Draft Environmental Impact Report

SCH# 2020079007

Volume 1

Chapters 1 through 10

Raceway 2.0 Solar Project By sPower Development Company

SPA 33, ZM 231; ZCC 154, ZM 231; CUP 116 ZM 231; SPA 34, ZM 231; SPA 35, ZM 231; ZCC 155, ZM 231; CUP 117, ZM 231; SPA 36, ZM 231; SPA 37, ZM 231; ZCC 156, ZM 231; CUP 118, ZM 231; SPA 38, ZM 231; CUP 119, ZM 231; CUP 4, ZM 231-20; SPA 39, ZM 231; SPA 3, ZM 231-20; SPA 5, ZM 231-21; SPA 5, ZM 231-28; ZCC 3, ZM 231-21; ZCC 3, ZM 231-28; CUP 3, ZM 231-21; CUP 7, ZM 231-28; SPA 6, ZM 231-21; SPA 6, ZM 231-28; SPA 7, ZM 231-21; ZCC 4, ZM 231-21; CUP 4, ZM 231-21; CUP



Kern County Planning and Natural Resources Department

2700 M Street, Suite 100 Bakersfield, CA 93301-2370 (661) 862-8600

Technical Assistance by:

Environmental Science Associates 626 Wilshire Boulevard, Suite 2200 Los Angeles, CA 90017 (213) 599-4300

March 2021

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



PLANNING AND NATURAL RESOURCES DEPARTMENT

Planning Community Development Administrative Operations

California Environmental Quality Act (CEQA)

Draft Environmental Impact Report

DATE: March 24, 2021

TO: See Attached Distribution List

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

RE: Draft Environmental Impact Report for the Raceway 2.0 Solar, by sPower Development Corporation, LLC (PP17226) (SCH #2020079007)

You are receiving this letter because your agency may have received a Draft Environmental Impact Report (Draft EIR) that was not yet ready for distribution and review. On March 17, 2021, the Kern County Natural Resources Department distributed a Notice of Availability and accompanying CD dated "March 2021" containing a Draft Environmental Impact Report (Draft EIR) for the project identified above. Be advised that the Notice of Availability and Draft EIR distributed on that date has been withdrawn from circulation and public review and replaced with the enclosed Notice of Availability and CD dated "March 24, 2021." Therefore, please replace the previous distributed CD dated "March 2021" with the enclosed CD dated "March 24, 2021." The public review period for the enclosed document dated March 24, 2021 will begin today and conclude on **May 7, 2021, at 5:00 P.M.**

The project includes land use applications to allow for the construction and operation of two solar photovoltaic power generating facilities and associated facilities that would generate a combined total of approximately 291 megawatts (MW) of renewable electrical energy on 1,330 acres of privately-owned land.

PROJECT LOCATION: The proposed project is in the western extent of the Mojave Desert near Rosamond, California between Rosamond Boulevard and Avenue A, and between 70th Street West and 90th Street West in Sections: 20, 21, 28, 29 and 32, T9N/R13W in the eastern portion of unincorporated Kern County, California.

PROJECT DESCRIPTION: The proposed project would involve construction and operation of two solar photovoltaic (PV) power-generating facilities, on six discontinuous sites, which would produce a combine total of approximately 291 megawatts (MW) of renewable electricity with up to 291 megawatt hours MWh energy storage on 1,330 acres of land in unincorporated Kern County. The proposal includes:

(1) Raceway 2.0 Solar, Site 1: (a) Amendment to the Willow Springs Specific Plan (SPA 33, Map 231) from map code designation 7.1/4.4 (Light Industrial, Comprehensive Plan Area) to 7.1 (Light Industrial) on approximately 89 acres and from existing map code designation 7.2/4.4 (Service Industrial, Comprehensive Plan Area) to 7.2 (Service Industrial) on approximately 6 acres; (b) Change in zone classification (ZCC 154, Map 231) from the existing zone district E (2.5) RS MH FPS (Estate (2.5)

