Preliminary Hydrology Study* (Westwood, 2020), and *Water Supply Assessment – Kern County Rosamond South Solar Project*, (*QK, 2022*), included in Appendix H and Appendix I of this EIR, respectively. A water supply assessment (WSA) was originally prepared for the project in January 2021. The WSA was largely based on the 2015 Urban Water Management Plan (UWMP) prepared by the Antelope Valley – East Kern Water Agency (AVEK). The AVEK UWMP was updated in 2020 and a revised WSA was prepared in May of 2022. This section is primarily based on the most recent UWMP but uses pertinent information from and references the 2015 document as appropriate.

4.16.2 Environmental Setting

Water Supply

There are typically three sources of water supply for development: (1) natural sources; (2) manmade sources; and (3) reclamation. Natural sources include rivers, lakes, streams, and groundwater stored in aquifers. Manmade sources include runoff water that is treated and stored in reservoirs and other catchment structures. Reclaimed water is wastewater that has been conveyed to a treatment plant and then treated to a sufficient degree that it may be used for certain uses, such as irrigation and watering landscape. 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 is located on approximately 1,292 acres of privately owned land located in the western extent of the Mojave Desert. The project is located approximately 11 miles west of the unincorporated community of Rosamond, California. The project site is not served by an existing public water system's service area and there is no public purveyor that can practicably provide water for the project. The nearest existing water utility system is the Rosamond Community Services District (RCSD) located approximately 4.0 miles east of the eastern boundary of CUP Area 4 (RCSD, 2018). The project site is located in an area without a public water purveyor that can practicably provide water for the project. The RCSD would not be able to serve the project site because it is outside of RCSD's service boundaries and there are no existing service lines in proximity to the project site.

The proposed project would source water from an offsite private groundwater supplier pumping water from the Antelope Valley Groundwater Basin. The water would be purchased from Antelope Valley-East Kern Water Agency (AVEK) and delivered to the project site via water truck. AVEK is one of the regional water agencies and manages water delivers and ground water to the project

area. AVEK is a wholesale water provider that treats, delivers, and stores water and provides treated water to retail agencies and untreated water to agricultural customers within a 2,400 square mile service area. The well that would be used to serve the project is owned by RMR Water Trucks.

The project site is located in an unincorporated part of Kern County, in the South Lahontan Hydrologic Region, and within the boundaries of the AVEK. The AVEK encompasses a service area of nearly 2,300 square miles in the Mojave Desert. AVEK is the 3rd largest State Water Contractor with an entitlement of 144,844-acre feet per year (AFY), and currently supplies a demand of approximately 75,000 AFY. The majority of AVEK's imported water is treated and distributed to customers throughout its service area. To help increase the reliability of regional water supplies, AVEK stores excess imported water during wet periods through groundwater banking programs. AVEK has two sources of water supply, imported SWP water and groundwater from the Antelope Valley Groundwater Basin (AVEK, 2021 and QK, 2022). AVEK provides water supplies to over 20 municipal users, including the Boron Community Services District (CSD) and Desert Lake CSD, two local utilities adjacent to the project site. In 1962, the AVEK Board of Directors signed a water supply contract with the California Department of Water Resources (DWR) for delivery of imported water supplies from the State Water Project (SWP) to supplement Antelope Valley groundwater supplies for users in the Antelope Valley.

Antelope Valley Groundwater Basin

The Antelope Valley Groundwater Basin is primarily fed from runoff from Big Rock and Little Rock Creeks, and Oak Creek. The basin includes an area of 1.01 million acres (1,580 square miles) and underlies an extensive alluvial valley in the western Mojave Desert. The basin is bounded on the northwest by the Garlock fault zone, on the southwest by the San Andreas fault zone on the east by ridges, buttes, and low hills separating it from the Fremont Valley Groundwater Basin (California Department of Water Resources 2004).

Groundwater in the basin is used for both public water supply and local irrigation. The main water-bearing units are gravel, sand, silt, and clay derived from the surrounding mountains. Groundwater recharge in the Antelope Valley is primarily runoff from surrounding mountains, as well as direct infiltration from irrigation, sewer, and septic systems (USGS 2013).

Total water storage within the Antelope Valley Groundwater Basin is reported to be in the range of 68 million to 70 million acre-feet. The Antelope Valley Groundwater Basin covers about 1,580 square miles in Los Angeles, Kern, and San Bernardino counties and is separated from surrounding basins by faults and the above listed topographic features (USGS, 2013). Groundwater has been and is an important resource within the Antelope Valley given the limits on the available local and imported surface water supply. One fundamental challenge in the Antelope Valley Region is that current demand for water exceeds available supplies in future, average, and dry years. Planning has been ongoing at the regional level to reduce water use and help reduce potential shortfalls in supply and is discussed in more detail below (Antelope Valley IRWMP, 2019). For a discussion of Antelope Valley Groundwater Basin characteristics, please refer to Section 4.10, *Hydrology and Water Quality*, of this EIR.

Antelope Valley Integrated Regional Water Management Plan

The proposed well that would provide water to the project is located within an area managed by the Antelope Valley Regional Water Management Group (RWMG). The RWMG published the

Antelope Valley Integrated Regional Water Management Plan (IRWM) in 2019. The IRWM is a joint water planning effort aimed at ensuring water supply reliability for the Antelope Valley Region. The RWMG group consists of agencies including: 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.

The contributed funds to help develop the IRWM Plan and in its development provide and share information, review and comment on drafts, which led to the adoption of the final IRWM Plan. The first plan was published January 2007, that collectively defined the water resource management plan. Consistent with the above, the plan described a course of action needed to meet the expected demands for water within the entire Antelope Valley Region through 2035. Since the initial plan was developed, planning efforts continued and in 2019 the IRWM Plan Update was published and addressed the planning horizon through 2040. (IRWM, 2019).

The primary goals of the IRWM Plan are to address the following:

- How to 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, enhance, and manage current water resources and the environmental resources for human and natural benefit within the Antelope Valley Region (Antelope Valley IRWM, 2019).

Willow Springs Subbasin

The proposed project is within the Willow Springs Subbasin of the above discussed Antelope Valley Groundwater Basin. Water usage in this portion of the subbasin is primarily for agricultural and urban land areas. Recharge comes from intermittent streams of the surrounding mountain areas. Recharge from the Oak Creek drainage system moves generally south-to east, toward Soledad Mountain and into the Chafee, Gloster and Willow Springs area. Within the Willow Springs Subbasin, groundwater generally flows to the southeast. Depth to water in this area generally ranges from 100 to more than 300 feet below ground surface (bgs). Some of this water eventually discharges across the Rosamond fault into the Lancaster Subbasin, although this flow is considered negligible. The subbasin area includes Five Points, Twin Lakes, a portion of Willow Springs and other smaller communities.

Groundwater Basin Adjudication

Prior to the Sustainable Groundwater Management Act (SGMA), the primary method for solving groundwater disputes and protecting groundwater basins was litigation. When over-pumping led to a crisis like seawater intrusion or chronic overdraft, people had little choice but to file a lawsuit— called an adjudication—in which all rights to water in a basin could be defined by a court. SGMA now ensures that basins can be managed sustainably through local management plans. In October 2015, Governor Brown signed Assembly Bill No. 1390, which 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.

A groundwater rights adjudication process has been underway for over 15 years to manage the basin, which includes the project site. The parties to the adjudication include non-governmental overlying users, appropriative users, non-user overlying land owners and federally reserved water rights. The case defines who controls and uses the water in the basin (AVT, 2015).

In May 2011, the California Superior Court issued an official decision determining that the adjudication area is in a state of overdraft and establishing a safe yield for the basin of 110,000 acre-feet per year (AFY), although pumping in the area has ranged up to 150,000 AFY (AVEK, 2016; Antelope Valley Watermaster, 2017).

On December 23, 2015, the court issued a final judgment which set in motion court-directed procedures for the Directors of the AVEK to create a Watermaster organization empowered to monitor the groundwater basin. In their first meeting of the year following settlement of long-running litigation over water rights adjudication, AVEK, as directed by the court, took action to begin the Watermaster transition process. The judgment specifies that the Watermaster board be made up of five members, including a representative from AVEK and the Los Angeles County Waterworks District 40. The Watermaster board was also tasked with arriving at a unanimous decision on a Watermaster engineer. Todd Groundwater was selected as the Watermaster engineer in April 2017 and will assign pumping allocations per user that will be metered and monitored on an annual basis. Although not anticipated due to the minor amount of water required for the proposed project, should project water demands exceed the assigned allocation, the proposed project would not be denied access to groundwater, but may be required to pay a replenishment fee for pumping in excess of the user's allocation if groundwater is utilized.

Wastewater

The Kern Sanitation Authority provides maintenance and wastewater service for Kern County; however, the unincorporated parts of the Antelope Valley (including the project site) that do not have a sewer line connection utilize septic systems to treat household, commercial, and industrial wastewater. Septic system treatment first separates sludge from wastewater effluent in the septic tank, then allows liquid effluent to percolate in spreading grounds to be filtered by the soil. Septic tanks are emptied regularly by private County-certified waste haulers. Runoff wastewater from agricultural operations is allowed to infiltrate as agricultural return flows into the ground and does not require treatment. The project would include restroom facilities inside of Operations and Maintenance (O&M) Building(s) to accommodate the demand of full-time equivalent (FTE) personnel during the operational phase of the project. Septic systems would be emptied as part of regular ongoing project-related maintenance.

Stormwater Drainage

As described in 4.10, *Hydrology and Water Quality*, of this EIR, the project site is located in a remote, rural region with no existing or stormwater infrastructure and would not tie into any stormwater infrastructure as none exists in the immediate vicinity of the site. The project is in the South Lahontan Hydrologic Region, and specifically within the Willow Springs Sub-Watershed of the Antelope Valley Hydrologic Unit. The total drainage area for the basin is approximately 4,700

acres with an elevation change of 2,400 feet. The Willow Springs Sub-Watershed is a closed basin inside of the Antelope Valley; therefore, there is no connection to the ocean and any precipitation or surface water is transferred via ephemeral streams to existing playas. Water moves through the project site via sheet flow at a low flow rate. The project site would not include any stormwater drainage infrastructure, although the project would incorporate drainage design features.

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 landfills throughout the County. Landfills are located in Bakersfield, Boron, Mojave-Rosamond, Ridgecrest, Shafter-Wasco, Taft, and Tehachapi. The project site does not currently generate any solid waste. The closest operational landfill to the project site is the Mojave-Rosamond located approximately 11 miles to the northeast. This Class III landfill accepts wastes from agricultural, construction and demolition, green materials, industrial, and mixed municipal (CalRecycle 2020a). The next closest landfill is the Mojave-Rosamond Recycling and Sanitary Landfill, which is also a Class III landfill, located approximately 23 miles west of the project site.

Kern County is responsible for meeting the California Integrated Waste Management Act of 1989 (AB 939). AB 939 required cities and counties to reduce the amount of solid waste being sent to landfills by 50 percent by January 1, 2000. It also required cities and counties to prepare solid waste planning documents. These documents include the Source Reduction and Recycling Element (SRRE), the Hazardous Waste Element (HHWE), and the Nondisposal Facility Element (NDFE). All three of these documents, as well as the Integrated Waste Management Plan, approved February 1998 by the California Integrated Waste Management Board, have been approved for Kern County. The Kern County Integrated Waste Management Plan is the long-range planning document for landfill facilities.

Construction and demolition (C&D) waste is generally heavy, inert material. This material creates significant problems when disposed of in landfills. Because C&D waste is heavier than paper and plastic, it is more difficult for counties and cities to reduce the tonnage of disposed waste. For this reason, C&D waste has been specifically targeted by the State of California for diversion from the waste stream. Projects that generate C&D waste should emphasize deconstruction and diversion planning rather than demolition. Deconstruction is the planned, organized dismantling of a prior construction project, which allows maximum use of the deconstructed materials for recycling in other construction projects and sends a minimum amount of the deconstruction material to landfills.

The Waste Operations Division of the Kern County Public Works Department administers or sponsors the following recycling programs, which contribute toward meeting State-mandated solid waste diversion goals:

- Recycling programs at landfills to recycle or divert a wide variety of products, such as wood waste, cathode ray tubes, tires, inert materials, appliances, etc.;
- Drop-off recycling centers for household recyclables. The County and 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 (co-sponsor);
- Christmas tree recycling campaign (participates jointly with the City of Bakersfield);
- Telephone book recycling program (co-sponsors with Community Clean Sweep);
- Community Clean Sweep summer workshops called "Trash to Treasure," which educate children about recycling and other Kern County Waste Management Department programs (sponsor);
- An innovative elementary school program called the "Clean Kids Hit the Road Puppet Show" (operates in collaboration with Community Clean Sweep); and
- Recycling trailers for churches, schools, and nonprofit organizations.

Electric Power, Natural Gas, and Telecommunications

Southern California Edison (SCE) has existing electrical and transmission facilities in the project area, including the SCE Whirlwind and Teddy Substations, and associated SCE transmission line. Southern California Gas (SoCalGas) is the natural gas provider in this area of Kern County. No known natural gas pipelines or telecommunication lines exist at the project site.

SCE Interconnection Facilities

The SCE property is developed currently with an electrical substation and electrical transmission facilities.

4.16.3 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 and regulates the provision of natural gas and electricity within California. 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 1911, the CPUC was established by Constitutional Amendment as the Railroad Commission. In 1912, the legislature passed the Public Utilities Act, expanding the Railroad Commission's regulatory authority to include natural gas, electric, telephone, and water companies as well as railroads and marine transportation companies. In 1946, the Railroad Commission was renamed the California Public Utilities Commission. It is tasked with ensuring safe, reliable utility service is available to consumers, setting retail energy rates, and protecting against fraud.

California Department of Resources and 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 non-hazardous waste handling and recycling program. CalRecycle provides training and ongoing support for local enforcement agencies that regulate and inspect California's active and closed solid waste landfills (CalRecycle, 2019).

The Integrated Waste Management Act of 1989 (PRC 40050 et seq. or AB 939, codified in PRC 40000), administered by CalRecycle, requires all local and county governments to adopt a Source Reduction and Recycling Element to identify means of reducing the amount of solid waste sent to landfills. This law set reduction targets at 25 percent by the year 1995 and 50 percent by the year 2000. To assist local jurisdictions in achieving these targets, the California Solid Waste Reuse and

Recycling Access Act of 1991 requires all new developments to include adequate, accessible, and convenient areas for collecting and loading recyclable and green waste materials.

State Water Resources Control Board and Regional Water Quality Control Board

The primary responsibility for the protection of water quality in California rests with the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs). The SWRCB sets statewide policy for the implementation of state and federal laws and regulations. The RWQCBs adopt and implement Water Quality Control Plans (Basin Plans), which recognize regional differences in natural water quality, actual and potential beneficial uses, and water quality problems associated with human activities. The project site is within the jurisdiction of the Lahontan RWQCB.

California 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.

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 Regional Water Quality Control Board (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.

Senate Bills 610 and 221

Senate Bill (SB) 610 and SB 221, passed in 2001, are companion measures that seek to promote more collaborative planning among local water suppliers and cities and counties. SB 610 requires a city or county that determines that a project, as defined, is subject to CEQA to identify any public water system that may supply water for the project and to request those public water systems to prepare a specified water assessment. The project is subject to CEQA and is considered a project requiring preparation of a water supply assessment because it is a proposed industrial facility occupying more than 40 acres of land.

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 normal, single and multiple dry years, presented in five-year increments for a 20-year projection. In accordance with these measures, a WSA is required for a proposed industrial,

manufacturing, or processing plant that would house more than 1,000 persons; occupy more than 40 acres of land; or have more than 650,000 square feet of floor area (California Water Code, Section 10912).

California 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] Section 40050, et seq.) or Assembly Bill (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.

As described above, C&D waste is heavy, inert material that creates significant problems when disposed of in landfills. Because C&D waste is heavier than paper and plastic, it is more difficult for counties and cities to reduce the tonnage of disposed waste. For this reason, C&D waste has been specifically targeted by the State of California for diversion from the waste stream. Projects that generate C&D waste should emphasize deconstruction and diversion planning rather than demolition. Deconstruction is the planned, organized dismantling of a prior construction project, which allows maximum use of the deconstructed materials for recycling in other construction projects and sends a minimum amount of the deconstruction material to landfills.

Waste should be diverted 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.

California Green Building Code

As part of compliance with the state of California Green Building Code Requirements (known as CALGreen) that took effect beginning January 2011, Kern County implemented the following construction waste diversion requirements:

- Submittal of a Construction Waste Management Plan prior to project construction for approval by the Kern County Building Department.
- Recycling and/or reuse of a minimum 50 percent of construction & demolition waste; and
- Recycling or reuse of 100 percent of tree stumps, rocks and associated vegetation and soils resulting from land clearing. 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.

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.

Local

Antelope Valley Watermaster

In accordance with the 2015 adjudication of the Antelope Valley Groundwater Basin establishing a safe yield and decreased respective water rights among groundwater producers, the Antelope Valley Watermaster Board and Advisory Committee were formed in 2016. (Antelope Valley Watermaster, 2019). The Antelope Valley Watermaster is responsible for administrating adjudicated water rights within the Antelope Valley, including approving new production wells, collecting and reviewing groundwater production reporting forms, and producing annual reports summarizing overall groundwater production and replenishment in the Antelope Valley Groundwater Basin.

Kern County Integrated Waste Management Plan

The Kern County Public Works Department (KCPWD) is required by the State to plan and implement waste management activities and programs in the County unincorporated area to assure compliance with AB 939 and subsequent State mandates. The Kern County Integrated Waste Management Plan (IWMP) includes a Reduction and Recycling Element, Household Hazardous

Waste Element, and Non-disposal Facility Element. The Plan was approved February 1998 by the California Integrated Waste Management Board (now California Department of Resources Recycling and Recovery or CalRecycle). The Kern County IWMP is the long-range planning document for landfill facilities.

Kern County Public Works Department Recycling Programs

The Waste Operations Division of the Kern County Public Works Department administers or sponsors the following recycling programs, which contribute toward meeting State-mandated solid waste diversion goals 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 (co-sponsor);
- Christmas tree recycling campaign (participates jointly with the City of Bakersfield);
- Telephone book recycling program (co-sponsors with Community Clean Sweep);
- Community Clean Sweep summer workshops called "Trash to Treasure," which educate children about recycling and other Kern County Waste Management Department programs (sponsor);
- An innovative elementary school program called the "Clean Kids Hit the Road Puppet Show" (operates in collaboration with Community Clean Sweep); and
- Recycling trailers for churches, schools, and nonprofit organizations.

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for utilities and service systems applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference (Kern County, 2009).

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 9: Serve the needs of industry and Kern County residents in a way that does not degrade the water supply and the environment and protect public health and safety by avoiding surface and subsurface nuisances resulting from the disposal of hazardous wastes, irrespective of the geographic origin of the waste.

Policies

Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.

Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the CEQA documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.

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.

Resources

Goals

Goal 3: Ensure the development of resource areas minimize effects on 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 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 use in undeveloped portions of the County regardless of General Plan designation.

Policy 16: The County will encourage development of alternative energy sources by tailoring its Zoning and Subdivision Ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission.

Policy 19: Work with other agencies to define regulatory responsibility concerning energy related issues.

General Provisions

Public Services and Facilities

Policies

Policy 9: New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure which it generates and upon which it is dependent.

Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.

Policy 16: The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to serve the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.

Implementation Measures

Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.

Measure D: Involve utility providers in the land use and zoning review process.

Measure E: All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply and Preservation of Environmental Health Rules and Regulations administered by the County's Public Health Services Department. Those projects having percolation rates of less than five minutes per inch shall provide a preliminary soils study and site specific documentation that characterize the quality of upper groundwater in the alternative septic systems would adversely impact groundwater quality. If the evaluation indicated that the uppermost groundwater at the proposed site already exceeds groundwater quality objectives of the Regional Water Quality Control Board or would if the alternative septic

system is installed, the applicant would be required to supply sewage collection, treatment, and disposal facilities.

Chapter 5. Energy Element

5.4.5 Solar Energy Development

Goal

Goal 1: Encourage safe and orderly commercial solar development.

Policies

Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.

Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

Policy 4: The County shall encourage solar development in the desert and valley regions previously disturbed and discourage the development of energy projects on undisturbed land supporting state or federally protected plant and wildlife species.

Willow Springs Specific Plan

The project site is subject to the provisions of the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in April 2008 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 Willow Springs Area. The utilities and service systems-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project are outlined below (Kern County, 2008). Note that only applicable goals, policies, and standards are included here; those goals, policies, and standards that are not applicable are not included.

Public Facilities

Goals

(3) To restrict, if possible, any further and/or unnecessary drawdown of the water table within the plan area.

Policies

(1) New development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

(2) Operation of any solid waste facility shall comply with standards provided by the Kern County Solid Waste Management Plan.

Mitigation/Implementation Measures

(1) The siting and establishment of solid waste transfer stations, landfills, recycling center, and cleanup programs shall be in accordance with Kern County's Solid Waste Management Plan.

(2) Consideration shall be given to implementation of the following measure to reduce the impacts associated with solid waste generation:

a) Compacting refuse would substantially reduce the number of refuse hauling trips and allow for more effective and sanitary disposal.

b) Each project applicant shall comply with guidelines set forth by Kern County in accordance with AB 939 which mandates recycling programs for each jurisdiction in California and shall agree to be subject to universal collection for one- to four-unit residential projects and commercial.

Water Quality and Availability

Goal

To ensure that new developments are provided with an adequate water supply and wastewater disposal/treatment facilities.

Policies

(1) Water supply method and wastewater disposal/treatment facility shall be as required by Kern County.

(2) Separate environmental documentation shall be required for the methods of water supply and wastewater disposal/treatment selected.

4.16.4 Impacts and Mitigation Measures

Methodology

Potential impacts to utilities and service systems associated with construction and operation of the project have been evaluated using a variety of resources, including online sources and published documents, as well as the project-specific information and analysis based on the *Preliminary Hydrology Study* (Westwood, 2020), and *Water Supply Assessment – Kern County Rosamond South Solar Project*, (*QK, 2022*), included in Appendix H and Appendix I of this EIR, respectively. In addition, current data obtained from the County and State of California about the capacity of landfills was used to identify potential impacts. Using these resources and professional judgment, impacts were analyzed according to significance criteria established in Appendix G of the *CEQA Guidelines*, 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 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 insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;

c. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition 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 4.16-1: The project would 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.

Construction

Water

The majority of water use for the project would occur during the approximate 3-month peak construction period. Total construction is anticipated to occur over a 12-month period. Water for construction would be used for such activities as dust suppression, soil compaction, and during other grading activities. Smaller quantities of water would be required to prepare concrete for foundations and other minor uses. Water for dust-suppression is anticipated to use the largest quantity of water but is not expected to exceed 450 acre-feet over the 12-month construction phase. The water supply for the project during construction would be supplied from a private local water purveyor. The purveyor has provided a "will serve letter" indicating there is adequate capacity and willingness to provide water for construction and operation of the project. Water would be trucked to the project site and sprayed by the truck to areas requiring water during construction activities. Construction of the project would not require, and the project does not propose nor would it result in the relocation or construction of new or expanded water facilities. Thus, because the project does not include these improvements, there would be no associated impacts. Impacts would be less than significant and mitigation is not required.

Wastewater Treatment

Construction of the project would generate a minimal volume of wastewater. During construction activity, wastewater contained within portable toilet facilities and portable hand washing facilities

would be disposed of at an approved offsite disposal site. The Kern County Public Health Services Department/Environmental Health Services Division is responsible for monitoring the use of portable toilet facilities, and the project proponent would be required to provide documentation of a portable toilet pumping contract. The project would include installation of a standard on-site septic tank and leach field to dispose of wastewater generated by the O&M building(s). The system would be, designed to meet operation and maintenance guidelines required by Kern County laws, ordinances, regulations, and standards. No offsite sewage or disposal connections to a municipal sewer system exist or are proposed. Therefore, construction of the project would not require or result in the relocation or construction of new or expanded off-site wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant and mitigation is not required.

Stormwater Drainage

As discussed in Section 4.10, *Hydrology and Water Quality*, of this EIR, the project site is located in a remote, rural region with no existing or planned stormwater infrastructure. The project area is presently drained by natural drainage channels and sheet flow and does not rely on constructed stormwater drainage. The existing project area and pattern and runoff characteristics would be altered by project activities during earth disturbance work such as grading, excavation, and equipment installation during construction and decommissioning. There are no existing stormwater drainage facilities within the project site, and the project would not affect existing stormwater drainage systems during construction and relocation or expansion of existing stormwater drainage facilities would not occur or be required. For areas within the project site, Mitigation Measure 4.10-1 requires the preparation of a storm drainage plan prior to issuance of building permits. The drainage plan would identify locations and physical characteristics of any permanent stormwater control facilities that would be installed.

The project would be required to adhere to Kern County Public Works Department storm water 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. Additionally, in compliance with National Pollutant Discharge Elimination System (NPDES) General Construction Permit requirements, and as required by Mitigation Measure 4.10-2, the proposed project would design and submit a site-specific Storm Water Pollution Prevention Plan (SWPPP) to minimize the discharge of wastewater during construction and a Water Quality Management Plan that include best management practices (BMPs) for runoff control.

All improvements during construction would be made within areas of the project site that are already disturbed or proposed for disturbance and included in the analysis in this EIR. Thus, construction of the project would not exceed the capacity of or require the relocation of any existing storm water drainage systems. The proposed project would not result in the relocation or construction of new or expanded stormwater drainage facilities with the potential to cause significant environmental effects. Impacts would be further reduced with implementation of Mitigation Measures 4.10-1 and 4.10-2.

Electric Power

The proposed project consists of a solar generation facility with an O&M buildings and other minor

facilities that are needed to facilitate project operations. These uses would not consume a large quantity of electricity during project construction, as construction equipment and vehicles are not electric (but rather diesel- or gasoline-powered). Electricity for construction use would either be provided by diesel generators and/or a temporary SCE distribution line hookup which would be installed on the project site. Because construction of the project would not displace existing electrical facilities, and would tie into existing off-site facilities, relocation of electrical facilities would not be required. The proposed project does include the construction of generation tie in lines and up to 230 kV overhead and/or underground line(s) that would transmit electricity to the existing Teddy substation and/or the SCE Whirlwind Substation. In addition, some minor modifications within the existing footprints and areas occupied by the substations (transformers, breakers, buss-work, etc) would be required. If aboveground, the overhead lines would be mounted on either tubular steel monopoles or lattice structures up to 140 feet in height. A franchise and/or encroachment agreement with Kern County along affected County roadways (including Gaskell Road, Holiday Avenue, Rosamond Boulevard, 100th Street West, 140th Street West, and 170th Street West) may ultimately be required for portions of the transmission line. All improvements during construction would be made within areas of the project site including along adjacent roadways that are already proposed for disturbance and potential impacts from this work is discussed within the respective sections of this EIR. Thus, the construction of the new or expanded energy infrastructure would not cause significant environmental effects. Impacts would be less than significant.

Natural Gas

The proposed project would not use natural gas during the construction phase. Therefore, construction of the project would not require or result in the relocation or construction of new or expanded natural gas facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant.

Telecommunications

No existing telecommunication facilities are located on-site. During construction, cellular or satellite communication technology may be used for both internet and telephone systems. The proposed project includes a telecommunications tower installed under CUP 44, Map No. 232. The approximate 200-foot tower and/or underground fiber optic system would be used to facilitate for on-site to off-site communications. All voice and data communications relays would be installed within the project footprint or along existing roadways within other utility infrastructures that also are included and analyzed as part of the project. Further, when considering impacts resulting from the installation of any required telecommunications infrastructure, all impacts are of a relatively short duration and would cease to occur when installation is complete. Any work that may affect services to the existing telecommunications lines would be coordinated with service providers. Therefore, construction of the project would not require or result in the relocation or construction of new or expanded telecommunication facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant.

Operation

Water

Water demand during operation of the project would total approximately 18 acre-feet per year of non-potable water for toilets, fire protection, and for routine PV solar panel washing. The water supply for the project during construction would be supplied from the same private local water purveyor. The purveyor has provided a "will serve letter" indicating there is adequate capacity and willingness to provide water for operation of the project. Water would be trucked to the project site and sprayed by the truck to areas requiring water during construction activities.

The project site is located within the Antelope Valley Groundwater Basin; as described above, the adjudication process for the Antelope Valley Groundwater Basin was completed in 2015. If non-potable water is obtained from the existing adjacent well, any groundwater pumped would be expected to fall within the water rights bestowed upon the adjacent well's operator by the 2015 adjudication. If drilling and installing an onsite groundwater well or wells is necessary to obtain non-potable water, the project proponent/operator would be required to complete the necessary application paperwork required by the Antelope Valley Watermaster and await Watermaster approval prior to installing any wells. Throughout the operation of any new wells, all required monitoring and reporting forms would be submitted to the Watermaster for review. By obtaining water either from an existing well with existing water rights or through a Watermaster-approved new groundwater well or wells, impacts related to water supply would be less than significant

The amount of water available from the private supplier is adequate to supply the projected demand for the operation of the project and is less than the adjudicated volume. Therefore, operation of the project would not require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant.

Wastewater

As previously discussed, wastewater would be generated through restroom facilities inside of O&M Building(s), portable toilets, and portable handwashing facilities. The proposed project would require a septic system to be built to serve the O&M Building(s) in order to accommodate wastewater disposal from restroom facilities for the estimated 2 full time employees. In addition, portable toilets and hand washing facilities would be serviced by truck and any wastewater would be disposed of at an approved off-site disposal facility. The proposed septic system would treat sewage and although would increase subsurface water volumes, would provide limited groundwater recharge. This septic system would be constructed in accordance with Kern County Department of Public Health requirements. No offsite sewage or disposal connections to a municipal sewer system exist or are proposed. Therefore, all wastewater operations would occur within areas proposed for disturbance or areas that are already in operation. Thus, operation of the project would not require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant.

Stormwater Drainage

As discussed in Section 4.10, *Hydrology and Water Quality*, of this EIR, 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. The existing pattern and concentration of runoff would be minimally altered by the proposed facility development, including equipment, structural enclosures and foundation installation, and other impervious features. The proposed project would include limited grading and a drainage plan would be prepared as required by Mitigation Measure 4.10-1. The drainage plan would detail engineering design measures to manage stormwater flows and reduce potential increases in stormwater runoff to off-site areas. Although there are no existing adjacent stormwater facilities the project would tie into, the potential increase in runoff to off-site areas and other downstream receiving waters, would be addressed with the construction of detention basins, retention basins, erosion control, or other drainage facilities. Per Mitigation Measure MM 4.10 2, the SWPPP would include BMPs designed to prevent the occurrence of soil erosion and discharge of other construction-related pollutants that could contaminate water quality and would be applicable to all areas of the project, including the solar fields and the gen-tie line. All onsite facilities proposed as part of the project would occur within the project footprint and in areas proposed to be disturbed. All designed facilities would be in accordance with the guidelines from the Kern County Development Standards Division 4 Standards for Drainage, including Chapter III, Retention Basin Design. The design features would be developed on-site along with the rest of the project construction and infiltration would occur similar to existing conditions. No off-site connections to municipal stormwater facilities exist or are proposed; thus, impacts would be less than significant.

Electric Power

Project operation would generate a combined total of approximately 165 MW of renewable electrical energy including 245 MW of associated energy storage systems in the BESS. The generated electrical energy would help to reduce and/or offset electricity on the state-wide utility grid. The existing substations (Whirlwind Substation and Teddy Substation) the project would be connected to distribute power are fenced to provide required security around the high-voltage electrical equipment. These stations may require minor improvements including the installation of additional fencing for security and installation of equipment such as transformers, breakers, bus-work, and new lines. The proposed project also would result in the use and operation of generation tie in lines and up to 230 kV overhead and/or underground line(s) that would transmit electricity to the substations. The lines would, if needed, would be operated under the same franchise and/or encroachment agreement with Kern County along affected County roadways. Once installed, the lines would be accessed for safety checks and to undergo routine maintenance as needed. Such activities would require use of specialized equipment but substantial work and/or disturbance to undisturbed areas or sensitive environmental would not occur. All operations of electrical equipment would be within along adjacent roadways or other areas previously disturbed and discussed within the respective sections of this EIR. Thus, the operation of the new or expanded energy infrastructure would not cause significant environmental effects. Impacts would be less than significant.

Natural Gas

The project will not use natural gas during the operation phase. Therefore, operation of the project would not require or result in the relocation or construction of new or expanded natural gas facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant.

Telecommunications

Telecommunication equipment including underground and overhead telephone, fiber optics and wireless communications infrastructure such as cellular, satellite, or microwave towers would be required to enable operation of the proposed project. This equipment will be both on-site and off-site and would be installed in areas proposed for disturbance within the project footprint, in some instances along area roadways (including Gaskell Road, Holiday Avenue, Rosamond Boulevard, 100th St. West, 140th St. West, and 170th St. West), and installed at the same time of other electrical infrastructure. These facilities are to be hard-wired (land-line) systems, underground, or on overhead lines and would require standard routine maintenance. It should be noted that the addition of these, as well as fiber optic lines, required for the operational phase of the project would not result in a substantial additional demand such that the construction of off-site facilities would be required. Therefore, operation of the project would not require or result in the relocation or construction of new or expanded telecommunication facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation and 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. SCE's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to the protection of the environment.

Mitigation Measures

Implement Mitigation Measures MM 4.10-1 and MM 4.10-2 from Section 4.10, *Hydrology*.

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. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Impact 4.16-2: The project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

The sufficiency of the project water supply is analyzed on three bases: the physical availability of the project area aquifer, and wells drilled therein, to provide groundwater in the amounts required for project construction and operation; the estimates in the 2022 Antelope Valley East Kern Water Agency (AVEK), Urban Water Master Plan and the 2019 Antelope Valley Integrated Regional Water Management Plan Update for normal water years, single dry water year and multiple dry water years, water supply and demand-related water availability with respect to projected water demand during a 20-year projection; the availability of groundwater for the project in compliance with the implementation of the Antelope Valley Groundwater Basin Adjudication.

Water for construction but is not anticipated to exceed 450 acre-feet over the 12-month construction phase and would primarily be used for dust suppression during construction, for soil compaction, and during other grading activities. Lesser quantities would be needed for mixing concrete and other minor uses. On-site restroom facilities for the construction workers would be provided by portable units and would be serviced by licensed providers. No connection to a public sewer system is required for project construction, and therefore, water for this use is not required.

The project's operational water consumption would be approximately 18 acre-feet per year. Potable water would be imported for O&M staff consumption and for use in routine panel washing and other site needs. It is anticipated that panels would be washed up to four times a year, using small water trucks. Water would be supplied by the same supplier who has indicated there is adequate capacity to provide water for operation of the project.

The proposed project is located within the boundaries of the Antelope Valley Groundwater Adjudication Area. Based on the information of related to groundwater at and near the project site and the analysis in the Water Supply Assessment (WSA) (Appendix I) prepared for the project there would be sufficient groundwater to serve project for 20 years under the normal, dry, and multiple dry year water scenarios.

Table 4.16-1: *Normal Year Supply and Demand Comparison*, identifies the normal year supply and demand estimates from 2025 through year 2045 and **Table 4.16-2:** *Single Dry Year Supply and Demand Comparisons* also shows water these value over five-year increments but during a dry year.

Table 4.16-1: Normal Year Supply and Demand Comparison

Description	2025	2030	2035	2040	2045
Supply Totals	87,890	85,710	83,540	81,370	81,370
Demand totals	44,440	50,990	51,880	55,210	57,590
Difference	43,450	34,720	31,660	26,160	23,780

Source: QK, 2022 and AVEK, 2020

Table 4.16-2: Single Dry Year Supply and Demand Comparisons

Description	2025	2030	2035	2040	2045

Supply Totals	44,440	50,990	51,880	55,210	57,590
Demand totals	44,440	50,990	51,880	55,210	57,590
Difference	**0**	**0**	**0**	**0**	**0**

Source: QK, 2022 and AVEK, 2022

Single dry year yield for SWP water is based on actual 2014 and 2021 (as of May 2021) allocation of 5%. Groundwater rights and non-SWP water are not impacted by short-term drought conditions, so normal year supply assumptions are applied. The remainder of demand in these years is met with groundwater in storage. AVEK's utilizes a ground water banking systems that has an annual banking recovery target to produce at least enough groundwater to meet demand with 10% allocations from the SWP. As shown in **Table 4.16-2**, above, recovered imported water from AVEK groundwater banks enable AVEK to meet its demand in a single dry year. For multiple dry year conditions the water availability and use estimates are based on SWP water availability from the 1988 to 1992 simulated yield from the 2019 SWP Delivery Capability Report (DCR). This rendered the following allocation:

- Year 1 (1988) 12.3%
- Year 2 (1989) 32.2%
- Year 3 (1990) 13.3%
- Year 4 (1991) 25.6%
- Year 5 (1992) 18.0%

Similar to single dry year, groundwater rights and non-SWP water are not impacted by an extended drought and recovered imported water from AVEK groundwater banks are used to meet remaining demands. **Table 4.16-3**: *Multiple Dry Years Supply and Demand Comparison*, summarize AVEK supply and demand totals for the multiple dry year scenarios.

Table 4.16-3: Multiple Dry Years Supply and Demand Comparison.

Description		**2025**	**2030**	**2035**	**2040**	**2045**
First Year	Supply totals	44,440	50,990	51,880	55,210	57,590
	Demand totals	44,440	50,990	51,880	55,210	57,590
	Difference	0	0	0	0	0
Second Year	Supply totals	52,730	52,730	52,730	55,210	57,590
	Demand totals	44,440	50,990	51,880	55,210	57,590
	Difference	8,290	1,740	850	0	0
Third Year	Supply totals	44,440	50,990	51,880	55,210	57,590
	Demand totals	44,440	50,990	51,880	55,210	57,590
	Difference	**0**	**0**	**0**	**0**	**0**

Source: QK, 2022 and AVEK, 2020

Table 4.16-2 and **Table 4.16-3**, above show a comparison of AVEK's projected water supplies and demand over the next twenty years for a single dry year water supply scenario and multiple dry year water supply scenarios respectively. Water supply projections indicate water supply shortages could occur. The water supply shortage is based on current usage patterns by the retail water purveyors and agricultural users. It does not take into account other potential water sources available to the purveyors (such as groundwater pumping, recovery from groundwater banking programs, or the use of recycled water) or reductions in demand due to water conservation efforts.

Because of the uncertainty in several supply and demand estimates, including State Water Project (SWP) deliveries and projected demand, there is still potential for a larger deficit to occur. Thus, as discussed above, AVEK maintains an approximate 36,000 AFY recharge volume which correlates to an approximate 36,000 AFY withdrawal capacity within the Westside Water bank that has a total banking capacity of 120,000 AFY. These volumes would account for the short falls during the single and multiple dry year scenarios. AVEK also added the Eastside Water Banking and Blending project, which started operations in 2016 with a withdrawal capacity estimated at 5,700 AFY.

AVEK is also in the process of developing a High Desert Water Bank adjacent to the East Branch of the California Aqueduct, enabling water delivery and return without development of additional conveyance. The bank, which is currently in the preliminary design stage, is expected to have a total storage capacity of 280,000 AF and an annual recharge and recovery capacity of 70,000 AF. While the bank is planned to store water for partners outside the region and is not planned to supply IRWM region, this bank would none-the-less add a substantial volume of water available for users.

The water to be pumped by RMR trucking for the project has been included in the listed demand in the tables and thus it is anticipated that adequate water will be available.

Adjudication Judgement

It should be noted that any use of groundwater on the project site would need to comply with the Adjudication Judgment and has been included in the demand figures contained in the tables above. Further, RMR Trucking (the water supplier) has stated their well and pumping volumes in compliance with the Adjudication Judgment and is permitted to export its water within the subbasin. If project water requirements are greater than the amount of water allocated to the project site, per the Adjudication Judgment Watermaster, the project applicant may enter into an agreement with the Watermaster for the purchase of supplemental water, and/or trade water rights with other pumpers within the adjudication area. Similarly, use of water pumped by RMR Trucking must comply with the Judgment and Watermaster regulations. This includes a significant ramp down of groundwater production by AVEK customers in accordance with the adjudication. In addition, a fact that would further help ensure water is available in future years, unused production rights and imported water return flows could be stored via the banking process. This allows water to be carried over for dry-year/multiple-dry-year usage).

IRWM

As discussed above, IRWM and its member 11 water agencies and associated water plan is a collaborative effort to manage water resources within the region. The IRWM is involved with

providing services and solutions for water conditions within the valley, considers concerns and requests of stakeholders, and studies existing water supplies and demands, environmental conditions, objectives of the plan, and importantly - develops strategies to increase and ensure water supplies are adequate to meet future demands. As part of this evaluation, and consistent with other water supply and availability reports IRWM evaluated existing and anticipated water supplies compared to normal, single, and multiple dry year conditions (discussed in **Table 4.16-4:** *Water Budget Comparison for an Average Water Year*, **Table 4.16-5**: *Regional Single Dry Year Supply and Demand Comparison*, **Table 4.16-6**: *Regional Multiple Dry Year Supply and Demand Comparison*, and a discussion of methods and strategies to account for potential shortfalls are discussed further below in the context of water supply and AVEK's ability to ensure a consistent water supply.

Table 4.16-4: *Water Budget Comparison for an Average Water Year*, provide a comparison of the supply and demand for the Antelope Valley Region for an average water year. It is assumed that water banks will only be replenished in average or wet years, and no banked groundwater supplies in the Westside Water Bank will be extracted to mitigate a mismatch in an average water year (if demand exceeds supply). It should be noted that banked water would cover the listed shortfalls. For an average water year, supplies are projected to exceed demands through 2025. However, demands are projected to exceed water supplies beyond 2025 as a result of increased population growth coupled with reduced groundwater Production Rights prescribed in the Judgment. The range of mismatch between supply and demand is 5,800 AFY to 19,500 AFY (although larger differences are possible due to unforeseen circumstances), which as discussed above, is less than the 36,000 AFY of potential withdrawal from the Westside Water Bank.

Similar to the discussion above and further below, water purveyors are currently exploring opportunities to utilize new sources of water to augment the available water supplies in the Region. In addition, developers in the region are also required to secure additional imported water supplies to meet increased demands as a result of population growth. They may pay a fee for AVEK to increase their SWP allocation, or developers may secure more imported water themselves. To help address shortfalls, water agencies may enter agreements for short-term and long-term water transfers, and water conservation measures may also be implemented to reduce regional water demands and bridge the mismatch between water supplies and demands.

Table 4.16-4: Water Budget Comparison for An Average Water Year

Groundwater Storage	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**
Recharge +Return Flows	126,300	118,100	110,000	110,000	110,000	110,000
Westside Water Bank	0	24,600	40,000	40,000	40,000	40,000
Eastside Water Bank	0	2,000	5,700	5,700	5,700	5,700
Direct Deliveries	33,000	12,800	12,800	12,800	12,800	12,800
Recycle/Reuse	350	8,700	11,900	15,100	18,300	18,300
Surface Water	500	4,000	4,500	4,500	4,500	4,500
Total Supply	**160,100**	**232,300**	**231,600**	**234,800**	**238,000**	**238,000**
Demands						
Urban Demands	71,700	137,500	153,600	167,600	181,700	184,500
Ag Demand	84,000	84,000	84,000	84,000	84,000	84,000

Total Demand Supply	**144,700**	**210,500**	**226,600**	**240,600**	**254,700**	**257,500**
Demand Mismatch				**-5,800**	**-16,700**	**-19,500**

Assumes periodic wet years have occurred to allow quantities of SWP deliveries above AVEK demands to fill the water bank.
Assumes banked groundwater supplies will be replenished and extracted the same year.
2015 deliveries represent actual deliveries in the Region; future projections assume the maximum
Table A Amount available to the IRWM Regi on (160,452) multiplied by the SWP reliability of 8% for a single-dry year
Source, QK, 2022

Table 4.16-5: *Regional Single Dry Year Supply and Demand Comparison* provide a comparison of the supply and demand for the Antelope Valley Region for a single-dry water year and accounts for total imported SWP and groundwater resources available to the Antelope Valley, and the projected usage demand on such supplies through 2040. As shown by the comparison, future demand exceeds the existing and planned water supplies through 2040.

For a single-dry water year, the range of mismatch between supply and demand is 51,300 AFY to 77,200 AFY. Though the Westside Water Bank currently has 73,750 AF of banked groundwater, this Plan assumes that a sufficient amount of wet years or water transfers will have occurred between dry year periods to keep the bank at full capacity of 120,000 AF by 2025 prior to a single-dry year.

Because the duration of drought periods are unknown until the drought ends, AVEK estimates that the maximum withdrawal in any one year will only be one-third of the total banked supplies. It is also assumed that Eastside Water Bank will improve supply reliability in a single-dry year. It is possible that banked water will not be available during dry years, in which case the mismatch would be more severe (up to 122,900 AFY). These findings for a single dry year indicate the need to secure additional water supplies for the Region.

Table 4.16-5: Regional Single Dry Year Supply and Demand Comparison

Groundwater Storage	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**
Recharge + Return	126,300	118,100	110,000	110,000	110,000	110,000
Westside Water Bank	0	24,600	40,000	40,000	40,000	40,000
Eastside Water Bank	0	2,000	5,700	5,700	5,700	5,700
Direct Deliveries	33,000	12,800	12,800	12,800	12,800	12,800
Recycle/Reuse	300	8,700	11,900	15,100	18,300	18,300
Surface Water		4,000	4,500	4,500	4,500	4,500
Total Supply	**106,100**	**170,200**	**184,900**	**188, 100**	**191,300**	**191,300**
Demands						
Urban Demands	71,700	137,500	153,600	167,600	181,700	184,500
Ag Demands	84,000	84,000	84,000	84,000	84,000	84,000
Total Demands	**155,700**	**221,500**	**237,600**	**251,600**	**265,700**	**268,500**
Supply and Demand Mismatch		**-51,300**	**-52,700**	**-63,500**	**-74,000**	**-77,200**

Assumes periodic wet years have occurred to allow quantities of SWP deliveries above AVEK demands to fill the water bank.
Assumes banked groundwater supplies will be replenished and extracted the same year.
2015 deliveries represent actual deliveries in the Region; future projections assume the maximum
Table A Amount available to the IRWM Regi on (160,452) multiplied by the SWP reliability of 8% for a single-dry year.
Source: QK, 2022

Table 4.16-6: *Regional Multiple Dry Year Supply and Demand Comparison* provides a comparison of the supply and demand for the Antelope Valley Region for a multi-dry water year. Each year shown is assumed to be the average of a 4-year dry period. As shown by the comparison, future demand exceeds the existing and planned water supplies through 2040. For multi-dry water years the range of mismatch between supply and demand is 17,200 AFY to 49,700 AFY. Similar to discussed above, it is assumed that the Eastside Water Bank will only provide supply reliability the first year of a 4-year drought.

Though the Westside Water Bank currently has 73,750 AF of banked groundwater, this AVEK UWMP assumes that a sufficient amount of wet years or water transfers will have occurred between dry year periods to keep the bank at full capacity of 120,000 AF by 2025 prior to a four-year dry period. The maximum banking capacity in the Westside Water Bank is currently 120,000 AFY; therefore it is assumed that approximately one-third of this amount would be used each year of the first three years of the 4-year dry period (40,000 AFY) and no banked groundwater supplies would be available for the fourth year of the 4-year dry period. For an average water year, supplies are projected to exceed demands through 2025. However, demands are projected to exceed water

supplies beyond 2025 as a result of increased population growth coupled with reduced groundwater Production Rights prescribed in the Judgment. The range of mismatch between supply and demand is 5,800 AFY to 19,500 AFY. Therefore, the Eastside and Westside water banks are assumed to provide, on average, 18,900 AFY in 2020 and 31,400 AFY thereafter in a 4-year drought. It is possible that banked water will not be available in which case the mismatch would be more severe (up to 81,100 AFY).

Table 4.16-6: Regional Multiple Dry Year Supply and Demand Comparison

Groundwater Storage	2015	2020	2025	2030	2035	2040
Recharge Return Flows	126,300	118,100	110,000	110,000	110,000	110,000
Westside Water Bank	0	18,000	30,000	30,000	30,000	30,000
Eastside Water Bank	0	500	1,425	1,425	1,425	1,425
Direct Deliveries	33,000	54,600	54,600	54,600	54,600	54,600
Recycle/Reuse	300	8,700	11,900	15,100	18,300	18,300
Surface Water	500	4,000	4,500	4,500	4,500	4,500
Total Supply	**106,100**	**204,300**	**212,400**	**215,600**	**218,800**	**218,800**
Demands						
Urban Demands	71,700	137,500	153,600	167,600	181,700	184,500
Ag Demands	84,000	84,000	84,000	84,000	84,000	84,000
Total Demands	**155,700**	**221,500**	**237,600**	**251,600**	**265,700**	**268,500**
Supply and Demand Mismatch		**-17,200**	**-25,200**	**-36,000**	**-46,900**	**-49,700**

Assumes periodic wet years have occurred to allow quantities of SWP deliveries above AVEK demands to fill the water bank.
Assumes banked groundwater supplies will be replenished and extracted the same year.
2015 deliveries represent actual deliveries in the Region; future projections assume the maximum
Table A Amount available to the IRWM Regi on (160,452) multiplied by the SWP reliability of 8% for a single-dry year.
Source: QK, 2022

Water Supply Analysis

Regarding the potential for the proposed project to impact groundwater, the potential future project water demand during construction, through operation and decommissioning, was used for the analysis. The potential for the project to impact water supplies uses both the AVEK 2015 Urban Water Management Plan (as appropriate) but mainly relies on the current AVEK 2020 UWMP. The WSA prepared for the project was initially based on the 2015 UWMP but has been updated based on information in the 2020 UWMP.

As discussed above, and based on the WSA prepared for the project, AVEK would have adequate water supplies for the proposed project. To help ensure future supplies, both AVEK and IWMP have numerous programs to conserve water and both encourage substantial groundwater banking programs by increasing groundwater storage during wet weather to help increase the reliability of the Antelope Valley region's water supplies. Other measures to reduce consumption and to help account for the shortfalls, water saving and conservation measures are implemented through best management practices (BMPs). BMPs include education, increased use of low impact development (LID), water restrictions on new development, implementation of water conservation plans, stormwater and flood control management, preservation of habitat, etc. All these measures help to reduce water use. Some add to the water banking system by increasing water infiltration in built areas through the use of detention and retention basins that aid in groundwater recharge in addition to the water banking within the Westside Water bank, East Side Water bank and the ongoing expansion of the Willow Springs Water bank.

Water agencies in the region understand the need to implement supply and demand management projects in order to reduce the mismatch between supply and demand during single dry and multiple dry years. It should be noted that as part of the development of the IWMP, stakeholder proposed water supply projects proposed largely involve the implementation of recharge projects, water banking programs, conservation programs, water transfers, and recycled water projects. Some elements of the plan have been implemented with more occurring over the course of the next 30 years.

The IWMP contains a comprehensive implementation plan, the objectives of which describe how the governing structure, a financial plan for implementation of selected projects, and a description of data will be managed and reported. The plan also includes a methodology, to monitor the progress and use performance metrics to measures success and inform updates and improvements through the planning horizon. At this time it is not possible to predict the volumes of water that will be saved or the volumes of water that ultimately will be available for use through the increased water banking measures or potential increases, depending on weather conditions, of SWP water. Nonetheless, the IWMP, recognizes that changes in growth patterns and potential changes in the currently anticipated and planned land use, such as that seen under the proposed project, are anticipated to reduce the shortfalls

It is important to note, that both the 2020 UWMP, and IWMP were prepared prior to contemplation of the proposed project. Thus, the project was not included to the anticipated water demand. At that time, the project area and anticipated water demand from its development would have included the demand from anticipated and planned growth in the land assumptions and land use designations found in the Kern County General Plan. Thus, while the project would result in the development of approximately 1,292 acres with solar generation facility, the project would greatly reduce the

future water demand that was anticipated occur with the developed of the area with residential uses. Water demand under these uses, as designated in the Kern County General Plan would have resulted in a water demand of 853.6 million gallons per year (greater than 2,600 AFY). The construction water for the proposed project is estimated at 146.6 million gallons per year or 17.2% of what the residential demand would be. The ongoing operational demand for the proposed project would be approximately 5.9 million gallons per year or 0.69% of the potential residential water demand.