Residential Suburban, Mobile Home Combining, Floodplain Secondary Combining) to A FPS (Exclusive Agriculture) on approximately 92 acres for consistency with the underlying proposed Specific Plan Designations of 7.1 (Light Industrial) and 7.2 (Service Industrial); (c) Conditional Use Permit (CUP 116, Map 231) to allow for the construction and operation of up to a 15 MW solar electrical generating facility, as well as related ancillary structures (Section 19.12.030.G), on 92 acres in an A zone district; and (d) Amendment to the Willow Springs Specific Plan circulation element (SPA 34, Map 231) to eliminate road reservations along section and mid-section lines in Section 32 of T.9N/R.13W, Zone Map 231 to allow for efficient placement of solar panels.

(2) Raceway 2.0 Solar, Site 2: (a) Amendment to Willow Springs Specific Plan (SPA 35, Map 231) from map code designation 7.1/4.4 (Light Industrial, Comprehensive Plan Area) to 7.1 (Light Industrial) on approximately 42 acres and from map code designation 7.2/4.4 (Service Industrial, Comprehensive Planning Area) to 7.2 (Service Industrial) on approximately 48 acres; (b) Change in zone classification (ZCC 155, Map 231) from the existing zone district E (2.5) RS FPS (Estate (2.5) Residential Suburban, Floodplain Secondary Combining) on approximately 40 acres and from E (2.5) RS MH FPS (Estate (2.5) Residential Suburban, Mobile Home Combining, Floodplain Secondary Combining) on approximately 50 acres to A FPS (Exclusive Agriculture, Floodplain Secondary Combining) for consistency with the underlying proposed Specific Plan Designation of 7.1 (Light Industrial); (c) Conditional Use Permit (CUP 117, Map 231) to allow for the construction and operation of up to a 20 MW solar electrical generating facility, as well as related ancillary structures (Section 19.12.030.G), on 90 acres in an A zone district; and (d) Amendment to the Willow Springs Specific Plan circulation element (SPA 36 Map 231) to eliminate road reservations along section and mid-section lines in Section 32 of T.9N/R.13W, Zone Map 231 to allow for efficient placement of solar panels.

(3) Raceway 2.0 Solar, Site 3: (a) Amendment to Willow Springs Specific Plan (SPA 37, Map 231) from map code designation 7.1/4.4 (Light Industrial, Comprehensive Plan Area) to 7.1 (Light Industrial) on approximately 75 acres and from existing map code designation 7.2/4.4 (Service Industrial, Comprehensive Planning Area) to 7.2 (Service Industrial) on approximately 38 acres; (b) Change in zone classification (ZCC 156, Map 231) from the existing E (2.5) RS FPS (Estate (2.5) Residential Suburban, Floodplain Secondary Combining) to A FPS (Exclusive Agriculture, Floodplain Secondary Combining) on approximately 510 acres for consistency with the underlying proposed Specific Plan Designation of 7.1 (Light Industrial); (c) Conditional Use Permit (CUP 118, Map 231) to allow for the construction and operation of up to a 106 MW solar electrical generating facility, as well as ancillary structures (Section 19.12.030.G), on 510 acres in an A zone district; and (d) Amendment to the Willow Springs Specific Plan circulation element (SPA 38, Map 231) to eliminate road reservations along section and mid-section lines in Section 20 and 29 of T.9N/R.13W, Zone Map 231 to allow for efficient placement of solar panels.