Thus, the basis for concluding the available groundwater for the project is adequate is based on the fact that the project would convert land zoned for residential uses to solar energy generation. The conversion to solar would substantially reduce water demand for the land that is currently accounted for in the Kern County General Plan. It is important to note that it was not possible for the project, or similar use on the project site, to specifically be considered in the planning process for water availability. Thus, the comparison to the previously anticipated development scenario was used as one of the primary analysis methodologies, to provide a direct comparison, and reduce ambiguity.

Further, it is important to reiterate, that longer term water use over both AVEK and IWMP planning horizons, would be substantially reduced because the previously contemplated residential uses would be nearly permanently disallowed and the much higher demand for water would not occur. This was reflected in WSA which considers the reduction that would occur under the project, and that the County considers to be of substantially relevant informational value to the public and decisionmakers.

Thus, based on the information provided the existing water supplies would be sufficient to serve the proposed project and it would comply with SB 610's normal year/dry year/multiple dry year analysis requirements. Therefore, potential impacts associated with water supply would be less than significant.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation and would only require de minimis amounts of water.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project and for the SCE Interconnection Facilities.

Impact 4.16-3: The project would result in a determination by the waste water treatment provider which may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation and would not cause impacts related to wastewater treatment capacity.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project and the SCE Interconnection Facilities.

Impact 4.16-4: 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.

The proposed project would generate a minimal amount of solid waste that would be disposed of by a permitted hauler at the Mojave-Rosamond Recycling and Sanitary Landfill, (approximately 23 miles west). As of 2013, approximately 76,310,297 cubic yards (98 percent) of the total 78,000,000 cubic yard capacity remained. The permitted maximum daily disposal is 3,000 tons per day. The construction period for the proposed is expected to commence in 2022 and take approximately one year with a cease operation date of December 31, 2023. The next closest landfill to the proposed project is the Boron Sanitary Landfill. This landfill is located in Boron approximately 40 miles to the northeast. Boron can accept up to 200 tons per day, has a remaining capacity of 191,380 and a maximum permit capacity of 1,057,000. The cease operations date is January 1, 2048.

Construction

It is anticipated the project would not generate substantial amounts of non-recyclable waste during construction. The project site is currently undeveloped with the exception of a residence and a few outbuildings. The demolition and removal of the existing structures would generate minimal volumes of demolition debris including wood products and other construction materials. Materials will be recycled where feasible, with remaining disposal in landfills in compliance with all applicable regulations including Kern County Building code requirements. In addition, 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 via use of wood and cardboard materials. The shipping container materials for module deliveries would be recycled and are not anticipated to generate non-recyclable waste. Common construction waste may include metals, masonry, plastic pipe, rocks, dirt, cardboard, or green waste related to land development. The proposed project would not generate any acutely hazardous material, and any other hazardous waste, such a fuels greases and solvents, generated or used during construction would be disposed of at an approved facility.

Non-hazardous construction refuse and solid waste would either be collected and recycled, or disposed of at a local landfill, either the Mojave-Rosamond Landfill or the Boron Landfill. The Mojave-Rosamond landfill is the closest, and therefore, would be the most likely recipient of project site solid waste and has adequate capacity. The Mojave-Rosamond Landfill is a Class III landfill and, therefore, accept wastes from construction and demolition as well as industrial sources, but does not accept hazardous waste, hot ashes, and liquids of any kind. In addition, with the implementation of Mitigation Measure MM 4.16-1, a recycling coordinator would ensure the separation and proper disposal of recyclable materials and solid waste during construction. Therefore, construction impacts of the project on existing landfills are anticipated to be less than significant.

Operation

During operation, little to no solid waste would be generated. The O&M Building(s) would include up to 2 fulltime personnel, and the only waste generated onsite would result from office and maintenance activities. The Mojave-Rosamond Landfill is planned to continue to operations through 2123 and is expected to serve the project throughout its operational phase. The Boron Landfill is scheduled to operate until January 1, 2048. In addition, with the implementation of Mitigation Measure MM 4.16-1, 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 4.16-1.

Decommissioning

Solar PV panels have a lifespan of over 30 years, after which the land could be converted to other uses in accordance with applicable land use regulations in effect at that time. Solar PV panels contain valuable materials that would likely be recycled at the end of their useful life. Solar panel manufacturers have identified that approximately ninety percent of materials in solar panel modules can be recycled, where feasible. In the case of both crystalline silicon and thin film CdTe PV technology, a national PV module recycling network has been established by the U.S. Solar Energy Industry Association (SEIA) for providing module collection and recycling services (see https://www.seia.org/initiatives/seia-national-pv-recycling-program). Decommissioning of the collection lines would not generate substantial amounts of solid waste. As stated above, the Mojave-Rosamond Landfill is expected to be in operation through 2123 and is anticipated to serve as a solid waste disposal location during project decommissioning. In addition, the Boron Landfill is scheduled to operate until January 1, 2048. Per Mitigation Measure MM 4.16-1, a collection and recycling program would be implemented during decommissioning to recycle project components and minimize disposal of project components in landfills. Following decommissioning, the project site would be returned to predevelopment conditions or converted to other uses in accordance with applicable land use regulations in effect at the time and would not generate waste. Therefore, impacts related to landfill capacity would be less than significant during decommissioning with the implementation of Mitigation Measure MM 4.16-1.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation. SCE's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to solid waste disposal and recycling.

Mitigation Measures

MM 4.16-1: During construction, operation, and decommissioning, debris and waste generated shall be recycled to the extent feasible. The provisions listed below shall apply to the project.

a. An onsite Recycling Coordinator shall be designated by the project

proponent/operator to facilitate recycling as part of the Maintenance and Decommissioning, Trash Abatement and Pest Management Program.

b. The Recycling Coordinator shall facilitate recycling of all construction waste through coordination with contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes.

c. The onsite Recycling Coordinator shall also be responsible for ensuring wastes requiring special disposal are handled according to State and County regulations that are in effect at the time of disposal

d. Contact information of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits.

e. The project proponent/operator shall provide a storage area for recyclable materials within the fenced project area that is clearly identified for recycling. This area shall be maintained on the site during construction, operations and decommissioning. A site plan showing the recycling storage area shall be submitted prior to the issuance of any grading or building permit for the site.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.16-1, impacts would be less than significant. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Impact 4.16-5: 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 and operation for the solar facility as well as other ancillary structures, and facilities such as the gen-tie in lines and substation improvements. Common construction waste may include metals, masonry, plastic pipe, rocks, dirt, cardboard, or green waste related to land development. AB 341 requires Kern County to attain a waste diversion goals of 75 percent by 2020 through reduction, recycling, or composting. In addition, as part of compliance with CALGreen requirements, Kern County implements the following construction waste diversion requirements:

- Submittal of a Construction Waste Management Plan;
- Recycle and/or reuse a minimum 65 percent C&D waste; and
- Recycle or reuse 100 percent of tree stumps, rocks, and associated vegetation and soils resulting from land clearing.

Furthermore, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into the project design. Implementation of Mitigation Measure MM 4.16-1 would ensure compliance with waste diversion and recycling requirements by requiring recycling during construction,

operation, and decommissioning of the project. The 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 regarding compliance with management and reduction statutes and regulations related to solid waste.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation. SCE's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to solid waste disposal and recycling.

Mitigation Measures

Implement Mitigation Measure MM 4.16-1.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.16-1, impacts would be less than significant with implementation of the above listed mitigation measures. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for cumulative analysis of impacts on water supply and wastewater are the related projects that would impact the Antelope Valley Groundwater Basin. The geographic scope of analysis for stormwater drainage, electricity, telecommunications, and solid waste disposal, includes the projects that would be relying on the same facilities and infrastructure. Impacts of the project would be cumulatively considerable if the incremental effects of the project when combined with other past, present, or reasonably foreseeable projects (listed in **Table 3-4**, *Cumulative Projects List*, in Chapter 3, *Project Description*) would result in a significant cumulative effect. Physical impacts to public services, utilities, and service systems are usually associated with population in-migration and growth in an area, which increase the demand for a particular service, leading to the need for expanded or new facilities. There is little to no growth associated with the 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

Several utility-scale renewable energy projects are proposed in the Antelope Valley that would impact the existing water supply, which is derived almost entirely from the Antelope Valley Groundwater Basin. The water-intensive use period for renewable energy projects is typically the construction phase and is primarily focused on dust control during grading of the project site. Given the limited water supply in the area, other projects are expected to either rely on new or existing

wells or truck in their water supply (similar to the project). In response to the recent adjudication of the Antelope Valley Groundwater Basin, all projects relying on water from Antelope Valley Groundwater Basin would be required to obtain water from water purveyors that have existing water rights within the Antelope Valley Groundwater Basin or would be required to apply for new water rights from the Antelope Valley Watermaster and would be required to comply with the terms of the Antelope Valley Groundwater Basin adjudication. Therefore, cumulative impacts related to water supply and facilities would be less than significant.

Wastewater

The project is located in an area with no wastewater treatment provider or infrastructure and would not generate a significant volume of wastewater. Wastewater produced during construction would be collected in portable toilet facilities and portable hand wishing facilities and disposed of at an approved facility. The proposed project would include a septic system would be built at the O&M Building(s) to supply non-potable water disposal to approximately 2 FTE personnel that would have access to the facilities. Other planned renewable energy projects may or may not propose an O&M Building(s) also would require the installation of a septic system if they are not able to tie into existing wastewater disposal systems. Therefore, the project would not have the potential, when combined with impacts from past, present, or reasonably foreseeable projects, to result in a cumulative impact to a regional wastewater treatment facility or the capacity of said facilities.

Stormwater Drainage

As described above, the project site is located in a remote, rural region with no existing or planned stormwater infrastructure. The existing drainage pattern and concentration of runoff could potentially be altered by project activities, such as the grading of the site to enable installation of the panels. The project would be required to adhere to Kern County Public Works Department storm water requirements, which include measures to address stormwater controls on both management of runoff volume and water quality, including controlling erosion. As a result, the amount of runoff across the project site would not be substantially altered. In addition, while the solar panels would occupy a large area, most of the site would remain pervious and runoff from the panels and that impacts undeveloped areas would largely continue to be absorbed and allow infiltration. In addition, the runoff produced by the new minor impervious surfaces such as roof surfaces and hardscaped parking lots would be minimal and directed to other impervious areas.

In addition, the SWPPP and hydrologic study and final drainage plan required by Mitigation Measures MM 4.10-1 and MM 4.10-2 would further detail necessary design features BMPs required to properly control stormwater runoff onsite. Cumulative projects would also be required to prepare a hydrologic study and final drainage plan that would help avoid substantial increases of stormwater generated onsite by their respective ground disturbance. Depending on the findings of their respective hydrologic studies and final drainage plans, these projects would need to construct stormwater control structures onsite to reduce the potential for increased stormwater runoff. Other projects in the vicinity would be required to offset substantial increases in stormwater as well per County requirements and would also be required to implement BMPs, as well as comply with the NPDES General Construction Permit and their respective SWPPP as applicable. Therefore, the project would not contribute to a cumulatively considerable impact related to stormwater drainage.

Electric Power

Electricity is not anticipated to consumed in large quantities during project construction, as construction equipment and vehicles are not electric (but rather diesel- or gas-powered). Each facility would have a collection system connecting PV modules to the applicable existing substation which includes a combination of underground, aboveground cable trays and overhead (poles or H-Frame structures) DC and AC electrical communication cables. This project in combination with other cumulative solar projects 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 project will not use natural gas during the construction, operational, and/or decommissioning phase. Therefore, the project would not contribute to a cumulatively considerable impact related to natural gas demand and facilities.

Telecommunications

The 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.

Solid Waste

As previously discussed, there is one existing residence within the project boundaries. Both the existing residence and all accessory/ancillary structures are proposed to be demolished and removed all of which would be in compliance with applicable Kern County Building code requirements. Demolition and construction materials will be recycled where feasible, with remaining disposal in landfills in compliance with all applicable regulations. In addition, materials brought to the project site would be used to construct facilities, and few residual materials are expected. Non-hazardous construction refuse and solid waste would either be collected and recycled or disposed of at a local landfill. In addition, the project would generate a minimal amount of solid waste during operation and is not expected to significantly impact Kern County landfills. Although the Mojave-Rosamond Landfill is expected to be in operation through 2123, it is anticipated to serve as a solid waste disposal location during construction and a part of operation. The Boron Landfill is scheduled to operate until January 1, 2048 and could accommodate solid waste during subsequent operation and decommissioning of the proposed project. To ensure that the project reduces the amount of waste sent to landfills, implementation of Mitigation Measure MM 4.16-1 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.

SCE Interconnection Facilities

The construction and operation of the SCE Interconnection Facilities for the transport of renewable energy would result in the addition of minor equipment within the existing Whirlwind Substation. The construction and operation of these facilities would not cause impacts related to wastewater treatment capacity, would only require de minimis amounts of water, and 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. SCE's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to solid waste disposal and recycling and the protection of the environment.

Conclusion

In conclusion, the project would not have a significant impact on public utilities. The incremental effects of the 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, MM 4.10-2 and MM 4.16-1. Furthermore, the 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.

The SCE Interconnection Facilities also would not result in a cumulatively considerable impact on utilities and service systems. SCE would implement its best management practices and APMs, which include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to solid waste disposal and recycling and the protection of the environment.

Mitigation Measures

Implement Mitigation Measures MM 4.10-1, MM 4.10-2 and MM 4.16-1.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.10-1, MM 4.10-2, and MM 4.16-1 cumulative impacts would be less than significant. Cumulative impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs, and no mitigation would be required for the SCE Interconnection Facilities.

Section 4.17
Wildfire

4.17.1 Introduction

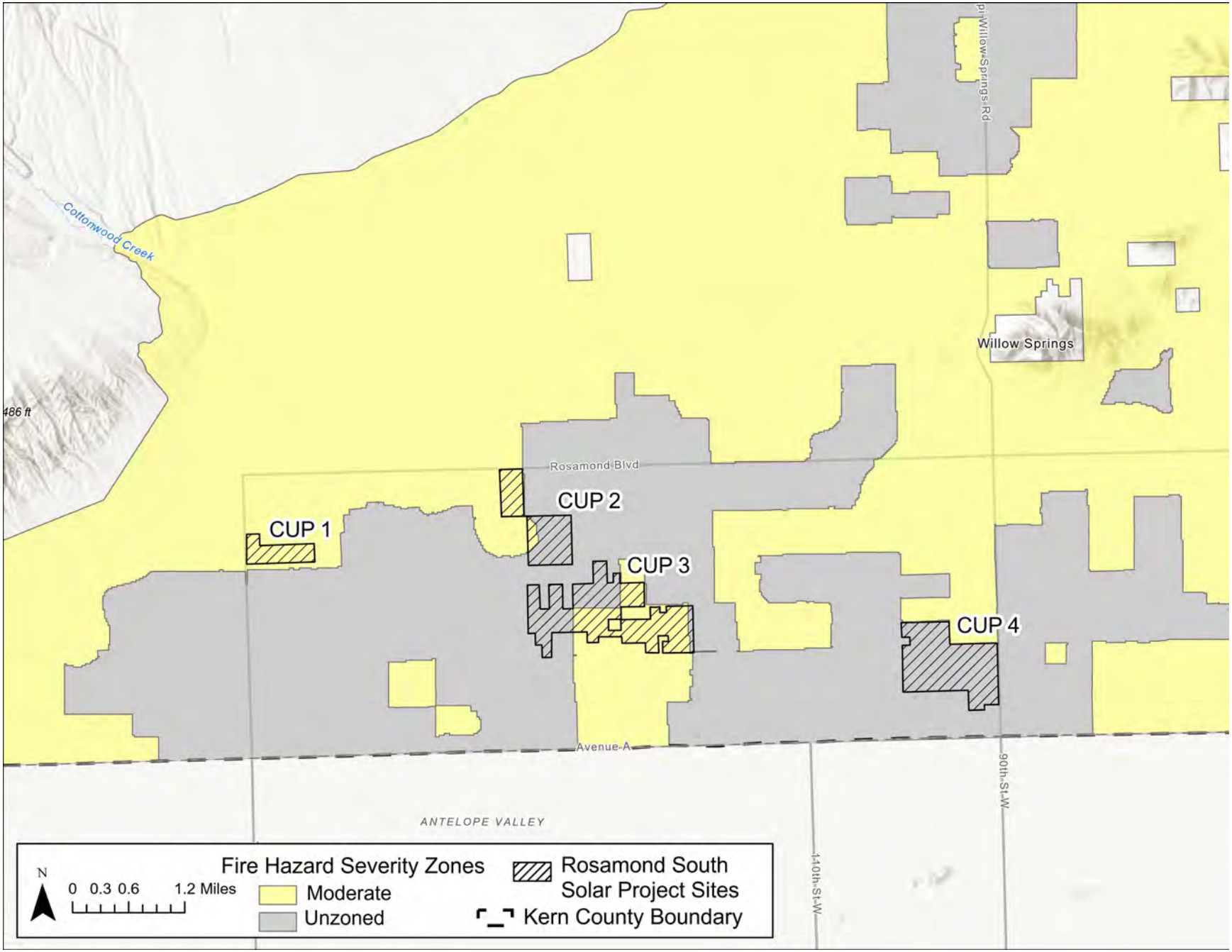
This section of the EIR describes the affected environment and regulatory setting for wildland wildfire. The section includes the physical and regulatory setting for the project, the methods used in evaluating these potential impacts, the criteria used to evaluate the significance of potential impacts, and an analysis of potential impacts from wildfire. The analysis in 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 (FHSZ) Maps.

4.17.2 Environmental Setting

Site Characteristics and Fire Environment

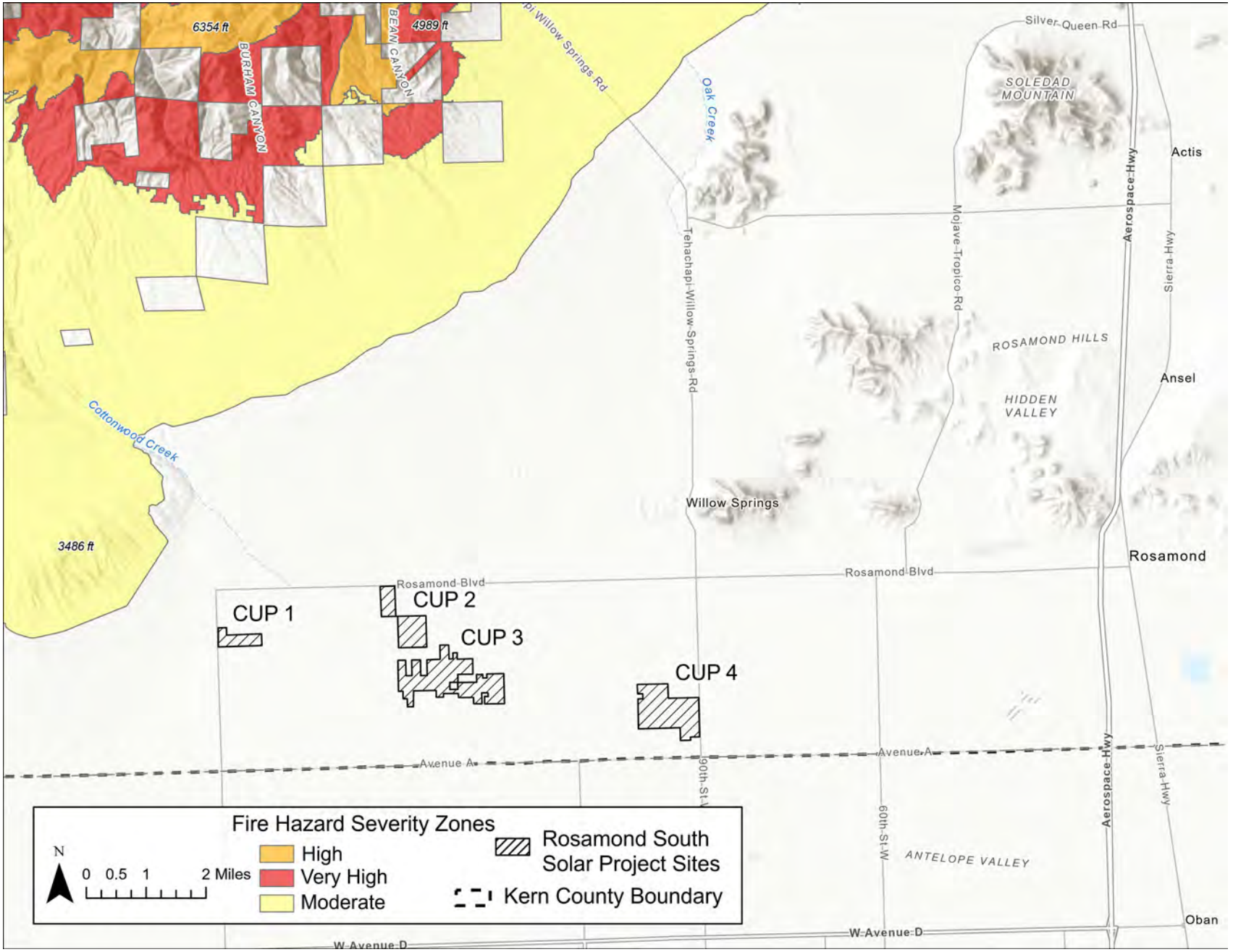
The proposed project is located on approximately 1,292 acres of generally undeveloped land comprised of a total of 64 individual properties/parcels. With the exception of a single-family residence and outbuildings in CUP Area 2 and outbuildings in CUP Area 4 the project site is not developed. The project site is located on privately owned land in the western extent of the Mojave Desert, approximately 11 miles west of the unincorporated community of Rosamond. California Desert vegetation (Mojave Creosote Bush Scrub community) dominates most of the project site and region and the topography across the project site is relatively flat with little variation. As discussed, the project site primarily consists of sparse desert vegetation with the exception of two residences and residential accessory structures. Existing development in the vicinity of the project includes a mix of undeveloped land, agriculture, residential, recreational and public facilities, and renewable energy projects (solar and wind).

The California Department of Forestry and Fire Protection (CAL FIRE) maps Fire Hazard Severity Zones (FHSZs), based on factors such as 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. The online interactive FHSZ Viewer displays Very High Severity Zones only within Local Responsibility Areas, which were not identified around or within the project site. Therefore, the Kern County FHSZ where identified through GIS downloads from CAL FIRE. The CAL FIRE LRA maps show the project within two LRA Fire Severity Zones: (a) LRA moderate and (b) LRA unzoned. (see **Figure 4.17-1**, *Fire Hazard Severity Zones for Local Responsibility Areas*). The project site is outside of areas identified by CAL FIRE as having substantial or very high risk (CAL FIRE, 2007). Moderate zones are typically wildland supporting areas of low fire frequency and relatively modest fire behavior. The project site is not within a Federal Responsibility Area (FRA) or State Responsibility Area (SRA). The project site is surrounded by other areas designated as unzoned as well as with a moderate fire hazard designation. (see **Figure 4.17-2**, *Fire Hazard Severity Zones for Federal and State Responsibility Areas*).



SOURCE: CalFIre 2007, Esri 2022

FIGURE 4.17-1: Fire Hazard Severity Zones for Local Responsibility Areas



SOURCE: CalFire 2007, Esri 2022

FIGURE 4.17-2: Fire Hazard Severity Zones for Federal and State Responsibility Areas

Fire History

Fire history information can provide an understanding of fire frequency, fire type, most vulnerable project areas, and significant ignition sources. Fire history represented in this section uses CAL FIRE's California Statewide Fire Map that shows historic fire and fire patterns within the state (CAL FIRE, 2021) and CAL FIRE's Fire and Resource Assessment Program (FRAP) Fire Perimeters. Based on a review of these maps, no fires in the recorded history have burned across the project site. The Avenues fire occurred in 1995, outside the project boundaries, but adjacent to the southern right-of-way of Gaskell Road south of CUP Area 2 (CAL FIRE, 2021).

Vegetation (Fuels)

The Mojave Creosote Bush Scrub (creosote bush scrub) community dominates most of the project area. This vegetative community typically occurs on well-drained soils in alluvial fans, bajadas, and upland slopes. Growth occurs during spring (or rarely in summer or fall) if rainfall is sufficient. This is one of the most widely distributed desert plant communities in the Mojave Desert, occurring from the desert floor up to approximately 3,500 feet in elevation and extending into northwestern Arizona and southern Utah to the east. Scattered, widely spaced Joshua trees occur throughout portions of the creosote bush scrub communities present within the project site; however, they do not occur at a density high enough to consider them a distinct woodland community.

A description of the vegetation communities and land cover types, along with applicable acreage of each, is provided in **Table 4.4-1:** *CWHR Vegetation Community and Land Cover Types on the Project Site* in Section 4.5, *Biological* Resource, of this EIR.

SCE Interconnection Facilities

The SCE property is improved with the existing Whirlwind power station and has similar surroundings as the project site.

4.17.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

2019 California Fire Code

The 2019 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 and 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 (for inhabited structures), fire service features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas.

2019 California Building Code, Chapter 7A

Chapter 7 of the 2019 California Building Code details the materials, systems, and/or assemblies used in the exterior design and construction of new buildings located within a Wildland-Urban Interface Fire Area. A Wildland-Urban Interface Area is defined in Section 702A as a geographical area identified by the state as a "Fire Hazard Severity Zone" in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires. The building code details the materials, systems and assemblies used for structural fire resistance and fire-resistance-rated construction separation of adjacent spaces to safeguard against the spread of fire and smoke within a building and the spread of fire to or from buildings.

Public Resources Code 4291–4299

California Public Resources Code Section 4291-4299 et seq. requires that brush, flammable vegetation, or combustible growth within 100 feet of buildings be maintained. Vegetation that is more than 30 feet from the building, less than 18 inches high, and important for soil stability, may be maintained; as may single specimens of trees or other vegetation that is maintained so as to manage fuels and not form a means of rapid fire transmission from other nearby vegetation to a structure. Additionally, the Public Resources Code outlines infraction fees, certification, and compliance procedures applicable with state and local building standards, including those described in subdivision (b) of Section 51189 of the Government Code.

Local

Kern County General Plan

Chapter 4: Safety Element

4.6 Wildland and Urban Fire

Policies

Policy 1 Require discretionary projects to assess impacts on emergency services and facilities.

Policy 4 Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.

Policy 6 All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.

Implementation Measure

Measure A Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities.

Willow Springs Specific Plan

The project site is subject to the provisions of the Willow Springs Specific Plan. The Willow Springs Specific Plan was adopted in 1992 and amended in April 2008 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 Willow Springs Area. The wildfire-related policies and measures contained in the Willow Springs Specific Plan that are applicable to the project are outlined below (Kern County, 2008). Note that only applicable goals, policies, and standards are included here; those goals, policies, and standards that are not applicable are not included.

General Provision

(1) Fire flow provisions and on-site fire protection standards (i.e., sprinklers/water storage) shall be in compliance with minimum standards provided by the Kern County Fire Department.

Kern County Fire Code

Chapter 17.32 of the County Municipal Code details the Kern County Fire Code, which is an adoption of the California Code of Regulations, Title 24, Part 9, 2019 edition of the California Fire Code with some amendments made to more specifically address conditions in Kern County. 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; and the installation and maintenance of adequate means of egress. It also provides for the issuance of permits and collection of fees related to such activities (Kern County 2019).

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 under the KCFD Wildland Fire Management Plan (KCFD, 2009).

Kern County Fire Department Unit Strategic Fire Plan

The KCFD Unit Strategic Fire Plan was updated in April 2020 and 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 area. The plan provides for a comprehensive analysis of fire hazards, assets at risk, and level of services to systematically assess the existing levels of wildland protection services and identifies high-risk and high-value areas that are potential locations for costly and damaging wildfires. Additionally, the plan provides an annual report of unit accomplishments, which, in 2019, included Alpine Forest Park Road Clearance, Kern County Pile Burning, Los Padres fuel break maintenance, Alta Sierra Hazard tree removal, CDAA/LTM funded hazard tree removal projects throughout Kern County, continuing work on Alta Sierra Fuel Modification and Kern River Valley Communities protection project, and hosted a wildfire safety expo and conducted chipper days.

According to the plan, 69 percent of Kern County areas are within a SRA. The County is broken up into six different fuel management areas, Tehachapi, Western Kern, Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley. The project site is located within Battalion 1 (Tehachapi) and the project site is designated as a moderate fire hazard severity zone within the Tehachapi fire plan management area (KCFD, 2020).

Fire Prevention Standard No. 503-507 Solar Panels

The Kern County Fire Department Fire Prevention Division adopted Standard No. 503-507 Solar Panels (Ground Mounted, Commercial & Residential) on March 27, 2019. The standard is implemented in accordance with the 2016 CFC and Kern County Ordinance and is an official interpretation of the Kern County Fire Marshal's Office. The standard outlines installation requirements for photovoltaic ground-mounted and roof-mounted solar panels. The proposed project would mount systems for the modules on steel support posts that would be pile driven into the ground and would therefore comply with the ground mounted requirements of this fire prevention standard. Ground mounted solar panel requirements of this standard include water supply, clearance and combustibles, stationary storage battery/energy storage systems, clean agent system permits, fire extinguisher placement, and emergency vehicle access (KCFD, 2019).

4.17.4 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, vegetation data from the Biological Analysis Report (QK, 2021) located in Appendix C-1, Phase 1 Environmental Site Assessment (Terracon, 2021) located in Appendix G, Preliminary Hydrology Study (Westwood, 2020) located in Appendix H, project location maps, and project characteristics. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant impact with respect to Wildfires.

A project would have a significant impact with respect to wildfires if it would be located in or near state responsibility areas or lands classified as very high fire hazard severity zones, and if the project would:

a. Substantially impair an adopted emergency response plan or emergency evacuation plan;

b. Due to slope, prevailing winds, or 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 slope instability, or drainage changes.

Project Impacts

Impact 4.17-1: 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 project site is located in a rural, sparsely developed area with limited population. Although, there are multiple existing local roadways adjacent to the project site that lead to primary emergency evacuation routes, adjacent roadways as well as the project site are not located along an identified emergency evacuation route and are not identified in any adopted emergency evacuation plan. Accordingly, the project site is not identified for any purpose in an adopted emergency evacuation plan to address wildfires or other types of emergencies. Also in compliance with applicable Fire Code and Building Code requirements, construction managers and personnel would be trained in fire prevention and emergency response. Fire suppression equipment specific to construction would be maintained on site. Additionally, project construction 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 4.14, *Transportation,* the need for and number of any escorts (i.e., from California Highway Patrol), as well as the timing of transport, would be at the discretion of Caltrans and Kern County, and would be detailed in respective oversize load permits. Mitigation Measure MM 4.14-2 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. During the operational phase, 2 full-time equivalent (FTE) personnel would commute to the site. In addition, the project would require workers for routine (panel washing) and intermittent travel for maintenance depending on the nature of needed repairs and/or workload. This would generate vehicle travel to the various sites who could be there at any time, if urgent repairs or maintenance are required. Similar to the above, this travel would not generate substantial operational traffic that would result in congestion or obstruction of access along any local roadways. Accordingly, such operational vehicle trips would not impair emergency response or evacuation activities.

Therefore, the project would not conflict with the implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan and impacts would be less than significant.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. These facilities would not impair or interfere with any emergency response or evacuation plan.

Mitigation Measures

Implement Mitigation Measure MM 4.14-2.

Level of Significance

With implementation of Mitigation Measure MM 4.14-2 impacts would be less than significant for the project. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs. No mitigation measures are required for the SCE Interconnection Facilities.

Impact 4.17-2: 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. As described in Chapter 3, *Project Description*, of the EIR, elevations across the project site range from approximately 2,700 feet above mean sea level (msl) in the northwest portion of the site to approximately 2,457 feet above msl in the southeast portion of the site and the project site has a has a gentle slope, generally to the southeast. More specifically, the project site is relatively flat with low topographic relief and there are no slopes present. When steep slopes and upslope topography is present, these features can increase the spread rate of the fire in all fuel beds compared to vegetation flat conditions.[1]

[1] International Journal of Wildland Fire 2002, 2010

Winds also have the ability to affect the direction and intensity of fires. Typically the stronger the wind the more it will affect wildfire such as by increasing the rate of travel and intensity. The predominant average hourly wind direction in the vicinity of the project site varies throughout the year. The wind is most often from the west for 9.6 months, from February 4 to November 22, with a peak of 79 percent on June 30. The wind is most often from the east for 2.4 months, from November 22 to February 4, with a peak percentage of 41percent on January 1. The wind experienced at any given location is highly dependent on local topography and other factors, and instantaneous wind speed and direction vary more widely than hourly averages.[2]

The proposed project is anticipated to require an average of 120 workers per during construction. During the peak construction period up to approximately 630 workers may be on the project site. The proposed project would require up to 2 full-time equivalent (FTE) personnel (one FTE position is equivalent to 40 personnel hours per week) and workers for routine (panel washing) and intermittent travel for maintenance depending on the nature of needed repairs and/or workload. During a wildfire occurring in the area either onsite (i.e., at the energy storage systems or within the solar panel fields) or offsite from existing solar fields, 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.

The project site is classified as LRA Moderate and Unzoned, and the entirety of the project site is outside of areas identified by CAL FIRE as having substantial or very high risk (CAL FIRE, 2020a). Thus, while the potential for wildfire on the project site does exist, the potential for wildfire on the project site is considered low. Additionally, project construction would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials. Given the moderate potential for fire and the lack of permanent occupants, the project is not anticipated to expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire due to slope, prevailing winds and other factors. Impacts would be less than significant.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. These facilities would not exacerbate fire risk.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant for the project and the SCE Interconnection Facilities.

[2] Weatherspark, - Rosamond 2021

Impact 4.17-3: The project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

The proposed project will interconnect to the SCE Teddy and Whirlwind Substations as described in Chapter 3, *Project Description*, of this EIR. The selected collection line route would consist of the utility poles, cabling, trenches, and a corresponding dirt maintenance road. The project would require use and installation of existing and proposed 230kV overhead lines or medium voltage 34.5kV overhead lines or underground lines, gen-tie lines, to the listed substations. These utility connections would be permanently installed to facilitate full operation of the solar arrays and BESS. In addition to off-site tie ins and electrical lines, the project also includes the installation of on-site service roads, inverter stations, transformer systems, electrical switchyards, a telecommunications tower, security fencing, and operations and maintenance facilities.

These facilities would be installed in accordance with all County and State building codes and comply with SCE requirements. Internal site circulation would include approximately 20-foot wide access roads consisting of crushed stone and approximately 15- to 20-foot-wide O&M roads among the solar arrays consisting of compacted native soil. Portions of the access roads would be constructed around the perimeter of the project site. These access roads and O&M roads would remain in place for ongoing operations and maintenance activities after construction is complete. All new roads would comply with development requirements for emergency access, and therefore, would not exacerbate fire risk.

It should be noted, most fires in the desert are caused by lightning or vehicles. The project site is located within a moderate and unzones 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 4.13, *Public Services*, the project proponent/operator would be required to develop and implement a Fire Safety Plan that contains notification procedures and emergency fire precautions consistent with the 2016 California Fire Code and Kern County Fire Code for use during construction, operation and decommissioning, per implementation of Mitigation Measure MM 4.13-1. Implementation of this plan would ensure that potential impacts related to installation or maintenance of associated infrastructure is reduced and, thus, impacts would be less than significant.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. These facilities would not require the installation or maintenance of infrastructure that would exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

Mitigation Measures

Implement Mitigation Measure MM 4.13-1.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.13-1, impacts will be less than significant for the project. Impacts would be less than significant for the SCE Interconnection Facilities with SCE's standard best management practices and APMs. No mitigation measures are required for the SCE Interconnection Facilities.

Impact 4.17-4: The project would expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Topography across the project site is relatively flat that would require minimal grading and excavation. Development of the proposed project would alter existing on-site drainage patterns and flowpaths compared to existing conditions and include the introduction of new impervious surfaces. The project would require implementation 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. Additionally, the proposed new impervious surfaces would generate additional stormwater runoff onsite, albeit in minor quantities compared to existing conditions. However, this could exacerbate potential erosion and sedimentation onsite or downstream. As discussed in Section 4.10, *Hydrology and Water Quality*, Kern County requires development of a drainage plan with the site development grading permit, which will manage stormwater and reduce the risk for offsite impacts due to erosion and impacts on water quality, as implemented by Mitigation Measures MM 4.10-1 and MM 4.10-2. Design measures would be designed as needed to minimize or manage flow concentration and control the changes in flow depth or velocity so as to minimize erosion, sedimentation, and flooding on or off site. Elements of the drainage plan to accomplish this would potentially include retention basin(s) that would manage facility stormwater. As discussed in Section 4.16, *Utilities and Service Systems*, project activities are not expected to substantially alter the ground surface such that new stormwater drainage facilities are needed.

The majority of the vegetation within the project footprint would be mowed and vegetation would be managed to enable installation of the needed facilities. However, in some areas gravel pads and compacted dirt roadways would be used and may act similar to impervious surfaces and encourage sheet flow. The amount of new impervious surface would be minimal in comparison to the overall project area and would not substantially increase the rate or amount of surface runoff. In addition, a majority of the offsite flow that enters the project site would continue to sheet flow across the site with no impacts from development of the project. Furthermore, the soil types onsite have high infiltration rates and low runoff potential when thoroughly wet.

Thus, 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. 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. Furthermore, with the implementation of Mitigation Measure 4.10-1 and MM 4.10-2, 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 mitigation incorporated.

SCE Interconnection Facilities

The SCE Interconnection Facilities would be constructed and operated within an existing power station. These facilities would not expose people or structures to risks as a result of runoff, post-fire slope instability, or drainage changes.

Mitigation Measures

Implement Mitigation Measure MM 4.10-1 and MM 4.10-2.

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 for the project and for the SCE Interconnection Facilities with SCE's standard best management practices and APMs. No mitigation measures are required for the SCE Interconnection Facilities.

Cumulative Setting, Impacts, and Mitigation Measures

The Antelope Valley region represents the geographic scope for wildfire impacts. This geographic scope was selected because the land within the region possesses relatively similar features and 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 3-4**, *Cumulative Project List*, the area includes several utility-scale solar and wind energy production facilities. These have the potential to result in cumulative impacts to wildfire when considered together with the project.

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 (or similar codes/requirements in accordance with the applicable jurisdiction within Los Angeles County) and prior to the issuance of a building permit. As previously mentioned, the project site is located within a moderate and unzoned fire hazard severity zone, is located in a rural, sparsely developed areas with limited population, is not located along an identified emergency evacuation route or within an adopted emergency evacuation plan, and would be in compliance with Fire Code and Building Code requirements including fire prevention and emergency response training for site personnel, and is sparsely vegetation and lacks steep slopes. As concluded in the discussion of project impacts above, the project would have a less than significant impact related to impairment of an adopted emergency response or evacuation plan. Similar to the project, related projects would be required to determine whether they are classified as being within a high fire hazard severity zone, identified within an emergency evacuation route or within an adopted emergency evacuation plan, and whether they meet the requirements of applicable Fire Code and Building Code. It should be noted that the other areas adjacent to and nearby the project site also are located within moderate or unzoned areas depicting fire hazards.

While the proposed project is located in an area that is subject to high wind speeds, and while it is in a rural area with limited infrastructure, the project would not make a cumulatively considerable contributions, with past, present and reasonably foreseeable projects to the impairment of an adopted emergency response plan or emergency evacuation plan. The proposed project would only require 2 FTE employees and would utilize contract employees for routine maintenance needs. This would not result in substantial number of vehicle trips on area roadways such that an impairment of emergency response would occur. While construction would generate trips, all vehicles would be parked on-site, use of trucks and delivery of equipment would follow state and local safety requirements and use of local roadways would be temporary. Finally, the proposed project would not encroach on any existing roadways or physically impede an emergency response to or through the project site. Should interior access to the site be needed, emergency responders would be able to use interior roadways.

Thus, the proposed project in relation to other projects, would not make a cumulatively considerable contribution or a cumulative impact to an adopted emergency response plan or emergency evacuation plan and, Impacts in this regard would be less than significant.

With regard to cumulative impacts related to exposure of project occupants to pollutant concentrations from a wildfire, while the proposed project is not within SRAs and/or High Fire Hazard Severity Zones, some related projects in the area may be. Similar to the proposed project, all related projects would be required to implement building and landscape design features in accordance with the Fire Code and Building Code to reduce wildfire risk and exposure of occupants to pollutant concentrations from a wildfire. Adherence to the Fire Code and Building Code requirements would minimize potential impacts related to exposure to and the uncontrolled spread of a wildfire. As concluded in the discussion of project impacts above, the project would have a less-than-significant impact related to exposure of project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Nevertheless, given the location is subject to high wind speeds, and is a rural area with 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 (or the applicable jurisdiction within Los Angeles County) for land use and zoning consistency and compliance with applicable requirements, and analyzed for environmental impacts. The placement of infrastructure would adhere to all fire codes to minimize the potential fire risk such as siting and design. The proposed project would involve the installation and maintenance of a collector line and access roads to support project construction and ongoing maintenance and operation. While the potential for fire is considered moderate, Mitigation Measure MM 4.13-1 would be implemented to ensure that a Fire Safety Plan is prepared that contains notification procedures and emergency fire precautions, and submitted to the Kern County Fire Department for review and approval. Nevertheless, given the location is subject to high wind speeds, and is a rural area with 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 slope 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 (or those of the applicable jurisdiction within Los Angeles County), 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 slope instability. Each project would require site-specific hydrology and drainage studies for effective drainage design. As concluded in the discussion of project impacts above, with the implementation of Mitigation Measure MM 4.10-1 and MM 4.10-2, 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 is subject to high wind speeds, and is a rural area with 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.

SCE Interconnection Facilities

Construction of the SCE Interconnection Facilities would not result in combined impacts if the a wildfire event were to happen at another site. The SCE Interconnection Facilities would be constructed and operated within an existing power station. SCE's best management practices and APMs include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to fire prevention. Cumulative impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.10-1, MM 4.10-2 and MM 4.13-1.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.10-1, MM 4.10-2, and MM 4.13-1, cumulative impacts would be significant and unavoidable for the project. Cumulative impacts would be less than significant for the SCE Interconnection Facilities with SCE's BMPs and APMs, and no mitigation would be required for the SCE Interconnection Facilities

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Chapter 5
Consequences of Project Implementation

5.1 Environmental Effects Found to Be Less than Significant

Section 15128 of the *CEQA Guidelines* requires that an EIR "contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR."

Kern County has engaged the public in the scoping of the environmental document. Comments received during scoping have been considered in the process of identifying issue areas that should receive attention in the EIR. The EIR's contents were established based on the Notice of Preparation/Initial Study (NOP/IS) located in Appendix A of this EIR that was prepared in accordance with the *CEQA Guidelines* and in consideration of public and agency input received during the scoping process.

Issues that were found to have no impact or less-than-significant impacts do not need to be addressed further in this EIR. Based on the findings of the NOP/IS and the results of scoping, it was determined that the project would have no impact with regard to the following impact thresholds:

- Mineral Resources
- Population and Housing
- Recreation

The NOP/IS determined that the project site is not located within a mineral recovery site designated by the Willow Springs Specific Plan or within a designated mineral and petroleum resource site within the Kern County General Plan. The project site is not located within the County's NR (Natural Resources) or PE (Petroleum Extraction) zoned districts. Therefore, the installation of the solar facilities would not preclude future mineral resource development nor would it result in the loss of a locally important mineral resource recover site. There would be no impact and no further analysis for is warranted for mineral resources.

It is estimated that up to 630 workers per day would be required during peak construction periods for the proposed project. The project construction would require an average of 120 daily on-site construction workers throughout construction. The construction process is anticipated to take up to 12 months, and therefore, project-generated workers would only be in the local area on a temporary basis. Construction workers are expected to travel to the site 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, it is expected that accommodations would be available in the nearby communities of Mojave, Rosamond, Lancaster, or other local communities and cities. Therefore, the project is not anticipated to directly or indirectly induce the development of any new housing or businesses within the local communities. During the operational phase, one to two full-time staff would be employed by the proposed project, who would commute to the site. Existing housing stock would accommodate operations personnel should they relocate to the area. The project would not directly

or indirectly induce substantial unplanned population growth. Additionally, the minimal new employment opportunities would be consistent with the adopted Kern County General Plan goals, plans, and policies. Therefore, further analysis of Population and Housing is not warranted.

The temporary workers during the construction period would not visit any local parks or recreational facilities during the work day. Further, there would be few workers expected to relocate to this area temporarily while the construction is underway, and they would cause little or no impact on local recreational resources after work hours. As mentioned above, employees needed for operations would likely be drawn from the local labor force and would commute from their existing permanent residences to the project site. As a result, there would not be a detectable increase in the use of existing neighborhood or regional parks, or other recreational facilities, and therefore, no deterioration of any such facilities would occur with project implementation. Additionally, the proposed project does not include or require the construction of new or expansion of existing recreational facilities, and there are no recreational facilities on the project site that would be affected. Therefore, impacts would not occur, and further analysis of Recreation is not 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 Forest Resources;
- Biological Resources;
- Cultural Resources;
- Energy;
- Geology and Soils;
- Greenhouse Gas Emissions;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality
- Land Use and Planning;
- Noise;
- Public Services;
- Transportation and Traffic;
- Tribal Cultural Resources;
- Utilities and Service Systems; and
- Wildfires.

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 would be significant and unavoidable for the project, even with the incorporation of reasonable mitigation measures, which would attempt to reduce impacts to the greatest extent feasible.

As shown in **Table 5-1**, *Summary of Significant and Unavoidable Impacts of the Project*, impacts in the following areas would be significant and unavoidable, even with the incorporation of feasible mitigation measures that attempt to reduce impacts to the extent feasible.

Table 5-1: Summary of Significant and Unavoidable Impacts of the Project

Resources	Project Impacts	Cumulative Impacts
Aesthetics	Implementation of the project would result in potentially significant visual impacts to the existing visual quality or character of the site and surrounding area. Mitigation Measures MM 4.1-1 through MM 4.1-4 would be incorporated 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 site is kept free of debris and trash. 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**.	The project would have cumulatively significant and unavoidable aesthetic impacts related to visual character after implementation of mitigation. Although implementation of Mitigation Measures MM 4.1-1 through MM 4.1-4 would reduce the adverse visual changes experienced at individual viewpoints, there are no feasible mitigation measures that would allow for the preservation of the existing visual character of the area. The conversion of approximately 30,000 acres of land to a solar energy production facility is considered a **significant and unavoidable** cumulative impact. As it relates to impacts associated with light and glare, the project would implement Mitigation Measures MM 4.1-5 through MM 4.1-7, that would reduce the project's impacts. However, given the number of proposed cumulative projects directly adjacent to and within proximity of the project and the conversion of thousands of acres of land in a presently rural area, even with implementation of mitigation, the project and cumulative projects combined would result in **significant and unavoidable** cumulative impacts related to light and glare.
Air Quality	Despite the implementation of Mitigation Measures MM 4.3-1, MM MM 4.3-2, and 4.3-3, exposure to dust resulting from construction could still occur, increasing the susceptibility to contracting COVID-19 and increasing the severity of the disease resulting in project level **significant and unavoidable** impacts.	If construction of the proposed projects in the project's vicinity overlap, emissions of NOx and PM_{10} would be cumulatively considerable. Even with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-5, cumulative temporary construction impacts are considered significant and unavoidable. Additionally, the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as $PM_{2.5}$ along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations would result in **significant and unavoidable** cumulative level impacts.

Biological Resources	There would be no significant and unavoidable project impacts.	Given the number of present and reasonably foreseeable future development projects in the Antelope Valley, the proposed project, when combined with other projects, would contribute to cumulative loss of habitat for special-status species. Implementation of Mitigation Measures would reduce impacts to habitat to less than significant for the proposed project. However, the proposed project, when combined with other related development projects proposed throughout the County, would cumulatively impact habitat for special-status species. Thus, cumulative impacts would be **significant and unavoidable**.
Wildfire	There would be no significant and unavoidable project impacts.	Given the location in a high wind rural area with limited infrastructure, the project and related projects would have the potential to result in cumulatively **significant and unavoidable** wildfire impacts related to: the impairment of an adopted emergency response plan; the exposure of project occupants to pollutant concentrations from a wildfire; the installation or maintenance of associated infrastructure; and the exposure of people or structure to significant risks as a result of runoff, post-fire slope instability, or drainage changes, even after implementation of mitigation measures.

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 and the Willow Springs 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. Construction staff not drawn from the local labor pool would stay in any of the local hotels in local communities. During the operational phase, the project would require up to 2 FTE personnel, who would commute to the site for operational and maintenance activities. It is anticipated that the construction and operational workforce would commute to the sites each day from local communities, and the majority would likely come from the existing labor pool as construction workers travel from site to site as needed.

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.

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Chapter 6
Alternatives

6.1 Introduction

The California Environmental Quality Act (CEQA) requires that an EIR describe a range of 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, specific plan consistency, regulatory limitations, jurisdictional boundaries, and whether the project proponent could reasonably acquire, control, or otherwise have access to an alternative site. If an alternative has effects that cannot be reasonably identified, if its implementation is remote or speculative, and if it would not achieve the basic project objectives, it need not be considered in the EIR.

6.1.1 Significant Impacts of the Project after Mitigation

Implementation of the proposed project has the potential to have significant adverse effects on:

- Aesthetics (project and cumulative)
- Air Quality (project and cumulative)
- Biological resources (cumulative only)
- Wildfire (cumulative only)

Even with the mitigation measures described in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, of this EIR, impacts in these issue areas would be significant and unavoidable. Therefore, per the *CEQA Guidelines*, this section discusses alternatives that are capable of avoiding or substantially lessening effects on these resources. The significant and unavoidable impacts of the proposed project are discussed below.

Aesthetics

When introduced into the project viewshed, the industrial nature of the project would substantially change the existing visual character of the landscape as viewed from sensitive receptors for the life of the project. The project facilities would add cultural modifications to the project site's landscape from certain viewpoints. Operation of solar power generation and the O&M 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 the solar panels and operations and maintenance (O&M) building and other project features from the project property lines. Implementation of Mitigation Measures MM 4.1-1 through MM 4.1-4 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. Nevertheless, even with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-4, project level impacts to visual character and quality would remain significant and unavoidable.

Additionally, while other projects in the region are also required to implement various mitigation measures to reduce impacts associated with visual character and quality, the conversion of thousands of acres in a presently rural area to solar and wind energy production uses cannot be mitigated to a degree that impacts are no longer significant. Therefore, even with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-4, the project's contribution to significant impacts associated with visual character and quality in the Antelope Valley would be cumulatively significant and unavoidable. The project does include additional mitigation, MM 4.1-5 through MM 4.1-7 related to minimization of light and glare. These impacts would be reduced to less than significant, both at the project and cumulative level.

Air Quality

With project implementation, long-term increases in operational emissions of primary concern within the region (i.e., ROG, NOX, CO, SOX, and PM10, and PM2.5) would be minimal and would not exceed applicable significance thresholds. However, even with implementation of Mitigation Measures MM 4.3-1, MM 4.3-2, and MM 4.3-3 required to reduce the project's regional and localized health effects associated with criteria air pollutants and COVID-19; however, the exact reduction from implementation of these mitigation measures cannot be quantified given existing scientific constraints. As such, the impacts are conservatively considered to be significant and unavoidable.

If construction of the proposed projects in the project's vicinity overlap, emissions of NOx and PM10 would be cumulatively considerable. Even with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-5, cumulative temporary construction impacts are considered significant and unavoidable. Additionally, the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as $PM_{2.5}$ along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations would result in significant and unavoidable cumulative level impacts.

Biological Resources

There are a number of special-status species that currently utilize the project site and surrounding vicinity. Implementation of the project in addition to other projects under way or proposed within Kern County would impact habitat for transient wildlife species, including burrowing owls, loggerhead shrike, other raptors, migratory birds, and desert kit fox. 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, some of which are expected to utilize the project site on at least a transient basis. Given the number of present and reasonably foreseeable future development projects in the Antelope Valley, the proposed project, when combined with other projects, would result in a significant and unavoidable cumulative loss of foraging and nesting habitat for special-status species. While the project would have less-than-significant impacts with the implementation of Mitigation Measures MM 4.1-1 through MM 4.4-12, when combined with other past, present and reasonably foreseeable future projects, the cumulative impact would be significant and unavoidable.

Wildfire

The project would not result in project-specific significant impacts related to wildfire, because it would not result in the impairment of an adopted emergency response plan; the exposure of project occupants to pollutant concentrations from a wildfire; require the installation or maintenance of associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; or the exposure of people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. However, given the project's location in a high wind rural area with limited infrastructure in the vicinity of the project site, the project, when considered cumulatively with past, present and reasonably foreseeable future projects in the

vicinity, even with implementation of MM 4.10-1 and MM 4.14-1, would have a significant and unavoidable cumulative impact related to wildfire.

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 proposed project and associated environmental impacts:

- Assist the State of California in achieving or exceeding its Renewable Portfolio Standard (RPS), Senate Bill 350, Senate Bill 100, and the California Global Warming Solutions Act (Assembly Bill 32) and greenhouse gas emissions reduction objectives by developing and constructing new California RPS-qualified, solar power generation facilities.
- Develop a commercially viable solar power generation and battery storage facility that would support the economy by investing in the local community, creating local construction jobs, and increase tax and fee revenue to the County.
- Assist California in reducing its greenhouse gas (GHG) emissions as required by the California Global Warming Solutions Act.
- Provide a new source of energy storage that assists the state in achieving or exceeding its energy storage mandate (Assembly Bill 2514).
- Produce and transmit electricity at a competitive cost.
- Assist the County in achieving the goal in the Energy Element of its General Plan to develop large-scale solar energy development as a major energy source in the County

6.3 Overview of the Proposed Project

The proposed project consists of four closely located solar photovoltaic (PV) sites that would require approval of individual Conditional Use Permits (CUP). The sites include the following: CUP Area 1 (solar and energy storage on 70.99 acres); CUP Area 2 (solar and energy storage on 240.58 acres); CUP Area 3 (solar and energy storage on 541.16 acres, and CUP Area 4 (solar and energy storage on 439.26 acres). As proposed, the BESS would be located on a total of 5 acres of land within each of the facilities. The BESS would be sized within each area based on the proposed generating capacity of each, or would be located within 20 acres of one of the CUP Areas. The project also includes construction of a telecommunications tower. Collectively, these sites are referred to as the project site and collectively they would combine to generate the total approximate 165 MW and the project would have up to 245 total MW of energy storage. Power generated by the proposed project would be transferred to existing and nearby substations by both existing and proposed transmission lines as follows:

CUP Area 1:

- Via the proposed 230kV overhead or underground line to the existing Southern California Edison (SCE) Whirlwind Substation along 170th West Street.

CUP Area 2:

- Via the proposed 230kV overhead or 34.5kV overhead line or underground lines to Teddy Substation along Holiday Avenue (exact route is to be determined), then
- Via the existing 230kV overhead line or new overhead or underground line to the existing SCE Whirlwind.

CUP Area 3:

- Via proposed high voltage 230kV overhead lines or medium voltage 34.5kV overhead lines or underground lines to Teddy Substation along Holiday Avenue (exact route is to be determined), then
- Via the existing 230kV overhead line to the existing SCE Whirlwind Substation.

CUP Area 4:

- Via the proposed high voltage 230kV overhead lines or medium voltage 34.5kV overhead lines or underground lines to Teddy Substation along Holiday Avenue (exact route is to be determined), then
- Via the existing 230kV overhead line or new overhead or underground line to the existing SCE Whirlwind Substation.

The four proposed facilities would be built either at the same time or alternatively in stages as demand is realized and when commercial contracts issued and entered into for each site.

In addition to the solar arrays, BESS, and transmission lines, the project also would construct permanent facilities that would include, but are not limited to, service roads, a power collection system, combiners, inverter stations, transformer systems, overhead and buried conductors, generation tie (gen-tie) lines, electrical switchyards, substations, telecommunications tower, security fencing, and operations and maintenance facilities.

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 proposed project, the aforementioned objectives established for the proposed project, and the feasibility of the alternatives considered, four alternatives, 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.

6.4.1 Alternative 1: No Project Alternative

The *CEQA Guidelines* require EIRs to include a No Project Alternative for the purpose of allowing decision makers to compare the effects of approving the proposed project versus a No Project Alternative. Accordingly, Alternative 1, the No Project Alternative, assumes that the development of

the 165 MW PV solar facility and associated facilities on the 1,292-acre site would not occur. No collection lines would be constructed. The No Project Alternative would not require Conditional Use Permits (CUP) for construction and operation of a 165 MW solar project and associated facilities. Amendments to the Willow Springs Specific Plan land use map and circulation element along with public easement 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.

6.4.2 Alternative 2: Specific Plan and Zoning Build-Out Alternative

Alternative 2, the Specific Plan and Zoning Build-Out Alternative, assumes the project site would be developed to the maximum intensity allowed under the existing Willow Springs Specific Plan land use and zoning classifications. Under this alternative the proposed project would not be permitted or constructed. This alternative assumed development under the Map Codes as shown in the Willow Springs Specific-Plan The Map Codes and defined uses for each CUP Area are listed below:

CUP Area 1:
5.6 - (Minimum 2.5 gross acres/unit), and
5.6/2.6 (Minimum 2.5 gross acres/unit/Erosion Hazard Overlay;

CUP Area 2:
5.3/4.4 – (Maximum 10 Units per net acre/Comprehensive Planning Area)
5.3/4.4/2.6 - (Maximum 10 under per net acre / Comprehensive Planning Area/ Erosion Hazard Overlay)
5.7 - Residential Minimum 5 Gross Acres per Unit

CUP Area 3:
5.6/2.85 (Minimum 2.5 gross acres/unit / Noise Management Area)
5.7/2.6/2.85 (Minimum 5 gross acres/unit / Erosion Hazard Overlay / Noise Management Area)
5.7/2.85 (Minimum 5 gross acres/unit / Noise Management Area)
8.1/2.85; [Intensive Agriculture (Minimum 20-acre parcel size) / Noise Management Area]
8.1/2.6/2.85 [Intensive Agriculture (Minimum 20-acre parcel size) / Erosion Hazard Overlay / Noise Management Area]

CUP Area 4:
7.1/4.4; (Light Industrial / Comprehensive Planning Area)
7.2/4.4 (Service Industrial / Comprehensive Planning Area)

Given that the zoning classifications for the project site consist of E(2 ½) RS FPS (Estate 2½ Acres - Floodplain Secondary Combining), A (Exclusive Agriculture), E (5) (Estate 5 Acres), A FPS (Exclusive Agriculture), E(5) RS FPS (Estate 5 Acres - Residential Suburban Combining - Floodplain Secondary Combining) the project site would be assumed to be developed in-accordance with the listed designations and acres per zone, which is shown in additional detail below. *Table 3-1 – Project Assessor Parcel Numbers (APNS) – Specific Plan Map Code*

Designations and Zone Districts Rosamond South Solar Project, in Chapter 3 – Project Description – provides detail on a parcel by parcel basis. No solar facilities would be developed under this alternative.

CUP Area 1:
E(2 ½) RS FPS - Estate 2½ Acres - Floodplain Secondary Combining (70.99 acres) (28 units)
CUP Area 2:
A - Exclusive Agriculture – (160.71 acres)
E (5) - Estate 5 Acres – (79.87 acres) (16 units)

CUP Area 3:
E(2 ½) RS FPS - Estate 2½ Acres - (230.02 acres) (92 units)
A FPS - Exclusive Agriculture – (40.5 acres)
E(5) RS FPS (Estate 5 Acres - Residential Suburban Combining - Floodplain Secondary Combining (275.64 acres) (55 units)

CUP Area 4:
E(2 ½) RS FPS - Estate 2½ Acres - (439.26 acres) (175 units)

6.4.3 Alternative 3: Reduced Acreage Alternative

Under Alternative 3, the Reduced Acreage Alternative, the project site would be reduced to include the CUP Area 1 (70.99 acres) to enable the close tie in to the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and CUP Area 4 (439.26). Overall this alternative would reduce the project's footprint from 1,292 acres to 679.85 acres. Solar panels and associated infrastructure would be located in the reduced project site. The reduced project acreage under this alternative is expected to contain enough land to construct a solar array field and related infrastructure capable of generating approximately 81 MW of renewable energy and storing 100 MWh of energy based on a proportional reduction in project size. This would result in the corresponding reduction in renewable energy output and storage capacity from the project by approximately 52 percent. Similar to the proposed project, this alternative would still require the approval of two CUP applications to allow for the construction and operation of 81 MW photovoltaic electrical generating facility (Section 19.12.030.G) with associated facilities (substation, O&M facility) in in the CUP Areas and to allow a communication tower (Section 19.12.030.F), two Specific Plan Amendment applications (to allow changes to land use classification and to eliminate future road reservations), one Zone Change application, and one Nonsummary Vacation application (vacation of public access easements).

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

Alternative 4, the No Ground-Mounted Utility-Solar Development Alternative, would involve the development of a number of geographically distributed small to medium solar PV systems (100 kWh to 1 MW) within existing developed areas, typically on the rooftops of commercial and industrial facilities situated throughout the 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 1,292 acres of total rooftop area) may be required to attain project's capacity of 165 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 250 MW of electricity, which likely would be for onsite use only. This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater availability of large, relatively flat roof areas necessary for efficient solar installations. Similar to the 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 on site by the commercial or industrial facility without requiring the construction of new electrical substation or transmission facilities.

Table 6-1, *Summary of Development Alternatives*, provides a summary of the relative impacts and feasibility of each alternative. A complete discussion of each alternative is also provided below.

Table 6-1: Summary of Development Alternatives

Alternative	Description	Basis for Selection and Summary of Analysis
Project	Construction and operation of a solar facility on approximately 1,292 acres would generate up to 165 MW of electricity with the capacity to store up to 245 MWh of energy. Approval of five Conditional Use Permits (CUPs) (four for construction and operation of commercial solar electrical generating facilities, one for communications towers), Amendments to the Willow Springs Specific Plan (SPAs) land use map and circulation element, Zone Changes (ZCCs), and nonsummary vacation of public access easements would be required.	N/A

Table 6-1: Summary of Development Alternatives

Alternative	Description	Basis for Selection and Summary of Analysis
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, SPAs, ZCCs, and requests to vacate public access easements • Avoids all significant and unavoidable impacts • Would assist in reducing GHGs emissions • Less impact in all remaining environmental issue areas • Does not meet any of the project objectives
Alternative 2: Specific Plan and Zoning Build-Out Alternative	This alternative assumes the project site would be developed to the maximum intensity allowed under the Kern County General Plan land use designations and zoning classifications and other existing applicable restrictions. The portions of the project site zoned as A would be developed with agricultural uses (approximately 160.71 acres), and the portions of the project site zoned as E (estate), would be developed with single-family residential units (approximately 1,095.78 acres).	• Avoids need for CUPs and SPAs, ZCCs, and requests to vacate public access easements • Similar impacts to biological resources, hazards and hazardous materials • Less impact to aesthetics, agricultural and forestry resources, and land use and planning • 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 one solar facility on approximately 70.99 acres in CUP Area 1 and 541.16 acres in CUP Area 3, for a total of 679.85 acres. This alternative would construct a solar array field capable of generating approximately 81 MW of electricity and storing 100 MWh of electricity, thereby reducing the project's renewable energy output by approximately 52 percent. The project site would require approval of two CUPs, two SPAs, two ZCCs and one request to vacate public access easements.	• Reduced impacts to greenhouse gas emissions, hazards and hazardous materials, land use and planning, noise, public services, transportation and traffic, and utilities and service systems • Decreased GHG offset benefits to meet project objectives • Less impact in all remaining environmental issue areas • Does not meet all the project objectives

Table 6-1: Summary of Development Alternatives

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 165 MW of PV solar distributed on rooftops throughout the Antelope Valley. Electricity generated would be for onsite use only.	• Avoids need for solar facility CUPs, telecommunication tower CUPs, SPAs, ZCCs and requests to vacate public access easements at the project site but may require other entitlements (such as a CUP or variance) on other sites • Avoid significant and unavoidable impacts associated with aesthetics, biological resources, and wildfire. • Greater impacts to GHG emissions land use and planning, and noise • Similar impacts energy • Fewer impact in all remaining issue areas • Does not meet all the project objectives

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), biological resources (cumulative), and wildfire (cumulative). Per CEQA, the lead agency may make an initial determination as to which alternatives are feasible and warrant further consideration, and which are infeasible. The following alternatives were initially considered but were eliminated from further consideration in this EIR because they do not meet project objectives or were infeasible:

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

6.5.1 Wind Energy Project Alternative

The Wind Energy Project Alternative would involve the use of wind energy as an alternative to development of a solar site. Similar to solar power, energy production from 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 connection to the high-voltage transmission system. Compared with traditional energy sources, the environmental effects of wind power are relatively minor. However, wind farms would not decrease short-term construction-related air emissions. Wind turbines would also have the potential to affect avian species in the local area. In addition, in order for wind turbines to produce an equivalent 165 MW of power that the project would produce, the alternative would require more space than what the project site current accommodates. In addition, due to the irregular shape of CUP Area 3, it would not be feasible to maximize placement of wind turbines, further reducing the number per acre. 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 objectives are to develop a solar project that will help meet the increasing demand for clean, renewable electrical power, as well as help California meet its statutory and regulatory goals of generating more renewable power with minimum potential for environmental effects by using proven and established PV technology that is efficient, requires low maintenance and is recyclable. Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce significant environmental effects. Therefore, this alternative was eliminated from further consideration because:

- It would substantially increase the significant aesthetic impacts associated with the project because wind turbines would be much taller than solar panels, require FAA lighting and are more visible from many viewpoints.
- 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.

6.5.2 Industrial Power Plant Alternative

This alternative would involve the development of a natural gas-fired power plant or plants (equivalent to 165 MW) in Kern County. Fossil fuel-powered plants are designed on a large scale for continuous operation. However, byproducts of industrial power plant operation need to be considered in both design and operation. When waste heat that results from the finite efficiency of the power cycle is not recovered and used as steam or hot water, it must be released to the atmosphere, and often uses a cooling tower as a cooling medium (especially for condensing steam). The flue gas from combustion of the fossil fuels is discharged to the air and contains carbon dioxide and water vapor as well as other substances, such as nitrogen, nitrogen oxides, and sulfur oxides.

Furthermore, unlike the proposed project, fossil fuel-powered plants are major emitters of GHGs. In addition, industrial power plants generally involve the construction of large structures, such as cooling towers and gas stacks, as well as a large number of employees to operate the facility on a 24/7 basis 365 days a year. Accordingly, the development of an industrial power plant would typically result in greater adverse impacts related to: (1) aesthetics and the local visual setting of the project area; (2) air quality and GHG emissions; (3) impacts to sensitive receptors, (4) land use and planning conflicts with the rural development of the surrounding area; (5) noise from the plant operations; (6) traffic from increased employment at the facility; and (7) demand on public utilities, including water and waste disposal.

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

- It would result in additional/greater impacts than the proposed project including aesthetics, air quality, GHG emissions, land use and planning, noise, transportation and traffic, and public utilities, including water use and disposal, and impacts to sensitive receptors in the vicinity.
- Depending on siting, it may also result in greater biological resources impacts than the project.
- It would not contribute to the statewide renewable energy and GHG reduction objectives as this alternative would use non-renewable energy to produce electricity.

6.5.3 Alternative Site

This alternative would involve the development of the proposed project on another site located within Kern County, other than constructing rooftop distributed generation systems. Although undetermined at this time, the alternative project site would likely be located in the Antelope Valley desert region of the County. This alternative is assumed to involve construction of a 165 MW PV solar facility and 245 MWh BESS on a site totaling 1,292 acres. *CEQA Guidelines* Section 15126.6(f)(2(a) states that the key and initial step in considering an alternative site is whether "any of the significant effects of the project would be avoided or substantially lessened" in relocating the project, while remaining consistent with the same basic objectives of the proposed project.

The 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 with similar size, configuration, and use history may exist in the 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, wildfire, and biological resources. This is based on the known general conditions in the area and the magnitude of the proposed project.

In addition, alternative sites for the proposed project are not considered to be "potentially feasible," as there are no suitable sites within the control of the project proponent that would reduce project impacts. The potential amount of available, similar sites is further reduced because unlike the

proposed project, alternative sites may not include sites with close proximity to transmission infrastructure. As noted above, 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 because it would not avoid or substantially reduce the significant environmental effects of the proposed project.

6.6 Analysis Format

In accordance with *CEQA Guidelines* Section 15126.6(d), each alternative is evaluated in sufficient detail to determine whether the overall environmental impacts would be less, similar, or greater than the corresponding impacts of the project. Furthermore, each alternative is evaluated to determine whether the project objectives identified in Chapter 3, *Project Description*, of this EIR would be mostly attained by the alternative. The project's impacts that form the basis of comparison in the alternatives analysis are those impacts which represent a conservative assessment of project impacts. The evaluation of each of the alternatives follows the process described below.

a) The net environmental impacts of the alternative after implementation of reasonable mitigation measures are determined for each environmental issue area analyzed in this EIR.

b) Post-mitigation significant and less than significant environmental impacts of the alternative and the project are compared for each environmental issue area as follows:

- Less: Where the impact of the alternative after feasible mitigation would be clearly less adverse than the impact of the project, the comparative impact is said to be "less."
- Greater: Where the impact of the alternative after feasible mitigation would be clearly more adverse than the impact of the project, the comparative impact is said to be "greater."
- Similar: Where the impacts of the alternative after feasible mitigation and the project would be roughly equivalent, the comparative impact is said to be "similar."

c) The comparative analysis of the impacts is followed by a general discussion of whether the underlying purpose for the project, as well as the project's basic objectives would be substantially attained by the alternative.

Table 6-2, *Comparison of Alternatives*, provides a summary and side-by-side comparison of the proposed project with the impacts of each of the alternatives analyzed. Please note that in Alternatives 1 through 4 in **Table 6-2**, *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.

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Table 6-2: Comparison of Alternatives

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: 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)
Agricultural and Forestry Resources	Less than Significant	Less (NI)	Less (NI)	Less (LTS)	Less (NI)
Air Quality	Significant and Unavoidable (project and cumulative)	Less (NI)	Greater (SU)	Less (SU)	Less (LTS)
Biological Resources	Less than Significant with Mitigation (project); Significant and Unavoidable (cumulative)	Less (NI)	Less (SU)	Less (SU)	Less (LTS)
Cultural Resources	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Energy	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Geology and Soils	Less than Significant with Mitigation	Less (NI)	Greater (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)	Less (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)	Similar (LTS)
Noise	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Similar (LTS)
Public Services	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Transportation and Traffic	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Tribal Cultural Resources	Less than Significant	Less (NI)	Similar (LTS)	Less (LTS)	Less (NI)
Utilities and Service Systems	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)

Table 6-2: Comparison of Alternatives

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: 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
Wildfires	Less than Significant with Mitigation (project); Significant and Unavoidable (cumulative)	Less (LTS)	Greater (SU)	Less (SU)	Less (SU)
Meet Project Objectives?	All	None	None	Partially	Partially
Reduce 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

6.7.1 Alternative 1: No Project Alternative

Environmental Impact Analysis

Aesthetics

Under the No Project Alternative, no development would take place on the project site. The project site would remain in its current state as undeveloped land and no change to the 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 to aesthetics compared to the proposed project.

Agricultural and Forestry Resources

Under the No Project Alternative, the project site would remain undeveloped and solar panels and energy storage system would not be installed. The project site would remain in its current state, as undeveloped land containing desert vegetation. 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 non-agricultural or non-forest uses. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to agricultural 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 thresholds for PM10 and PM2.5 would occur, no confliction with the attainment standard would happen, nor would the No Project Alternative contribute to a cumulative net increase of criteria pollutant in the projects' region. Therefore, there would be no impact to air quality and the No Project Alternative would result in less impacts 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 habitat that support special-status and rare species that have potential to occur on the project site. This alternative would not contribute to a cumulative loss of foraging and nesting habitat for burrowing owls, Swainson's hawk, loggerhead shrike, LeConte's thrasher, other raptors, and migratory bird species that may utilize habitat on the project site. Therefore, there would be no impact and the No Project Alternative would result in less impacts 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 on site would not occur and this alternative would not require mitigation. There would be no impact and the No Project Alternative would result in less impacts related to cultural resource 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. It should be noted that the No Project Alternative would not support the goals of the Renewable Portfolio Standard. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to energy compared to the 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 or strong seismic ground shaking; result in substantial soil erosion or loss of topsoil; 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 fewer impacts related to geology and soils compared to the proposed project.

Greenhouse Gas Emissions

Under the No Project Alternative, emissions associated with construction and operation of a solar energy facility would not occur. Therefore, those emissions that contribute to GHGs would be eliminated 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. 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 use, transport, and disposal of hazardous materials associated with 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

miles 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; or 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 impacts related to hazards and hazardous materials compared to the proposed project.

Hydrology and Water Quality

Under the No Project Alternative, the project site's existing hydrology and water quality would remain unchanged as no development or ground disturbance would occur on the project site. As such, this alternative would not violate water quality standards or waste discharge requirements; substantially alter the existing drainage patter of the site or area in a manner that would result in substantial erosion and or sedimentation on-site or off site; substantially increase the rate or amount of surface runoff which would result in flooding on site or off site; create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage system; 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 thus not require any of the submitted land use applications (CUP, SPA, ZCC, and requests to vacate public access easements). Current land uses on the site are consistent with the zoning and Willow Springs Specific Plan land use classifications. 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 impacts related to land use and planning compared to the proposed project.

Noise

Under the No Project Alternative, the project site would remain undeveloped. Noise sources from construction and operation would not be present on site, and existing noise conditions would remain the same. As such, the No Project Alternative would not result in generation of a substantial temporary or permanent increase in ambient noise levels or generate excessive 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. Furthermore, 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 and Traffic

Under the No Project Alternative, the solar facilities would not be constructed and this alternative would not introduce construction and operational-related trips. Existing traffic patterns and volumes on nearby roadways would remain unchanged. As such, the No Project Alternative would not conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities and not conflict or be inconsistent with *CEQA Guidelines* Section 15064.3(b). In addition, the No Project Alternative would not substantially increase hazards due to a geometric design feature or result in inadequate emergency access because no changes to the existing roadways, alignments, or site access would occur. Therefore, there would be no impact and the No Project Alternative would result in less impact related to transportation and traffic than the project.

Tribal Cultural Resources

Under the No Project Alternative, the project site would remain undeveloped and no ground disturbing activities would occur. According to record searches and tribal resource consultations, San Manuel Band of Mission Indians (San Manuel) identified a potential tribal cultural resource associated with the village of *Chibubit* within the project site. The County agreed to avoid the potential tribal cultural resource consistent with PRC section 21084.3. Since the potential tribal cultural resource is being avoided, it was not formally evaluated for listing in the CRHR or a local register. The No Project Alternative would not involve construction in the vicinity of the aforementioned tribal cultural resources, the No Project Alternative would not cause a substantial adverse change in the significance of a tribal cultural resources 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 impacts related to tribal cultural resource compared to the proposed project.

Utilities and Service Systems

Under the No Project Alternative, the solar facilities would not be constructed and there would be no new demand for utilities and service systems on the project site. 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; impact water supplies; 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 facilities would not be constructed. As such, the No Project Alternative would not expose occupants to pollutant concentrations from a wildfire; require the installation or maintenance of associated infrastructure; or expose people or structures to significant risks, in each case related to the project. Therefore, there would be no impact for the No Project Alternative on an individual basis. In addition, as no development would occur, on a cumulative basis with other past, present or reasonably foreseeable projects, the No Project Alternative would not result in significant and unavoidable impact to risks associated with wildfires. These impacts would be less than significant.

Comparison of Impacts

The No Project Alternative would avoid all of the significant and unavoidable impacts associated with the proposed project. This alternative would result in less impact to all remaining environmental issue areas with the exception of GHGs; since this alternative would not offset GHGs through the operation of a solar energy facility, impacts to GHGs would be greater under this alternative.

Relationship to Project Objectives

The No Project Alternative would not achieve any of the project objectives listed above in Section 6.2, *Project Objectives*, including assisting California in reducing GHG emissions. Although this alternative would create less environmental impacts overall, the objectives that shape the project would not be realized under this alternative.

6.7.2 Alternative 2: Specific Plan and Zoning Build-Out Alternative

Environmental Impact Analysis

Aesthetics

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 160.71 acres), and portions of the project site zoned as E (Estate), would be developed with single-family residential units (approximately 1,095.78 acres). Solar panels would not be installed and solar energy would not be generated on the site. Development of the project site with agricultural uses and residential uses at the density permitted by the Willow Springs Specific Plan and Zoning Districts would be visually similar to the existing rural residential uses already within the project area. Development of residential uses would alter existing views of the project area; however, these single-family dwellings would be dispersed through the project area at the densities allowed (one

unit per 2.5 acres or one unit per 5 acres). Furthermore, the development of single-family dwellings would generally cause less visual quality impacts because they would be spread out through the landscape when compared to the development of uniform, large-scale solar facilities, which would cover the majority of the area and remove most of the natural vegetation. Due to the allowed densities, single-family housing also may be sited to avoid more sensitive areas and build in areas that are less impactful. As such, significant and unavoidable impacts related to visual resources would be eliminated under this alternative. Impacts would be less than significant under the General Plan/Specific Plan and Zoning Build-Out Alternative and, thus, this alternative would result in less aesthetic impacts compared to the project.

Agriculture and Forestry Resources

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 160.71 acres), and portions of the project site zoned as E (Estate), would be developed with single-family residential units (approximately 1,095.78 acres). Solar panels would not be installed and solar energy would not be generated on the site. Under this alternative, there would be no zoning change, and approximately 160.71 acres of land would be developed for agricultural uses, therefore increasing the total amount of active agricultural land in Kern County. Development of the 1,095/78 acres of the project site with residential uses would not result in impacts related to the conversion of designated Farmland to non-agricultural uses, as this development would be consistent with the existing zoning and developed at densities of one dwelling unit per 2.5 acres and one dwelling unit per five acres depending on location. 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 Alternative 2 would be consistent with the existing zoning and the portions of the project site designated as A (Exclusive Agriculture) would remain. Therefore, developed under this alternative would conform with the existing land use and planning documents, would not convert farmland or interfere with the operation of any agricultural land. Thus, the Specific Plan and Zoning Build-Out Alternative would result in fewer impacts to agricultural resources compared the proposed project.

Air Quality

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 160.71 acres), and portions of the project site zoned as E (Estate), would be developed with single-family residential units (approximately 1,095.78 acres). Solar panels would not be installed and solar energy would not be generated on the site. Both the proposed project and the General 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 agricultural and rural residential uses would require similar heavy equipment to the proposed project. Although the overall area of disturbance would be reduced, the grading and earthwork needed to create foundations for residential structures would be greater compared to that needed to install solar panels. Thus, similar to the proposed project, this alternative would require implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 in order to reduce the severity of construction-related emissions. Operational emissions associated with the agricultural and 274 residential uses under the Specific Plan and Zoning Build-Out

Alternative would be greater due to routine emissions associated with agricultural vehicles, livestock emissions, residential uses, and an increase in vehicle trips. Similarly, the Specific Plan and Zoning Build-Out Alternative would result in construction emissions of a magnitude that could result in obstructions to the air quality planning goals set forth by EKAPCD. Given this increase, this alternative would result in greater air quality impacts in the air basin than the proposed project but would likely be less than significant.

Implementation of this alternative could expose sensitive receptors to substantial pollutant concentrations during construction activities. During construction of this alternative, specifically during ground disturbance when the majority of fugitive dust would be generated, it is possible that onsite workers could be exposed to *Coccidioides immitis,* the fungal spore that has potential to cause Valley Fever. However, dust-minimizing techniques, as implemented through Mitigation Measure MM 4.3-3, would reduce these impacts to less than significant. The Specific Plan and Zoning Build-Out Alternative also would result in ground disturbance but over a reduced areas. Thus, as with the proposed project, this 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, impacts to air quality under the Specific Plan and Zoning Build-Out Alternative would still occur but likely be less than significant within the proposed mitigation. Due to the increased vehicle trips and operational emissions that would occur from the 274 residential uses, this alternative would result in greater overall impacts to air quality, but are likely to be less than significant and cumulative impacts would remain significant and unavoidable.

Biological Resources

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 160.71 acres), and portions of the project site zoned as E (Estate), would be developed with single-family residential units (approximately 1,095.78 acres). Solar panels would not be installed and solar energy would not be generated on the site.

Due to the residential component of the Specific Plan and Zoning Build-Out Alternative, similar to the proposed project, development would occur under this alternative and, as such, there is the potential to impact biological resources. Like the proposed project, Alternative 2 would be required to implement mitigation measures to avoid such impacts. However, development under this alternative would be less given that portions of the project site would remain zoned as A (Exclusive Agriculture) and the density of residential uses would be low, either one dwelling units per 2.5 acres or one dwelling units per 5 acres. Conversion of the undeveloped site portions of the site to agricultural uses would affect biological resources on the in these areas as all native vegetation would be replaced with agricultural crops or grazing. Use for low density estate residential also would disturb native vegetation but much of the land surface would not be disturbed. Both the agricultural and residential uses would also result in increased human presence as opposed to the unmanned solar facility that is only visited occasionally for maintenance and panel washing.

As discussed above, the single-family dwellings would be spread out in the project area. Given this space, it is likely that impacts to biological resources would be less than the proposed project. In particular, as it relates to impacts on candidate, sensitive, or a special-status species in local or

regional plans, policies, or regulations or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service, the Specific Plan and Zoning Build-Out Alternative would have an impact to Joshua trees, alkali mariposa lily, recurved larkspur, Lemmon's jewelflower, Clokey's crypthantha, burrowing owls, loggerhead shrike, LeConte's thrasher, Swainson's hawk, northern legless lizard, desert kit fox, migratory birds, and American badger, but impacts would be reduced because the overall area of disturbance would be less. In addition, with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-12, 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 CDFW or USFWS, construction activities could result in significant impacts related to potential jurisdictional features to ephemeral drainages within the project site. Under this alternative, residential uses could be sited to avoid wetland and other intermittent aquatic features. Thus, as with the project, this fact as well as implementation of Mitigation Measures MM 4.4-10 and MM 4.4-11 and MM 4.10-2, would reduce impacts to less than significant under the Specific Plan and Zoning Build-Out Alternative.

Implementation of the above referenced mitigation measures would also reduce potential impacts to state or federally protected wetlands, the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, and consistency with local policies and ordinances protecting biological resources. The Specific Plan and Zoning Build-Out 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 Specific Plan and Zoning Build-Out Alternative would be less than significant with implementation of mitigation and less than those of the proposed project. However, cumulatively, this alternative would still result in significant and unavoidable impacts to biological resources; regardless of the type of development, biological resources are being impacted throughout the Antelope Valley. Therefore, the Specific Plan and Zoning Build-Out Alternative would result in similar but slightly fewer impacts related to biological resources when compared to the proposed project.

Cultural Resources

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 160.71 acres), and portions of the project site zoned as E (Estate), would be developed with single-family residential units (approximately 1,095.78 acres). Solar panels would not be installed and solar energy would not be generated on the site.

The conversion of portions of the project site to agricultural uses under this alternative would involve greater surficial ground disturbance as opposed to the proposed project. The conversion to residential uses at the allowable densities, however, would have fewer impacts because this alternative would result in less ground disturbance resulting in fewer potential impacts to and reducing the potential to encounter undocumented archaeological resources that could qualify as historical resources. Similar to the proposed project, the Specific Plan and Zoning Build-Out

Alternative would implement Mitigation Measures MM 4.5-1 through MM 4.5-4, that would include resource protection measures including worker education and protection and treatment methodologies should resources be inadvertently discovered. In addition, in the unlikely event that human remains are inadvertently discovered during project construction or under this alternative, implementation of Mitigation Measure MM 4.5-5 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 Specific Plan and Zoning Build-Out Alternative would result in fewer cultural resource impacts compared to the proposed project as less overall ground disturbance would occur under this alternative that could affect undocumented subsurface cultural resources.

Energy

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 160.71 acres), and portions of the project site zoned as E (Estate), would be developed with single-family residential units (approximately 1,095.78 acres). Solar panels would not be installed and solar energy would not be generated on the site.

The portions of the project site that would be developed with agricultural uses would require more-intensive construction activities related to the consumption of transportation-related energy (petroleum-based fuels). The areas developed with residential uses, although low density, would result in an increased energy use especially when the units are occupied. Thus, both the agricultural uses and residential uses would result in greater operational electricity usage, as well as greater consumption of water associated with both uses. Accordingly, the portions of the project site that would be developed with single-family residences, would require similar construction activities, and more-intensive operational activities, related to the consumption of electricity, natural gas and transportation-related energy. Overall, the agricultural and residential uses would require greater energy consumption.

Similar to the proposed project, the Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.3-1, which would require the use of energy-efficient and alternatively fueled equipment and ensure compliance with Title 13, California Code of Regulations, Section 2449 et seq., which imposes construction equipment idling restrictions. As such, the wasteful, inefficient, or unnecessary consumption of energy resources would be similar to the proposed project. In addition, similar to the proposed project, the Specific 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 Specific Plan and Zoning Build-Out Alternative related to energy would be less than significant, but greater than those of the proposed 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 Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 160.71 acres), and portions of the project site zoned as E (Estate), would be developed with single-family residential units (approximately 1,095.78 acres). Solar panels would not be installed and solar energy would not be generated on the site.

Compared to the proposed project, the Specific Plan and Zoning Build–Out Alternative would have a greater potential to expose people to seismic hazards because this alternative would establish a permanent residential population on site.

Similar to the proposed project, the Specific Plan and Zoning Build-Out Alternative would not directly or indirectly cause potential substantial adverse effects involving rupture of a known earthquake fault. This alternative would not exacerbate the potential for geologic hazards to occur. With regard to seismic ground shaking, similar to the proposed project, the 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 CBC 2019 Edition (CCR Title 24). Adherence to all applicable regulations, as well as implementation of Mitigation Measure MM 4.7-1 would ensure that effects from strong seismic ground shaking would be minimized. Because development would be residential additional mitigation would likely be needed. Mitigation would be anticipated to reduce impacts to less than significant, but have a greater potential to exacerbate geotechnical hazards. As it relates to unique paleontological resource or site or unique geologic feature, similar to the proposed project, and although less overall ground surface area would be disturbed, under the 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 Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.7-2 through MM 4.7-3 to reduce impacts to paleontological resources.

As discussed above, with implementation of mitigation similar to that required for the proposed project, impacts to geology and soils would be less than significant. Although this alternative would result in the creation of habitable structures that could be affected by geologic hazards, impacts to geology and soils would be roughly equivalent under this alternative compared to the proposed project. Development under the Specific Plan and Zoning Build-Out Alternative would result in less overall initial soil disturbance during construction and while it would place a permanent residential population, compliance with all applicable building regulations would ensure impacts remain less than significant. Nonetheless, impacts would be greater than compared to the proposed project.

Greenhouse Gas Emissions

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 160.71 acres), and portions of the project site zoned as E (Estate), would be developed with single-family residential units (approximately 1,095.78 acres). Solar panels would not be installed and solar energy would not be generated on the site.

As portions of the Specific Plan and Zoning Build-Out Alternative would develop agriculture and residential land uses, that would emit GHG emissions throughout the life of the project (from increased water usage, electricity, natural gas, traffic generation, operation of agricultural equipment, and livestock emissions), this would result in a net increase of GHG emissions within California. Unlike the proposed project, the Specific Plan and Zoning Build-Out Alternative would not assist an offtaker[1] in reducing its GHG emissions as consistent with the California Global Warming Solutions Act. Impacts from the Specific Plan and Zoning Build-Out Alternative would be greater when compared to the proposed project since the beneficial reduction in GHG emissions would not occur as with the proposed project.

Hazards and Hazardous Materials

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 160.71 acres), and portions of the project site zoned as E (Estate), would be developed with single-family residential units (approximately 1,095.78 acres). Solar panels 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 either the agricultural uses or residential uses that would occur under this alternative. Agricultural uses on the project site could require the use of hazardous materials during operation including herbicides and pesticides. In addition, because the Specific Plan and Zoning Build-Out Alternative has the potential for development of residential units, there is an increased potential for the use of household chemicals as well as chemical use similar to the proposed project, including fuels, solvents, paint, lubricants, and other potentially hazardous materials. While the residential uses would involve the use of some hazardous material such as typical household cleaners, solvents, and fuels, these materials are not considered acutely hazardous and are not used in substantial quantities to result in significant impacts.

Similar to the project, standard BMPs would ensure that exposure to potentially hazardous materials used or found on site would be reduced or minimized. Similar to the proposed project, the Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measures MM 4.9-1 and MM 4.9-2 in order to avoid spills and minimize impacts in the event of a spill; regulate the use of hazardous materials during construction and operation, including the use of pesticides and herbicides; 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 a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. As it relates to wildland fires, the project site is not within an area of high or very high fire hazard. However, similar to the project, the Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.13-1, 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.

[1] An “offtaker” is a purchaser of renewable energy in a solar power purchase agreement.

Impacts under the Specific Plan and Zoning Build-Out Alternative and the project would result in less-than-significant impacts after implementation of mitigation measures and the potential impacts from hazards and hazardous materials would be similar to those of the proposed project.

Hydrology and Water Quality

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 160.71 acres), and portions of the project site zoned as E (Estate), would be developed with single-family residential units (approximately 1,095.78 acres). Solar panels would not be installed and solar energy would not be generated on the site. Similar to the proposed project, the agricultural and development would not substantially increase impervious surfaces. Conversion of the project site to agricultural uses and installation of the proposed solar panels would likely result in similar ground disturbance and erosion potential. However, operation of the agricultural uses proposed under this alternative would likely involve continued ground disturbance from activities such as grazing and plowing, whereas the proposed 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.

The residential component of the Specific Plan and Zoning Build-Out Alternative would result in fewer areas of change to the landscape and drainage patterns of the project site because development would be dispersed through the site at densities of one dwelling unit per 2.5 acres and one dwelling units per 5 acres. Because this alternative includes residential uses, construction of the Specific Plan and Zoning Build-Out Alternative would result in an increase wastewater and urban runoff generated from development of residential uses. Such development would increase impervious surfaces compared to the proposed project and result in a potentially greater impact on water quality. Once operational, a conservative estimated demand for water is 1 acre-foot of water per year per residence. This would result in greater demand under the Specific Plan and Zoning Build-out Alternative than under the proposed project.

The agricultural component of the Specific Plan and Zoning Build-Out Alternative would likely require a greater amount of operational water than the proposed project for irrigation of approximately 160.71 acres of crops or livestock operations. With regard to operation, the agricultural and residential uses would substantially increase water demand compared to the proposed project.

Similar to the proposed project, the Specific Plan and Zoning Build-Out Alternative would include completion of a NPDES form as well as implementation of Mitigation Measure MM 4.10-1 in order to reduce potential impacts related to violating water quality standards or degradation of surface or groundwater quality during construction and operation of the Specific Plan and Zoning Build-Out Alternative. As it relates to groundwater supplies, water requirements under the Specific Plan and Zoning Build-Out Alternative, similar to the proposed project, would be relatively small. However, the residential and agricultural uses could use groundwater from wells as opposed to a municipal supply. This would represent an increase compared to the proposed project and could, depending on use rates, exceed the established safe yield of the basin. Thus, this alternative, would deplete groundwater at a greater rate than compared to the proposed project and impacts would be greater.

With regard to existing drainage patterns, installation of the facilities required under the 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 Specific Plan and Zoning Build-Out Alternative would: (1) ensure that the retention basins and other stormwater management features are consistent with existing regulatory requirements and can minimize any erosion or sedimentation to less-than-significant levels; (2) ensure that flooding on site or off site is reduced to less-than-significant levels; and (3) minimize potential increases in stormwater flow and other project-induced changes to drainage patterns to less-than-significant levels.

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. In addition, water for construction and operation phases under the Specific Plan and Zoning Build-Out Alternative would be obtained from a nearby wells, those drilled as part of development of individual residential units, or trucked onto the site from a local purveyor. All would be subject to the requirements of the adjudicated basin management. Therefore, the project would not conflict with the groundwater management of the area and the potential impacts would be less than significant.

Overall, although both the project and this alternative would result in less-than-significant impacts with the implementation of mitigation, the Specific Plan and Zoning Build-Out Alternative would result in greater impacts to hydrology and water quality compared with the proposed project. Operation of the agricultural uses and residential used that would occur under this alternative would result in an overall greater amount of ground disturbance and involve an increased amount of continued ground disturbance from activities such as grazing and plowing. Both agricultural activities and residential uses also would require greater operational water use.

Land Use and Planning

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 160.71 acres), and portions of the project site zoned as E (Estate), would be developed with single-family residential units (approximately 1,095.78 acres). Solar panels would not be installed and solar energy would not be generated on the site. The Specific Plan and Zoning Build-Out Alternative would be consistent with the existing land use at the project site, because the site would be developed with the current Specific Plan land uses and zoning designations. This alternative would be consistent with current zoning as well as existing land use plans, policies, and regulations and no CUP, public vacations or Specific Plan/ Specific Plan Circulation Element Amendment would be required. Therefore, impacts would be less than significant and the Specific Plan and Zoning Build-Out Alternative would result in similar impacts related to land use and planning compared to the proposed project.

Noise

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 160.71 acres), and portions of the project site zoned as E (Estate), would be developed with single-family residential units (approximately 1,095.78 acres). Solar panels 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 proposed project, as the conversion of the project site to agricultural and residential uses would require similar heavy equipment as required for the construction of the proposed project. In addition, for development of the residential uses, although the development areas would be dispersed through the site, development would be more intensive for the 274 units residential units, as would the associated use of construction vehicles, heavy equipment operation, and worker carpool trips compared to the proposed project. During operation, with regard to the proposed agricultural and residential uses, this alternative would generate greater noise than the proposed project associated with the daily operation of agricultural equipment, worker vehicles, and residential activities.

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. However, implementation of Mitigation Measures MM 4.12-1 and MM 4.12-3 are designed to reduce impacts to the extent feasible during construction activities and, thus, impacts would be less than significant. During operation, there would be an increase in daily traffic to the project site due to agricultural and residential uses. Additionally, continuous human presence on the project site would also be a source of permanent onsite noise. However, the operation of solar trackers, new electrical collection lines, inverters, medium voltage transformers, substation, and BESS would not generate permanent noise levels in excess of noise standards or create a substantial increase in ambient noise levels within the project site. In addition, operational maintenance activities associated with the project would generate minimal noise.

The nearest offsite residential structures are as follows: CUP Area 2, 250 feet to the east; CUP Area 3, two sensitive receptors within 100 feet to the north, east, south, and west; and CUP Area 4, 100 feet to the north. There are no sensitive receptors in proximity to CUP Area 1.

At this distance, vibration velocities would range from approximately 0.00 to 0.061 in/sec PPV. 0.0004 (small bull dozer) to 0.14 (vibratory pile driver) depending on the type of equipment and activity it is used for. As each of 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 sources of groundborne vibration would be expected to affect receptors outside of the work areas, and there would not be any potential for excessive exposure of persons to or generation of groundborne vibration levels during project construction. Operation of the Specific Plan and Zoning Build-Out Alternative would involve mostly regular maintenance trucks accessing the project site, residential traffic, and agricultural equipment use that would be a sufficient distance from structures (i.e., over 100 feet away from structures). A such, vibration impacts would be minimal and are not expected to have any measurable effect on the adjacent offsite sensitive receivers.

Both the project and this alternative would result in less–than-significant construction impacts with mitigation. However, the Specific Plan and Zoning Build-Out Alternative would result in greater permanent noise impacts during operation than the proposed project due to the development of agricultural and residential uses, which involve the use of agricultural equipment and residential traffic.

Public Services

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 160.71 acres), and portions of the project site zoned as E (Estate), would be developed with single-family residential units (approximately 1,095.78 acres). The proposed agricultural and residential uses would increase the need for public services, including fire and police protection, in an area that is not currently serviced.

In particular, similar to the proposed project, construction of the Specific Plan and Zoning Build-Out Alternative would result in a similar number of construction workers on the project site and could increase fire service demands would occur during construction of this alternative. However, similar to the proposed project, the Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.13-1, 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 would not result in a change in population, as agricultural employees would likely come from the surrounding area, while the portions of the project site developed with residential uses would establish a permanent population. Similar to the project, the Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measures MM 4.13-2, which would require the project operator to pay Kern County development impact fees to compensate for any permanent impacts to fire protection services and facilities resulting from the operation of this alternative, require payment assessed taxes and encourage the project operator to hire at least 50 percent of their workers from local Kern County communities. Implementation of Mitigation Measure MM 4.13-1 would also reduce fire risks on site 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 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 KCSO protective service provision or CHP's ability to patrol the highways. During operation of this alternative, agricultural uses would increase operational traffic due to the increase employees travelling to the project site, and residential uses would increase daily traffic due to residential activity. 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 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 or use of the local schools, parks, or public facilities. During operations under the 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 Specific Plan and Zoning Build-Out Alternative. However, the development of 354 acres of new single-family 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 Specific Plan and Zoning Build-Out Alternative would result in greater impacts to public services compared to the proposed project due to proposed agricultural and residential uses, which would result in an increase in long-term population.

Transportation and Traffic

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 160.71 acres), and portions of the project site zoned as E (Estate), would be developed with single-family residential units (approximately 1,095.78 acres). With regard to the agricultural uses, construction-related traffic for the conversion of the project site to agricultural uses would be similar to the proposed project. Once operational, the Specific Plan and Zoning Build Out Alternative for the portion of the project site zoned as A would involve more routine vehicle trips associated with agricultural uses. Due to the residential component of this alternative, construction-related traffic would be similar to the proposed project because development of residential units would likely require similar numbers of construction-related workers and material transport trips. Additionally, like the proposed project, construction of residences could occur within the same time frame as other projects in the area, thereby contributing to cumulative traffic increases. However, once operational, vehicle trips associated with agricultural uses would be limited to the employees that would work on the site. Conversely, with the Specific Plan and Zoning Build Out Alternative, operational vehicle trips associated with the numerous residences would be significantly greater than the proposed project due to the increased residential population.

Similar to the proposed project, during construction of the Specific Plan and Zoning Build-Out Alternative, which would require similar construction trips for installation of the residential uses, all study roadway segments are forecasted to operate at Caltrans- or County-defined acceptable LOS D conditions or better. As construction impacts would be less than significant, operation of this alternative also is anticipated to result in less-than-significant impacts on area roadways.

With regard to consistency with *CEQA Guidelines* Section 15064.3(b), the permanent activities associated with agricultural and residential uses involved with this alternative would likely result in substantially greater vehicle miles traveled compared to the proposed project due to the greater number of vehicles that would operate in the area and a larger workforce conducting long-term activities.

Therefore, although both this alternative and the project would result in less-than-significant impacts, impacts to transportation and traffic from the Specific Plan Build-Out Alternative would be greater when compared to those of the project as operational agricultural uses and residential would increase the amount of trips to the project site as compared to the project.

Tribal Cultural Resources

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 160.71 acres), and portions of the project site zoned as E (Estate), would be developed with single-family residential units (approximately 1,095.78 acres). This alternative would occur within the same area as would the proposed project. Thus, any interested tribes who attach cultural importance to any project site, feature, place, of cultural landscape, would be similarly affected. This alternative would result in conversion of portions of the project site to agricultural uses under this alternative that would involve greater physical surficial ground disturbance but would not result in the placement of solar panels in these areas. In addition, this alternative result in the conversion of other areas to residential uses at the allowable densities.

Based on the above, although both the project and this alternative would result in physical modifications and the erection of structures within the site, the Specific Plan and Zoning Build-Out Alternative would result in fewer modifications, however, and would result in an incremental reduction in the potential for impacts to tribal cultural resources.

Utilities and Service Systems

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 160.71 acres), and portions of the project site zoned as E (Estate), would be developed with single-family residential units (approximately 1,095.78 acres).

As with the proposed project, conversion of the project site to agricultural and residential uses would require water usage for dust suppression and would result in the generation of wastewater, and require the usage of electrical power and natural gas, and increased demand for telecommunication service. While the proposed project would not use natural gas both agricultural and residential uses would. In addition, construction of the Specific Plan and Zoning Build-Out Alternative would not substantially alter stormwater drainage. With regard to operation, the agricultural and residential uses would substantially increase water demand compared to the proposed project. 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 employees associated with the agricultural uses, as well as the residential activities. Development of the residential component of the Specific Plan and Zoning Build–Out Alternative would increase impervious surfaces compared to the proposed project. However, similar to the proposed project, the Specific Plan and Zoning Build-Out Alternative would implement Mitigation MM 4.10-1, which includes measures to offset increases in stormwater runoff caused by the project and would further reduce impacts.

Although both the project and this alternative would result in less-than-significant impacts, the Specific Plan and Zoning Build-Out Alternative would result in greater impacts 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 agricultural and residential uses.

Wildfires

Under the Specific Plan and Zoning Build-Out Alternative, portions of the project site zoned as A (Exclusive Agriculture) would be developed for agricultural uses (approximately 160.71 acres), and portions of the project site zoned as E (Estate), would be developed with single-family residential units (approximately 1,095.78 acres). Impacts related to wildfires for the portion of the project site that would be developed for residential uses would be greater than the impacts generated by the proposed project as they propose uses that add increased human presence. These uses also may introduce additional landscape vegetation and although minimal, would increase the amount of flammable materials. Furthermore, although agricultural vegetation is typically watered and not considered a substantial risk to wildfire, the proposed agricultural uses may introduce additional sources of vegetation, which may serve as fuel and may, although minimally, exacerbate wildfire risks. Additionally, the use of the project site for agriculture would result in an increase of employees on the project site, which would further increase potential impacts to human safety from wildfire risks. Similar to the proposed project, the Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.13-1, which would require the development and implementation of a Fire Safety Plan for use during construction, operation, and decommissioning of the proposed project, which would further reduce the fire risks on site. With regard to the installation or maintenance of associated infrastructure, agricultural uses would not require any installation of associated infrastructure, however, residential uses would require installation of electrical infrastructure, that would be comparable to the proposed project. The installation of electrical infrastructure would not be placed within a high fire hazard zone and the vegetation would be cleared and, thus, would not result in increased fire risks that could result in temporary or ongoing impacts to the environment. Similar to the proposed project, the 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, impacts would remain less than significant under this alternative as it relates to wildfire impacts. However, the Specific Plan and Zoning Build-Out Alternative would have greater impacts from risks associated with wildfires than the proposed project due to the agricultural and residential uses proposed under this alternative.

With regard to cumulative wildfire impacts, given the location in a rural area and limited infrastructure, the Specific Plan and Zoning Build-Out Alternative and related projects have the potential to result in a cumulative impacts related to conflict with an adopted emergency response plan or emergency evacuation plan, exposing people to pollutant concentrations from a wildfire, the installation or maintenance of associated infrastructure, exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.

Comparison of Impacts

The Specific Plan and Zoning Build-Out Alternative would result in less impacts to aesthetics, agricultural and forestry resources, biological resources, and cultural resources. The alternative would result in similar impacts to hazards and hazardous materials, mineral resources, land use and planning, and tribal cultural resources. This alternative would result in greater impacts in all

remaining environmental issue areas. Greater impacts to air quality would result from emissions from the proposed agricultural uses on site, 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 geology and soils would result from greater initial soil disturbance during construction and greater potential to expose people to seismic hazards resulting from permanent human presence on site from the proposed agricultural uses. 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, compared with traditional gas- or coal-fired power plants, would not be realized. Greater impacts to hydrology and water quality would result from continued ground disturbance from activities such as grazing and plowing, the application of pesticides or herbicides from the proposed agricultural uses, and increased water use. Greater impacts to noise would occur under this alternative during operation, through the noise associated with the daily operation of agricultural equipment and worker vehicles, as well as residential traffic that also would continue post construction and during operation. The increase in human population on site is also responsible for greater impacts to public services, transportation and traffic, utilities and service systems, and wildfires. This alternative would not eliminate significant and unavoidable impacts associated with biological resources (cumulative only) or wildfires (cumulative only).

Relationship to Project Objectives

The Specific Plan and Zoning Build-Out Alternative would not achieve any of the project objectives listed above in Section 6.2, including the project's objective related to developing solar facilities to produce clean electricity to help achieve California's renewable energy goals.

6.7.3 Alternative 3: Reduced Acreage Alternative

Environmental Impact Analysis

Aesthetics

Under the Reduced Acreage Alternative, the project would develop CUP Area 1 (70.99 acres) because of its close proximity to the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and CUP Area 4 (439.26). Overall this alternative would reduce the project's footprint by approximately 48% from 1,292 acres to 679.85 acres.

With regard to impacts related to scenic vistas, there are no local areas that are designated as scenic vistas within the vicinity of the project. However, the Pacific Crest Trail (PCT) is located approximately 10 miles southwest and approximately 17 miles northwest of the project site. The PCT is designated as a National Scenic Trail by the U.S. Forest Service. The PCT is a public recreational facility recognized as offering views that can be considered scenic. However, given the distance, views of the project site are likely non-existent and if there is a view, it would not be

a predominant subject of views from the PCT. Although impacts would be slightly reduced due to the rescued project footprint, impacts would be still be similar as under the proposed project and remain less than significant.

With regard to scenic resources, as discussed in the IS/NOP, the project would not be visible from any Officially Designated State or County Scenic Highway and impacts would remain less than significant under the Reduced Acreage Alternative.

While this alternative would avoid development of a portion of the project (CUP Areas 2 and 4), this alternative would maintain the installation of solar panels and other facilities within CUP Area 1 and 3. Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measures MM 4.1-1 through MM 4.1-4, which would reduce impacts to visual character and quality to the maximum extent feasible by requiring the preparation of a Maintenance, Trash Abatement, and Pest Management Program. Among other things this would require color-treating all the solar facilities, including gen-tie poles, array facilities, etc. to blend in with the colors found in the natural landscape to reduce color disharmony, and requiring preparation of a revegetation plan during construction and decommissioning. Nevertheless, although the this alternative has a reduced project footprint, similar to the proposed project it would result in substantial changes to the visual landscape and impacts would be significant and unavoidable.

In addition, in combination with other projects, particularly the wind turbines and other solar development that exist adjacent to and near the project site, the Reduced Acreage Alternative would contribute to added modifications to the visual landscape. While Mitigation Measures MM 4.1-1 through MM 4.1-4 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 and wind energy production uses cannot be mitigated to a degree that impacts are no longer significant. As such, similar to the project, cumulative impacts from the change to the visual character of the site would remain significant and unavoidable for the Reduced Acreage Alternative.

With regard to project impacts due to new sources of light or glare, this alternative would result in approximately half the impacts compared to the proposed project because the development would occupy 48% of the area. Furthermore, per Mitigation Measure MM 4.1-5, any nighttime construction would use lighting designed to provide the minimum illumination needed, thereby minimizing adverse impacts on any nearby residents. Mitigation Measure MM 4.1-5 would also require the project to comply with the Dark Skies Ordinance for all lighting to be directed downward and shielded. Regarding glare, this alternative would also have to implement Mitigation Measures MM 4.1-6 and MM 4.1-7, which require the use of non-reflective and non-glare materials when feasible. Impacts related to light and glare on the Reduced Acreage Alternative site would still be less than significant. However, due to the reduction in project site size, the Reduced Acreage Alternative would have less impacts to aesthetics than the proposed project.

Agriculture and Forestry Resources

Under the Reduced Acreage Alternative, the project would develop CUP Area 1 (70.99 acres) because of its close proximity to the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and CUP Area 4

(439.26). Overall this alternative would reduce the project's footprint by approximately 48% from 1,292 acres to 679.85 acres.

The proposed project and the Reduced Acreage Alternative would be developed with a solar panel facility and associated infrastructure. While substantially less area in CUP Area 1 and CUP Area 3 is designated for agricultural uses, this alternative would create changes in the existing environment and would still convert land zoned for agriculture to non-agricultural use. However, it should be noted that similar to the project, the project would not directly or indirectly impact farmland, as the site has no agricultural production, past or present and is not designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the project area. Furthermore, none of the parcels included as part of the proposed site or any property in the vicinity of the project are subject to a Williamson Act Land Use contract.

As the Reduced Acreage Alternative would include a smaller footprint and only includes 40.39 acres of land designated as farmland, impacts to agricultural resources would be incrementally reduced but be substantially the same. Thus, impacts related to agriculture and forestry resources would remain be less than significant.

Air Quality

Under the Reduced Acreage Alternative, the project would develop CUP Area 1 (70.99 acres) because of its close proximity to the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and CUP Area 4 (439.26). Overall this alternative would reduce the project's footprint by approximately 48% from 1,292 acres to 679.85 acres. Thus, this alternative would reduce the overall extent of construction-related impacts to air quality.

The use of construction vehicles, heavy equipment operation, and worker carpool trips would be less compared to the proposed project. Similar to the proposed project, this alternative would require implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 in order to reduce the severity of construction-related emissions. Similar to the proposed project, impacts would be less than significant but impacts under this alternative would be less than the proposed project. Operational emissions would be reduced under this alternative as fewer maintenance trips would be required with the reduced project scale. Impacts in this regard would be less than significant. As it relates to impacts on implementation of the applicable air quality plan, the Reduced Acreage Alternative would result in temporary construction emissions of a magnitude that would be less than the proposed project and would not obstruct the air quality planning goals set forth by EKAPCD.

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 *Coccidioides immitis,* the fungal spore that has potential to cause *Valley Fever* as fugitive dust is generated during construction. However, dust-minimizing techniques, as implemented through Mitigation Measure MM 4.3-3, would reduce these impacts to less than significant. As with the proposed project, the Reduced Acreage Alternative would result in less-than-significant impacts related to toxic air contaminants, localized pollutant concentrations, and asbestos. Overall, with the reduced project footprint and implementation of similar mitigation

proposed for the project, impacts to air quality under this alternative would be less than the proposed project and also less than significant, however; cumulative impacts would remain significant and unavoidable.

Biological Resources

Under the Reduced Acreage Alternative, the project would develop CUP Area 1 (70.99 acres) because of its close proximity to the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and CUP Area 4 (439.26). Overall this alternative would reduce the project's footprint by approximately 48% from 1,292 acres to 679.85 acres.

As it relates to impacts on candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS), as with the proposed project, the Reduced Acreage Alternative would have an impact to transient wildlife species. 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, many of which are expected to utilize the project site on at least a transient basis. With implementation of Mitigation Measures MM 4.4-1 through MM 4.4-12, impacts would be reduced to less than significant. However, as this alternative would avoid disturbing 612.15 acres of land within the project site, the Reduced Acreage Alternative would reduce the project's impact to biological resources.

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 CDFW or USFWS, construction activities could result in significant impacts related to jurisdictional features to ephemeral drainages within the project site. However, in addition to reducing the project footprint and reducing potential impacts from site disturbance, as with the project, implementation of Mitigation Measures MM 4.4-13 and MM 4.4-14 would reduce impacts to less than significant under the Reduced Acreage Alternative.

Implementation of the above referenced mitigation measures would also reduce potential impacts to state or federally protected wetlands, the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, and consistency with local policies and ordinances protecting biological resources. 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 would be less to those of the proposed project because approximately 48% less area would be developed. However, cumulatively, this alternative would still result in significant and unavoidable impacts to biological resources; regardless of the type of development, biological resources are being impacted throughout the Antelope Valley. However, as this alternative would avoid disturbing 612.15 acres of land within CUP Area 2 and CUP Area 4 of the project site. The Reduced Acreage Alternative would result in

less impacts related species identified as candidate, sensitive, or special-status species, as well as impacts related to riparian habitat or other sensitive natural community when compared to the proposed project. All other impacts related to biological resources would remain the same as the proposed project.

Cultural Resources

Under the Reduced Acreage Alternative, the project would develop CUP Area 1 (70.99 acres) because of its close proximity to the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and CUP Area 4 (439.26). Overall this alternative would reduce the project's footprint by approximately 48% from 1,292 acres to 679.85 acres.

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, the Reduced Acreage Alternative would implement Mitigation Measures MM 4.5-1 through MM 4.5-4. However, in the unlikely event that human remains are inadvertently discovered during project construction activities, implementation of Mitigation Measure MM 4.5-5 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 impacts related to cultural resources compared to the proposed project due to the reduction in ground disturbance required under this alternative.

Energy

Under the Reduced Acreage Alternative, the project would develop CUP Area 1 (70.99 acres) because of its close proximity to the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and CUP Area 4 (439.26). Overall this alternative would reduce the project's footprint by approximately 48% from 1,292 acres to 679.85 acres.

Eliminating 612.15 acres from project development would result in reduced energy use, 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 proposed project. Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.3-1, which would require the use of energy-efficient and alternatively fueled equipment and ensure compliance with Title 13, California Code of Regulations, Section 2449 et seq., which imposes construction equipment idling restrictions. As such, the wasteful, inefficient, or unnecessary consumption of energy resources would be reduced in comparison with the proposed project. 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. The Reduced Acreage Alternative would result in fewer energy impacts compared to the proposed project.

Geology and Soils

Under the Reduced Acreage Alternative, the project would develop CUP Area 1 (70.99 acres) because of its close proximity to the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and CUP Area 4 (439.26). Overall this alternative would reduce the project's footprint by approximately 48% from 1,292 acres to 679.85 acres.

Similar to the proposed project, the Reduced Acreage Alternative would not directly or indirectly cause potential substantial adverse effects involving rupture of a known earthquake fault, seismic-related ground failure including liquefaction, unstable or expansive soils. Adherence to all applicable regulations, as well as implementation of Mitigation Measures MM 4.7-1 would ensure that effects from rupture of a known earthquake fault, seismic-related ground failure including liquefaction, unstable or expansive soils, would be minimized.

With regard to soils incapable of adequately supporting the use of septic tanks or alternative wastewater systems, similar to the proposed project, the Reduced Acreage Alternative would require the construction of a septic wastewater treatment system. However, the onsite soils have been characterized as well drained and moderate to highly permeable. In addition, similar to the proposed project, the Reduced Acreage Alternative's septic system would be required to be permitted through the Kern County Public Health Services Department which includes a permitting process to ensure adequate drainage of wastewater. As it relates to unique paleontological resource or site or unique geologic feature, similar to the proposed project, under the Reduced Acreage Alternative any ground disturbance within the project site could result in a potentially significant impact to paleontological resources. This alternative would reduce the overall project area reduce disturbance as well implement Mitigation Measures MM 4.7-2 through MM 4.7-4 to reduce impacts to paleontological resources. Therefore, impacts would be incrementally reduced and remain less than significant.

As discussed above, with implementation of mitigation similar to that required for the proposed project, impacts to geology and soils would likely be less than significant. However, because less area would be disturbed under this alternative impacts to geology and soils would be less compared to the proposed project due to the reduction in ground disturbance required under this alternative.

Greenhouse Gas Emissions

Under the Reduced Acreage Alternative, the project would develop CUP Area 1 (70.99 acres) because of its close proximity to the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and CUP Area 4 (439.26). Overall this alternative would reduce the project's footprint by approximately 48% from 1,292 acres to 679.85 acres.

Given a smaller project footprint than the proposed project, the construction and operational impacts from the Reduced Alternative would be less than the proposed project. Therefore, the Reduced Acreage Alternative would result in fewer GHG emissions during construction and operations when compared with the proposed project. Eliminating 612.15 acres from project development would result

in reduced energy generation by a factor of approximately 48 percent, as the Reduced Acreage Alternative would generate approximately 81 MW due to the proportional reduction in project size. While project-related GHG impacts would remain less than significant, the 48 percent reduction in the production of renewable energy from this alternative would result in greater GHG impacts in comparison to the project due to the corresponding loss in GHG offsets. .

Hazards and Hazardous Materials

Under the Reduced Acreage Alternative, the project would develop CUP Area 1 (70.99 acres) because of its close proximity to the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and CUP Area 4 (439.26). Overall this alternative would reduce the project's footprint by approximately 48% from 1,292 acres to 679.85 acres.

Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measures MM 4.9-1 and MM 4.9-2, in order to avoid spills and minimize impacts in the event of a spill; regulate the use of hazardous materials during construction and operation, including the use of pesticides and herbicides; 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 a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. With regard to hazardous emissions within 0.25 miles of a school, the nearest school to the project site is located approximately 4.5 miles east of the site, and therefore, the project would result in no impact related to hazardous emissions within 0.25 miles of a school.

As it relates to wildland fires, the project site is not within an area of high or very high fire hazard. However, similar to the proposed project, the Reduced Acreage Alternative would include an BESS component which can burn or become damaged by fire and generate fumes and gases that are corrosive. Mitigation Measure MM 4.13-1 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.

Impacts under the Reduced Acreage Alternative and the proposed project would result in less-than-significant impacts after implementation of mitigation measures and the potential impacts from hazards and hazardous materials under the Reduced Acreage Alternative would be similar to those of the proposed project.

Hydrology and Water Quality

Under the Reduced Acreage Alternative, the project would develop CUP Area 1 (70.99 acres) because of its close proximity to the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and CUP Area 4 (439.26). Overall this alternative would reduce the project's footprint by approximately 48% from

1,292 acres to 679.85 acres. The reduced footprint would result in slightly reduced grading activities and would reduce the amount of impervious surfaces compared to the proposed project.

Similar to the proposed project, the Reduced Acreage Alternative would include of a NPDES completion form as well as implementation of Mitigation Measure MM 4.10-1 in order to reduce potential impacts related to violating water quality standards or degradation of surface or groundwater quality during construction and operation of the Reduced Acreage Alternative. As it relates to groundwater supplies, water requirements under the Reduced Acreage Alternative, similar to the proposed project, would be relatively small and would represent a small portion of the established safe yield of the basin, and would not substantially deplete groundwater levels in comparison to existing conditions. As such, impacts would be less than significant.

With regard to existing drainage patterns, installation of the facilities required under the Reduced Acreage 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 Reduced Acreage Alternative would implement Mitigation Measure MM 4.10-2, which requires the project to: (1) ensure that the retention basins and other stormwater management features are consistent with existing regulatory requirements and can minimize any erosion or sedimentation to less-than-significant levels; (2) ensure that flooding on site or off site is reduced to less-than-significant levels; and (3) minimize potential increases in stormwater flow and other project-induced changes to drainage patterns to less-than-significant levels.

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. In addition, water for construction and operation phases under the Reduced Acreage Alternative would be obtained from a nearby well or trucked onto the site from a local purveyor and would be subject to the requirements of the adjudicated basin management. 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. 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 and would reduce the amount of impervious surfaces compared to the proposed project.

Land Use and Planning

Under the Reduced Acreage Alternative, the project would develop CUP Area 1 (70.99 acres) because of its close proximity to the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and CUP Area 4 (439.26). Overall this alternative would reduce the project's footprint by approximately 48% from 1,292 acres to 679.85 acres.

Development of the Reduced Acreage Alternative alone would still require two CUPs for the solar facilities and for the communication tower, two Specific Plan Amendments (one for land use designation and one for elimination of future road reservations), a zone change, and non-summary

vacation request to vacate public access easements. Granting of these changes, however, would not result in any impacts beyond those already analyzed and impacts would be less than significant under this alternative. Land use and planning impacts would similar under the Reduced Acreage Alternative when compared to the proposed project.

Noise

Under the Reduced Acreage Alternative, the project would develop CUP Area 1 (70.99 acres) because of its close proximity to the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and CUP Area 4 (439.26). Overall this alternative would reduce the project's footprint by approximately 48% from 1,292 acres to 679.85 acres. Under the Reduced Acreage Alternative all construction and operational methods, workforce, and timing would be reduced when compared with the proposed project.

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. However, Mitigation Measures MM 4.12-1 through MM 4.12-3 are designed to reduce impacts to the extent feasible during construction activities and, thus, impacts would be less than significant. The operation of solar trackers, new electrical collection lines, inverters, medium voltage transformers, substation, and BESS would not generate permanent noise levels in excess of noise standards or create a substantial increase in ambient noise levels within the project site. In addition, operational maintenance activities would generate minimal noise. Thus, operational impacts would be less than significant.

In addition, the nearest offsite residential structures to CUP Area 3 are approximately 100 feet to the north, east, south, and west. There are no sensitive receptors in proximity to CUP Area 1. At this distance, vibration velocities would range from approximately 0.00 to 0.061 in/sec PPV. Therefore, as each of 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 sources of groundborne vibration would be expected to affect receptors outside of the work areas, and there would not be any potential for excessive exposure of persons to or generation of groundborne vibration levels. 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. A 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 similar to those of the proposed project. This alternative is expected to result in less than significant with mitigation noise impacts during operational activities and impacts related to noise would be less than those of the proposed project given the reduced footprint and similar time period of temporary noise impacts.

Public Services

Under the Reduced Acreage Alternative, the project would develop CUP Area 1 (70.99 acres) because of its close proximity to the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and CUP Area 4 (439.26). Overall this alternative would reduce the project's footprint by approximately 48% from 1,292 acres to 679.85 acres. Under the Reduced Acreage Alternative all construction and operational methods, workforce, and timing would be reduced when compared with the proposed project.

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 4.13-1, which would require the implementation of a Fire Safety Plan. During operation, the reduced acreage alternative project site would require up to the same number of full time employees, 2 persons, to man the operations center. Implementation of Mitigation Measure MM 4.13-1 would also reduce fire risks on site during operation of this alternative. Similar to the project, the Reduced Acreage Alternative would implement Mitigation Measures MM 4.13-2 through MM 4.13-5, which would require the project operator to pay Kern County development impact fees to compensate for any permanent impacts to fire protection services and facilities resulting from the operation of this alternative, require payment assessed taxes if the project is sold to a city, county, or utility company, and encourage the project operator to hire at least 50 percent of their workers from local Kern County communities. 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, chain-link security fencing would be installed around the site perimeter and other areas requiring controlled access during construction. 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.

With regard to schools, parks, and other government facilities, similar to the proposed project, under the Reduced Acreage 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 or use of the local schools, parks, or public facilities. During operations under the Reduced Acreage Alternative, the same number of staff would be required to operate the O&M facility as the proposed project but fewer staff would be needed to maintain the site and perform intermittent repairs. However, similar to the proposed project, this 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 Reduced Acreage Alternative. Accordingly, there would not be a corresponding demand or use of the local schools, parks, or public facilities, and, similar to the proposed project, there would be no impact.

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 to those of the proposed project.

Transportation and Traffic

Under the Reduced Acreage Alternative, the project would develop CUP Area 1 (70.99 acres) because of its close proximity to the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and CUP Area 4 (439.26). Overall this alternative would reduce the project's footprint by approximately 48% from 1,292 acres to 679.85 acres. Under the Reduced Acreage Alternative all construction and operational methods, workforce, and timing would be reduced when compared with the proposed project.

Similar to the proposed project, during construction of the Reduced Acreage Alternative, which would require similar construction trips for installation of the solar panels, all study roadway segments are forecasted to operate at Caltrans- or County-defined acceptable LOS conditions. During operation of this alternative, day to day operations and maintenance trips would be reduced by approximately half in comparison with those of the propose project. Similar to the proposed project, the total number of daily trips for maintenance of the solar panels are estimated to 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), construction of the Reduced Acreage Alternative would require similar construction trips and travel distances for installation of the solar facilities, but 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. During operation of this alternative, distances of day-to-day O&M trips would be the same, while total trips and total vehicle miles traveled would be reduced in comparison with those of the project. Similar to the project, the total number of daily trips and distances traveled for O&M 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.

Based on the above, impacts would be less than significant. Given the similarity between this alternative's and the proposed project's construction and operational vehicle and truck trips, the Reduced Acreage Alternative would result in similar impacts related to transportation and traffic as the proposed project.

Tribal Cultural Resources

Under the Reduced Acreage Alternative, the project would develop CUP Area 1 (70.99 acres) because of its close proximity to the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and CUP Area 4 (439.26). Overall this alternative would reduce the project's footprint by approximately 48% from 1,292 acres to 679.85 acres.

This alternative would occur within the same area as would the proposed project. Thus, any interested tribes who attach cultural importance to any project site, feature, place, of cultural landscape, would be similarly affected. This alternative would result in conversion of portions of the project site to agricultural uses under this alternative that would involve greater physical surficial ground disturbance but would not result in the placement of solar panels in these areas. In addition, this alternative result in the conversion of other areas to residential uses at the allowable densities. Based on this, although both the project and this alternative would result in physical modifications and the erection of structures within the site. The Specific Plan and Zoning Build-Out Alternative would result in fewer modifications, however, and would result in an incremental reduction in the potential for impacts to tribal cultural resources.

Utilities and Service Systems

Under the Reduced Acreage Alternative, the project would develop CUP Area 1 (70.99 acres) because of its close proximity to the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and CUP Area 4 (439.26). Overall this alternative would reduce the project's footprint by approximately 48% from 1,292 acres to 679.85 acres. Eliminating 612.15 acres from project development would result in reduced demand for utilities and service systems, as the Reduced Acreage Alternative would generate approximately 81 MW due to the proportional reduction in project size, 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 proposed project, project construction and operations under the Reduced Acreage Alternative would require water usage for dust suppression as well as minimal generation of wastewater, usage of electrical power, and telecommunications. 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 proposed 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 proposed project. Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.10-1, would include measures to offset increases in stormwater runoff caused by the project and would further reduce impacts.

This alternative is expected to result in less-than-significant impacts to utilities and service systems and impacts would be similar to those of the proposed project.

Wildfires

Under the Reduced Acreage Alternative, the project would develop CUP Area 1 (70.99 acres) because of its close proximity to the SCE Whirlwind Substation along 170th West Street, and CUP Area 3 (541.16 acres) located south of Holiday Avenue and adjacent to existing solar facilities. This alternative would exclude development of CUP Area 2 (240.58 acres) and CUP Area 4 (439.26). Overall this alternative would reduce the project's footprint by approximately 48% from 1,292 acres to 679.85 acres.

Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.13-1, which would require the development and implementation of a Fire Safety Plan for use during construction, operation, and decommissioning of the project, which would further reduce the fire risks on site. With regard to the installation or maintenance of associated infrastructure, solar panels would require installation of the electrical collector line, similar to the proposed project. The installation of the electrical collector line would not be placed within a high fire hazard zone and the vegetation would be cleared to the extent necessary, and thus would not result in increased fire risks that could result in temporary or ongoing impacts to the environment. Similar to the proposed project, the Reduced Acreage Alternative would not include significant risks related to downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

With implementation of similar mitigation proposed for the project, this alternative is expected to result in less-than-significant impacts to wildfires. The Reduced Acreage Alternative would likely result in slightly less impact than the proposed project due to the reduced footprint compared with the proposed project.

With regard to cumulative wildfire impacts, given the location in a rural area and limited infrastructure, the Reduced Acreage Alternative and past, present and reasonably foreseeable future projects have the potential to result in a cumulative impact related to conflict with an adopted emergency response plan or emergency evacuation plan, exposing people to pollutant concentrations from a wildfire, the installation or maintenance of associated infrastructure, exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.

Comparison of Impacts

The Reduced Acreage Alternative would be reduced in size compared to the proposed project, and would generate approximately 81 MW due to the proportional reduction in project size and therefore, all construction and operational methods, workforce, and timing for the Reduced Acreage Alternative would be reduced in comparison with the proposed project. Due to the reduced footprint, the Reduced Acreage Alternative would result in less or similar impacts for nearly all of the environmental issue areas. However, this alternative would result in greater GHG impacts when compared to the proposed project since the beneficial reduction in GHG emissions would be reduced. This alternative would not eliminate significant and unavoidable impacts associated with

aesthetics (project and cumulative), biological resources (cumulative only), and wildfires (cumulative only).

Relationship to Project Objectives

The Reduced Acreage Alternative would meet most of the project objectives listed above in Section 6.2, although to a lesser degree. The Reduced Acreage Alternative would be reduced in size compared to the proposed project, and would generate approximately 81 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. Although, this alternative would not reduce any identified significant and unavoidable impact to less than significant, it would lessen those impacts due to the reduction in project size.

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

Environmental Impact Analysis

Aesthetics

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Antelope Valley.

With regard to impacts related to scenic vistas, the quality of the existing scenic vista at several Key Observation Points (KOPs) are considered moderate to low given the existing visible solar facilities and wind turbines. Under the No Ground-Mounted Utility-Solar Development Alternative solar installation would occur on the roofs of the existing buildings. Thus, given the moderate to low visual quality, and that the panels would be on the roofs of existing structures and be added to existing visual obstructions (buildings), the No Ground-Mounted Utility-Solar Development Alternative would not have a substantial adverse effect on a scenic vista. Impacts would be less than significant.

The installation of small to medium solar PV systems on large commercial and industrial rooftops would be visually unobtrusive and would not be noticeable from receptors at ground level unless their viewing angles were higher than the roof lines. Accordingly, from other vantage points, the changes associated with the small to medium solar PV systems may be visible, but would not likely affect the visual character or quality of an area. The additional of the panels to existing commercial and industrial buildings would not substantially change the character or quality of an area because commercial and industrial buildings sites are not considered to have high visual quality. These locations also have already been substantially altered from their natural condition as a result of the existing building's construction and current operations. 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.

Based on the above, this alternative would avoid significant and unavoidable aesthetic impacts that would occur under the proposed project. With implementation of mitigation measures to address impacts related to historic buildings, impacts would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in less impacts related to aesthetics compared to the proposed project.

Agriculture and Forest Resources

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. Since the solar PV systems proposed for this alternative would be constructed on existing structures and would not result in ground disturbance, this alternative would not create any changes in the existing environment that would convert land that is designated Farmland to non-agricultural use nor would it result in the removal of land or cancelation of Williamson Act Contract. Thus, 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 agricultural resource compared to the proposed project.

Air Quality

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. Under this alternative, no construction activities associated with ground disturbance would occur. Emissions would be limited to trucks transporting the solar panels and minor use of equipment and tools needed to physically install the panels. The reduction in construction activities, location with existing commercial and industrial sites, and lack of ground disturbance would also reduce the exposure of sensitive receptors to substantial pollutant concentrations. This would include exposure of both workers and nearby residents to *Coccidioides immitis,* the fungal spore that has potential to cause valley fever. Implementation of Mitigation Measures MM 4.3-3 and MM 4.3-5 would not be required. During operation, this alternative would have similarly negligible impacts on air quality as the proposed project related to occasional vehicular visits for maintenance. As such, operational impacts would be less than significant and overall, air quality impacts under this alternative would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in less 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 not 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, wetland, or other sensitive habitat. As such, Mitigation Measures MM 4.4-1 through MM 4.4-12 would not be required. Operation of the small to medium solar PV systems would not require implementation of Mitigation Measures MM 4.4-13 and MM 4.4-14 to minimize impacts to wetland, because no such disturbance would occur. Because this alternative would not result in any additional ground disturbance, it would not contribute to a cumulative loss of foraging and nesting habitat for burrowing owls, Swainson's hawk, other raptors, and migratory bird species. As such, significant and unavoidable cumulative impacts would be eliminated as well. The No Ground-Mounted Utility-Solar Development Alternative would result in less impacts related to biological resources compared to the proposed project.

Cultural Resources

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the 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 installation of any panels. These surveys would identify known eligible historical resources and 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. Thus, the No Ground-Mounted Utility-Solar Development Alternative would result in fewer impacts related to cultural resources compared to the proposed project.

Energy

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Antelope Valley. As such, construction activities would be limited to trucks transporting the solar panels and installation of the solar panels on the rooftops of existing buildings using machinery such as lifts and/or cranes and some power tools. Implementation of Mitigation Measure MM 4.3-1 would still be required during construction as it requires implementation of energy-efficient and alternatively-fueled equipment during construction. Therefore, the No Ground-Mounted Utility-Solar Development Alternative would have a less-than-significant impact related to wasteful, inefficient, or unnecessary consumption of energy resources and this alternative would not conflict with or

obstruct a state or local plan for renewable energy or energy efficiency. This alternative would reduce the energy consumed by heavy equipment needed for site preparation and grading and incrementally reduce this energy demand. As similar energy generation capabilities would be provided, impacts would be slightly less but similar to those of 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 this alternative to directly or indirectly cause potential substantial adverse effects involving rupture of a known earthquake fault or strong seismic ground shaking; result in substantial soil erosion or loss of topsoil; or directly or indirectly destroy a unique paleontological resource or unique geologic feature. Similarly, this alternative would not make alterations to the ground, result in increased habitation in an area prone to hazards from unstable geology, and thus would not exacerbate any geologic hazards. Accordingly, this alternative would not require implementation of Mitigation Measures MM 4.7-1 through MM 4.7-3. 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 impact related to geology and soils compared to the proposed project.

Greenhouse Gas Emissions

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. This alternative would not generate GHG emissions from heavy equipment required for ground disturbing activities. The distributed systems on rooftops; however, 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 245 MWh storage to maintain energy generating capacity when sunlight is not available. Even with the reduced efficiency, this alternative also 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 greenhouse gases. Impacts would be less than significant.

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 proposed 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, MM 4.9-2, and MM 4.16-1 in order 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 a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. 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 include a ESS component. However, due to the numerous power lines on each individual rooftop 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 4.13-1 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 impact related to hazards and hazardous materials than the proposed project as this alternative would require usage of fewer 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.

While completion of NPDES forms would not be required under the No Ground-Mounted Utility-Solar Development Alternative, similar to the proposed project, as needed and as determined on a project by project basis based on the potential to result in excessing or polluted runoff, this alternative would require implementation of Mitigation Measure MM 4.10-1 in order to 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.

As it relates to groundwater supplies, water requirements under the No Ground-Mounted Utility-Solar Development Alternative, similar to the proposed project, would be relatively small and would represent a small portion of the established safe yield of the basin, and would not substantially deplete groundwater levels in comparison to existing conditions. This alternative would also likely require minimal water as no dust suppression or concrete mixing would be required during construction and operational panel washing is expected to be less frequent given the location of panels on top of buildings throughout the Antelope Valley (rather than directly on sediment). As such, impacts would be less than significant.

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. This alternative would not result in any ground disturbance and drainage patterns and flow paths would not be altered. As such, impacts related to drainage patterns would be less than significant.

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 be obtained from a nearby well or trucked to the solar panels from a local purveyor and would be subject to the requirements of the adjudicated basin management. Therefore, the No Ground-Mounted Utility-Solar Development Alternative 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. However, the No Ground-Mounted Utility-Solar Development Alternative would result in less overall impacts 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 the this alternative would be reduced as no dust suppression or concrete mixing would be required during construction and operational panel washing is expected to be less frequent.

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 CUPs, Zone Changes, Specific Plan Amendment (to land use designation or to eliminate future road reservations), or public access easement vacations required. The No Ground-Mounted Utility-Solar Development Alternative would also achieve the County's goals and policies relative to accommodating renewable energy facilities. However, the placement of solar panels on other structures throughout the region would result in unknown entitlement requirements, depending on the project location, zoning, land use, and potential environmental impacts on the site and surrounding areas. Nonetheless, to allow such development, the project proponent would be required to comply with the specific entitlements needed to construct solar PV systems consistent with this alternative. Impacts to land use and planning under the No Ground-Mounted Utility-Solar Development Alternative would be less than significant. In addition because the installation would occur on the top of existing commercial and industrial buildings, impacts from the installation and development of these resources, would not result in other environmental impacts and would be less than the proposed project.

Noise

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. Rooftops of existing commercial and industrial buildings that would be developed under this alternative would be in developed areas. As a result, noise related to construction activities would likely impact sensitive receptors during construction. The operational noise generated from these solar PV systems would be similar to that of the proposed 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 that would generate substantial level of

groundborne vibration. Therefore, it is likely that any vibration caused from the installation of the panels would have a less than significant impact on vibration. Similar to the proposed project, operation of the No Ground-Mounted Utility-Solar Development Alternative would require regular maintenance trucks (0.076 in/sec PPV) 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 and noise impacts for the No Ground-Mounted Utility-Solar Development Alternative would be less than significant. Therefore, the No Ground-Mounted Utility-Solar Development Alternative would result in similar impacts related to construction noise compared to 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. Unlike the proposed project, the No Ground-Mounted Utility-Solar Development Alternative would not introduce structures into a currently undeveloped area and is not expected to significantly increase the concentration of persons in an area, either temporarily or permanently.

With regard to fire protection, it is expected that the areas where the solar PV systems would be installed in more urbanized areas. In addition, this alternative would not include a BESS component. However, due to the numerous power lines on each individual rooftop that would be required to harness the distributed solar panel energy, this alternative could exacerbate fire risks. In addition to complying with all building code requirements, and similar to the proposed project, Mitigation Measure MM 4.13-1 would be implemented and would include development of a fire safety plan. This would help reduce on-site fire risks as well as the potential to result fires that could create an additional risk of wildfire. In addition, similar to the proposed project, this alternative would implement Mitigation Measure MM 4.13-2, which would require the project operator to pay Kern County development impact 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 industrial and commercial buildings, it is unlikely that construction and operation of the No Ground-Mounted Utility-Solar Development Alternative would attract attention of people such that a law enforcement response would be needed. 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 dispersed throughout the region, 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 or result in demands such that new or expanded facilities would be needed. Impacts would be less than significant.

Based on the above, impacts are anticipated to be less than significant with mitigation. The No Ground-Mounted Utility-Solar Development Alternative would result in less impacts related to public services compared to the proposed project because the proposed small to medium solar PV systems would be developed in urbanized areas that are in closer proximity to existing fire and police protection services.

Transportation and Traffic

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the 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 the proposed project given the location of the facilities and commercial and industrial areas that would be used to mount the rooftop solar panels, 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 propose project. However, as with construction, these maintenance trips would be more dispersed than the proposed project given the location of the existing commercial and industrial facilities that would be used for the rooftop solar installations. It is also estimated that the total number of daily trips for maintenance of the solar panels are 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 which 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 on-site 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 impact related to transportation and traffic compared to the proposed project.

Tribal Cultural Resources

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Antelope Valley. It is highly unlikely that the proposed rooftop solar systems would have an impact on tribal cultural resources. However, prior to construction of this alternative, the Native American Heritage Commission will be contacted for a search of the Sacred Land File for the No Ground-Mounted Utility-Solar Development Alternative construction area. In addition, the County will conduct additional consultation with California Native American tribes on the County's Master List for AB 52, apprising them of the alternative project

description. Due to the nature of the No Ground-Mounted Utility-Solar Development Alternative, it is highly unlikely to have an impact on tribal cultural resources. It is anticipated that the Sacred Land File and consultation would not result in the identification of any tribal cultural resources that could be impacted by the No Ground-Mounted Utility-Solar Development Alternative directly or indirectly, however should it be determined the potential exists, this alternative will avoid impacting any such resources through avoidance and re-design. As such, The No Ground-Mounted Utility-Solar Development Alternative would have no impact to tribal cultural resources and no mitigation would be required. Furthermore, the No Ground-Mounted Utility-Solar Development Alternative would result in fewer 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, this alternative would likely require minimal water as no dust suppression would be required during construction. This alternative would also require minimal generation of wastewater, usage of electrical power, 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). 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. As the No Ground-Mounted Utility-Solar Development Alternative would not develop the project site, it is highly unlikely this alternative would result in new impervious surfaces. However, if needed, and as determined on a project by project basis based on the potential to result in excessing or polluted runoff, this alternative would require and implementation of Mitigation Measures MM 4.10-1.

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.

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 proposed project. All installations however, would be done in accordance with all applicable building codes including wiring and electrical regulations. In addition, similar to the proposed project, the No Ground-Mounted Utility-Solar Development Alternative would implement Mitigation Measure MM 4.14-1, which would require the development and implementation of a Fire Safety Plan for use during construction, operation, and decommissioning of the project. Implementation of this measure would further reduce the fire risks. With regard to the installation or maintenance of associated infrastructure, solar panels would require installation of the electrical collector line,

similar to the proposed project. The installation of the electrical collector line would not be placed within a high fire hazard zone and thus would not result in increased fire risks that could result in temporary or ongoing impacts to the environment. Similar to the proposed project, the No Ground-Mounted Utility-Solar Development Alternative would not include significant risks related to downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

With conformance to the same building codes and implementation of similar mitigation, this alternative is expected to result in less-than-significant impacts to wildfires. The No Ground-Mounted Utility-Solar Development Alternative would likely result in slightly less impact than the proposed project as solar panels would be located in more urbanized areas.

With regard to cumulative wildfire impacts, given the location of the installation of rooftop solar within already developed areas with commercial and industrial uses with existing substantial amounts of existing infrastructure, the No Ground-Mounted Utility-Solar Development Alternative and related projects have extremely minimal potential to result in a cumulative impact related to conflicts with an adopted emergency response plan or emergency evacuation plan. In addition, because the risk of wildfire is minimal, there is little potential for this alternative to result in the exposure of people to pollutant concentrations from a wildfire. Lastly, the installation and/or maintenance of associated infrastructure, would not expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. Thus, impacts in this regard would not be significant on an individual basis and would not be cumulatively considerable.

Comparison of Impacts

The No Ground-Mounted Utility-Solar Development Alternative would result in less impact related to aesthetics, agricultural and forestry resources, air quality, biological resources, cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, public services, transportation and traffic, tribal cultural resources, utilities and service systems, and wildfire. 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 proposed project.

Relationship to Project Objectives

This alternative would satisfy some of the project objective of assisting California in reducing GHG emissions. However, the BESS (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. Additional drawbacks to this alternative include, but are not limited to those listed below.

- The BESS are not 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 proposed project.

- Given the distributed nature of such a network of facilities, construction, management, and maintenance would not be as efficient, and total capital costs would likely be higher.
- The project proponent does not have immediate control or access to potential urban sites that could accommodate facilities to generate the solar power.
- A distributed system of 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 165 MW of electricity but it would be used on the sites generating the power, and would not achieve the project objective of assisting California load-serving entities in meeting their obligations under California's RPS Program. Additionally, this alternative does not include an BESS component. Given the size of the proposed project, the project objectives, and the need to arrange a suitable assemblage of participating commercial and industrial properties, it is impractical and infeasible to propose a distributed generation project of this type and still proceed within a reasonably similar timeframe.

6.8 Environmentally Superior Alternative

As presented in the comparative analysis above, and as shown in **Table 6-2**, *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. This alternative, however, could potentially result in greater impacts to land use and fire risks because it would be located within existing developed areas and could result in conflicts with surrounding uses and due to the numerous power lines that would be required to harness the distributed solar panel energy, which could exacerbate fire risk. Although 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, an incremental increase in impacts in these regards would occur. Further, this alternative would have lower efficiency due to the lack of solar tracking technology and it would not include BESS.

The No Ground-Mounted Utility-Solar Development Alternative would result in less impact to aesthetics, agricultural and forestry resources, air quality, biological resources, cultural resources,

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

It is important to note that it is considered to be impracticable and infeasible to construct the No Ground-Mounted Utility-Solar Development Alternative within the same timeframe and/or with the same efficiency as the proposed project because the project proponent lacks control and access to the sites required to develop 165 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 Specific Plan and Zoning Build-Out Alternative and Reduced Acreage Alternative, the No Ground-Mounted Utility-Solar Development Alternative is considered the Environmentally Superior Alternative.

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Chapter 7
Response to Comments

This chapter is being reserved for, and will be included with, the Final EIR.

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Chapter 8
Organizations and Persons Consulted

8.1 Federal

China Lake Naval Weapons Center

Edwards Air Force Base, Mission Sustainability Liaison

Natural Resource Conservation Service

U.S. Air Force

U.S. Army

U.S. Army Corp of Engineers, Regulatory Division

U.S. Bureau of Land Management

U.S. Department of Agriculture

U.S. Environmental Protection Agency Region IX Office

U.S. Fish and Wildlife Service

U.S. Marine Corps

U.S. Navy

U.S. Postal Service, Address Management Systems

8.2 State of California

California Air Resources Board

California Department of Fish & Wildlife, Central Region

California Department of Water Resources, San Joaquin District

California Department of Water Resources, Division of Land & Right-of-Way

California Energy Commission

California Native American Heritage Commission

California Public Utilities Commission, Energy Division

California Regional Water Quality Control Board, Lahontan Region

California State Clearinghouse

California State University Bakersfield - Library

Caltrans District 6

State Department of Conservation, Director's Office

State Department of Conservation, Geologic Energy Management Division

State Department of Conservation, Office of Land Conservation

State Water Resources Control Board Division of Drinking Water

8.3 Regional and Local

Adams, Broadwell, Joseph & Cardozo

AES Midwest Wind Generation

Antelope Valley-East Kern Water Agency

Antelope Valley Resource Conservation District

Iberdrola Renewables

Inyo County
Planning Department

Kern County Fire Department, David Witt, Fire Chief

Kern County Fire Department, Cary Wright, Fire Marshall

Los Angeles County Regional Planning Department

Lozeau Drury LLP

Mojave Chamber of Commerce
Mojave Town Council

Native American Heritage Council of Kern County

AT&T California OSP Engineering/Right-of-Way

Bakersfield City Planning Department

Bakersfield City Public Works Department

Beth Boyst, Pacific Crest Trail Program Manager

Beyond Coal Campaign/Sierra Club

California City Planning Department

California Highway Patrol Planning & Analysis Division

Center on Race, Poverty & the Environment

Center on Race, Poverty and the Environmental/CA Rural Legal Assistance Foundation

City of Arvin

City of Maricopa

City of McFarland

City of Ridgecrest

City of Shafter

City of Taft

City of Tehachapi

City of Wasco

Congentrix Sunshine, LLC

David Walsh

Defenders of Wildlife/Kim Delfino, California Director

Delano City Planning Department

East Kern Air Pollution Control District

EDP Renewables Company

Eight Bar Ranch

Fairmont Town Council

Fotowatio Renewable Ventures

Kern County Library Beale Branch, Andie Sullivan

Kern County Library Beale Branch, Local History Room

Kern County Parks and Recreation

Kelly Group

Kern Audubon Society

Kern County Administrative Officer

Kern County Council of Governments

Kern County Agriculture Department

Kern County Environmental Health Services Department

Kern County Public Works Department/Building and Development/Floodplain

Kern County Public Works Department/Building and Development/Survey

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

Kern County Public Works Department/Operations and

Maintenance/Regulatory Monitoring and Reporting

Kern County Public Works Department/Building & Development/Code Compliance

Kern County Sheriff's Department

Kern County Superintendent of Schools

Kern County Water Agency

Kings County Planning Agency

Pacific Crest Trail Association

Pacific Gas & Electric Company

Renewal Resources Group Holding Company

Recurrent Energy

Robert Burgett

Rosamond Municipal Advisory Council

San Bernardino County Planning Department

San Luis Obispo County Planning Department

Santa Barbara County Resource Management Department

Sierra Club/Kern Kaweah Chapter

Southern Kern Unified School District

South San Joaquin Valley Archaeological Information Center

Southern California Edison

Southern California Edison Planning Department

Southern California Gas Company

Southern California Gas Company, Transportation Department

Structure Cast

Tehachapi Area Association of Realtors

Terra-Gen Power, LLC

The Gorman Law Firm

Tulare County Planning and Development Department

Ventura County Resource Management Agency, Planning Division

Kern County Library Rosamond Branch

Laborers' International Union of North America (LIUNA)

Los Angeles Audubon

Wind Stream, LLC

8.4 Individuals

8.5 Tribal Organizations

Chumash Council of Bakersfield

David Laughing Horse Robinson

Kern Valley Indian Council

Kern Valley Indian Council Historic Preservation Office

Kitanemuk & Yowlumne Tejon Indians

Santa Rosa Rancheria

Tejon Indian Tribe

Tubatulabals of Kern County

Tule River Indian Tribe

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Chapter 9
List of Preparers

9.1 Lead Agency

Kern County Planning and Natural Resources Department

Lorelei H. Oviatt, AICP – Director
Craig M. Murphy – Assistant Director
Katrina A. Slayton – Advanced Planning Division Chief
Terrance Smalls – Supervising Planner

9.2 Technical Assistance

Kimley-Horn

Alex Jewell – AICP - Senior Planner/Project Manager
Brad Stoneman – Senior Environmental Planner
Randall Kopff – Landscape Architect
Achilles Malisos – Technical Study Manager
Rich Lucera, P.E. – Hydrology and Water Quality Engineer
Addie Sedoff – Environmental Planning Analyst
Taylor Blanford – Technical Analyst

Terracon Consultants

Fabio M Minervini, P.G
Islam (Sami) R. Noaman – Environmental Department Manager II
Gabriela R. Jorquiera – Field Scientist
John Romano, P.G. – Client Services
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Eric St. Michel – Field Personnel
Jennifer S. Van – Field Personnel

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Peter A. Carey, M.A., RPA

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Katie M. McComas, M.S., Paleontological Report Writer & GIS Specialist

QK

Jaymie. Brauer, Project Manager
Karissa Denney, Associate Environmental Scientist
Shannon Gleason, Associate Environmental Scientist
Dave Dayton, Principal Environmental Scientist
Curtis Uptain, Principal Environmental Scientist
Michael Glietz, GIS Analyst
Courtney Chaney, Associate Environmental Scientist
Julie Hausknecht, Associate Environmental Scientist
Lucas Knox, Associate Environmental Scientist
Eric Madueno, Associate Environmental Scientist
Erica Pena, Assistant Environmental Scientist
Laura Schneider, Associate Environmental Scientist

Westwood

Jerry Slater, PE

Trinity Consultants

Ron Hunter, Principal

WJV Acoustics

Walter J. Van Groningen, President

Chapter 10
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Chapter 11
Acronyms and Abbreviations

AAQA	ambient air quality analysis
AB	Assembly Bill
AC	alternating current
ACHP	Advisory Council on Historic Preservation
ACOE	Army Corps of Engineers
AFB	Air Force Base
AF	acre-feet
AFY	acre-feet per year
ALUCP	Airport Land Use Compatibility Plan
ANSI	American National Standard Institute
APCD	Air Pollution Control District
APE	Area of Potential Effect
APLIC	Avian Power Line Interaction Committee's
APN	Assessor Parcel Number
AQAP	Air Quality Attainment Plan
AQMP	Air Quality Management Plan
ARB	Air Resources Board
ARP	accidental release prevention
ARPA	Archeological Resources Protection Act
ASCE	American Society of Civil Engineers
ASF	age sensitivity factor
AVAQMD	Antelope Valley Air Quality Management District
AVEK	Antelope Valley-East Kern
BLM	Bureau of Land Management
BMCM	bulk material control measures
BMPs	best management practices
BRTR	Biological Resources Technical Report
C&D	Construction and Demolition
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CaCO3	calcium carbonate

CAFE	corporate average fuel economy
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCAA	Clean Air Act of 1988
CCAP	Climate Change Action Plan
CCR	California Code of Regulations
CDC	Center for Disease Control
CDFW	California Department of Fish and Wildlife
CDNPA	California Desert Native Plants Act
CDOC	California Department of Conservation
CEC	California Energy Commission
CERS	California Environmental Reporting System
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFC	California Fire Code
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CGS	California Geologic Survey
CH4	methane
CHL	California Historical Landmarks
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CMA	Congestion Management Agency
CMP	Congestion Management Plan
CNDDB	Fish and Game Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO2	carbon dioxide
COG	Council of Governments
CPUC	California Public Utility Commission
CREC	controlled recognized environmental conditions

CRHR	California Register of Historical Resources
CRPC	California Rare Plant Rank
CSLC	California State Lands Commission
CSP	concentrated solar power
CUP	conditional use permit
CUPA	Certified Unified Program Agency
CVC	California Vehicle Code
CWA	Clean Water Act
DAT	dual access tracker
dBA	decibel
DC	direct current
DEIR	draft environmental impact report
DI	drilling island
DOC	Department of Conservation
DOGGR	Division of Oil, Gas, and Geothermal Resources
DNL	Day-Night Average Sound Level
DPM	diesel particulate matter
DRECP	Desert Renewable Energy Conservation Plan
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
ECCMP	Environmental and Construction Compliance Monitoring Plan
EIR	Environmental Impact Report
EKAPCD	Eastern Kern Air Pollution Control District
EMF	electromagnetic field
EMT	emergency medical technician
EO	Executive Order
EPA	Environmental Protection Agency
EPS	Emissions Performance Standard
ESA	Endangered Species Act
ESS	Energy Storage System
FAA	Federal Aviation Administration
FAR	Floor Area Ratio
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHSZ	Fire Hazard Severity Zone

FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FONSI	Finding of No Significant Impact
FMMP	Farmland Mapping and Monitoring Program
FPPA	Farmland Protection Policy Act
FR	Federal Register
FRA	Federal Responsibility Area
FRAP	Fire and Resource Assessment Program
FTA	Federal Transit Administration
FTE	full-time equivalent
FTIP	Federal Transportation Improvement Program
GDP	Gross Domestic Product
GHG	greenhouse gas
GIS	geographic information system
GO	general order
GPS	global positioning system
GSP	groundwater sustainability plan
GWP	Global Warming Potential
H2O	water
HAPs	total hazardous air pollutants
HCP	habitat conservation plan
HFC	hydrofluorocarbons
HHWE	Hazardous Waste Element
HM	habitat management
HMBP	Hazardous Materials Business Plan
HMMP	Hazardous Materials Management Plan
HRA	Health Risk Assessment
HREC	historical recognized environmental conditions
HSAT	horizontal single axis tracker
HSWA	Hazardous Solid Waste Act
HUD	Department of Housing and Urban Development
HVAC	heating/ventilation/air conditioning
HWMP	Hazardous Waste Management Plan
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan

IPCC	Intergovernmental Panel on Climate Change
IS/NOP	Initial Study/Notice of Preparation
IVIRWMP	Antelope Valley Integrated Regional Water Management Plan
KEDC	Kern Economic Development Cooperation
KCFD	Kern County Fire Department
KCGP	Kern County General Plan
KCOG	Kern Council of Governments
KCPD	Kern County Planning Department
KCSO	Kern County Sheriff's Department
KOP	Key Observation Point
LACM	Museum of Los Angeles County
LADWP	Los Angeles Department of Water and Power
LCFS	Low Carbon Fuel Standard
LID	low impact design
LLC	Limited Liability Corporation
LOS	Level of Service
LRA	local responsibility area
LUPA	Land Use Plan Amendment
MBTA	Migratory Bird Treaty Act
MCL	Maximum Contaminant Level
MDAB	Mojave Desert Air Basin
MM	mitigation measure
MMRCP	Monitoring, Reporting, and Compliance Program
MOUs	Memoranda of Understanding
MRZs	Mineral Resource Zones
MT	metric tons
MV	medium voltage
MW	megawatts
NO_x	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NCP	National Contingency Act
NCCP	Natural Communities Conservation Plan
NDFE	Nondisposal Facility Element

NEHRP	National Earthquake Hazards Reduction Program
NEPA	National Environmental Policy Act
NF3	nitrogen trifluoride
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NOx	nitric oxide
NO2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation
NOP/IS	Notice of Preparation and Initial Study
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NR	natural resources
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
O3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OHP	Office of Historic Preservation
OHV	off-highway vehicle
OSHA	Occupational Safety and Health Administrations
OPR	California Governor's Office of Planning and Research
PCE	passenger car equivalent
PCS	power conversion station
PCT	Pacific Crest Trail
PE	petroleum extraction
PFC	perfluorocarbons
PHI	points of historic interest
PL	platted lands
PM	particulate matter
PM10	Respirable Particulate Matter
PM2.5	Fine Particulate Matter

PPA	Power Purchase Agreement
PPV	peak particle velocity
PRC	Public Resources Code
PSD	Prevention of Significant Deterioration
PV	solar photovoltaic
PVC	polyvinyl chloride
PVSC	PV combining switchgear
R-2	Medium-density Residential
RACM	reasonably available control measures
RCRA	Resource Conservation and Recovery Act
RCSD	Rosamond Community Services District
RE	Recurrent Energy
REC	recognized environmental condition
RHNA	Regional Housing Needs Allocation
RMS	root mean square
ROGs	reactive organic gases
ROWs	Rights-of-Way
RPS	Renewable Portfolio Standard
RS	Residential Suburban
RTP	Regional Transportation Plan
RV	recreational vehicle
RWMG	Regional Water Management Group
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SBBM	San Bernardino Base and Meridian
SBCM	San Bernardino County Museum
SC	sectionalizing cabinets
SCC	site control centers
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCC	site control center
SCE	Southern California Edison
SCS	Sustainable Communities Strategy
SDC	seismic design category
SDNHM	San Diego Natural History Museum

SF6	sulfur hexafluoride
SGHAT	Solar Glare Hazard Analysis Tool
SGMA	Sustainable Groundwater Management Agency
SHPO	State Historic Preservation Officer
SIPs	State Implementation Plans
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SKUSD	Southern Kern Unified School District
SLAMS	State and Local Air Monitoring Stations
SLF	sacred lands file
SMARA	Surface Mining and Reclamation Act of 1975
SO_x	sulfur oxides
SO2	sulfur dioxide
SPA	specific plan amendment
SPCC	Prevention, Control, and Countermeasure
SR	State Route
SRAs	State Responsibility Areas
SRRE	Source Reduction and Recycling Element
SSC	Species of Special Concern
SSJVIC	San Joaquin Valley Archaeological Information Center
STIP	State Transportation Improvement Program
SVP	Society of Vertebrate Paleontology
SWANCC	Solid Waste Agency of Northern Cook County
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
TAZ	Traffic Analysis Zones
UBC	Uniform Building Code
UL	Underwriters Laboratory
USC	United States Code
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
USPS	United States Postal Service

UST	underground storage tank
UV	ultraviolet
VMT	vehicle miles traveled
VOCs	volatile organic compounds
VRM	Visual Resource Management
WEMO	West Mojave Plan
WRCC	Western Regional Climate Center
WSA	water supply assessment
WSSP	Willow Springs Specific Plan
ZCC	zone change
ZEV	zero-emissions vehicle

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