(4) Raceway 2.0 Solar, Site 4: (a) Conditional Use Permit (CUP 119, Map 231) to allow for the construction and operation of up to a combined 70 MW solar electrical generating facility, as well as ancillary structures (Section 19.12.030.G), on approximately 156 acres in an A zone district; (b) Conditional Use Permit (CUP 4 Map 231-20) to allow for the construction and operation of up to a combined 70 MW solar electrical generating facility, as well as ancillary structures (Section 19.12.030.G), on approximately 156 acres in an A zone district; (c) Amendment to the Construction and operation of up to a combined 70 MW solar electrical generating facility, as well as ancillary structures (Section 19.12.030.G), on approximately 154 acres in an A zone district; (c) Amendment to the Willow Springs Specific Plan circulation element (SPA 39, Map 231) to eliminate road reservations along section and mid-section lines in Section 20 and 29 of T.9N/R.13W, Zone Map 231 to allow for efficient placement of solar panels; (d) Amendment to the Willow Springs Specific Plan circulation element (SPA 3, Map 231-20) to eliminate road reservations along section and mid-section lines in Section 20 and 29 of T.9N/R.13W, Zone Map 231-20 to allow for efficient placement of solar panels; (d) Amendment to the Willow Springs Specific Plan circulation element (SPA 3, Map 231-20) to eliminate road reservations along section and mid-section lines in Section 20 and 29 of T.9N/R.13W, Zone Map 231-20 to allow for efficient placement of solar panels; and (e) Cancellation of a Williamson Act Contract No. 20-06 on APNs: 374-011-04 and 374-011-11 (formerly known as APNs: 257-020-11 and 257-020-04).

(5) Raceway 2.0 Solar, Site 5: (a) Amendment of Willow Springs Specific Plan Amendment (SPA 5, Map 231-21) from map code designation 5.3/4.4 (Residential, 10 Dwelling Units Per Acre/Comprehensive Plan

Area) to 5.3 (Residential, 10 Dwelling Units Per Acre) on approximately 160 acres; (b) amendment of Willow Springs Specific Plan (SPA 6, Map 231-28) from map code designation 5.3/4.4/2.85 (Residential, 10 Dwelling Units Per Acre, Comprehensive Plan Area/Noise Management Area) to 5.3/2.85 (Residential, 10 Dwelling Units Per Acre/Noise Management Area) on approximately 80 acres; (c) Change in zone classification (ZCC 3, Map 231-21) from E (2.5) RS FPS (Estate (2.5) Residential Suburban, Floodplain Secondary Combining) on approximately 160 acres for consistency with the underlying proposed Specific Plan Designation of 5.3 (Residential, 10 Dwelling Units Per Acre); (d) Change in zone classification (ZCC 3, Map 231-28) from E (2.5) RS MH FPS (Estate (2.5) Residential Suburban, Mobilehome Combining, Floodplain Secondary Combining) to A FPS (Exclusive Agriculture, Floodplain Secondary Combining) on approximately 81 acres, for consistency with the underlying proposed Specific Plan Designation of 5.3 (Residential, 10 Dwelling Units Per Acre); (e) Conditional Use Permit (CUP 3, Map 231-21) to allow for the construction and operation of up to a combined 60 MW solar electrical generating facility, as well as related ancillary activities (Section 19.12.030.G), on approximately 160 acres in an A zone district; (f) Conditional Use Permit (CUP 3, Map 231-28) to allow for the construction and operation of up to a combined 60 MW solar electrical generating facility, as well as related ancillary activities (Section 19.12.030.G), on approximately 81 acres in an A zone district; (g) Amendment to the Willow Springs Specific Plan circulation element (SPA 6, Map 231-21) to eliminate road reservations along section and mid-section lines in Sections 21 of T.9N/R.13W, Zone Map 231-21 to allow for efficient placement of solar panels; and (h) Amendment to the Willow Springs Specific Plan circulation element (SPA 6, Map 231-28) to eliminate road reservations along section and mid-section lines in Section 21 of T. 9N/R.13W, Zone Map 231-28 to allow for efficient placement of solar panels.

(6) Raceway 2.0 Solar, Site 6: (a) Amendment of Willow Springs Specific Plan Amendment (SPA 7, Map 231-21) from map code designation 5.3/4.4 (Residential, 10 Dwelling Units per Acre, Comprehensive Plan Area) to 5.3 Residential, 10 Dwelling Units per Acre) on 64 acres; (b) Change in zone classification (ZCC 4, Map 231-21) from E (2.5) RS FPS (Estate (2.5) Residential Suburban, Floodplain Secondary Combining) on approximately 40 acres to A FPS (Exclusive Agriculture, Floodplain Secondary Combining) and from Open Space (OS) on approximately 40 acres to A FPS for consistency with the underlying proposed Specific Plan Designation of 5.3 (Residential, 10 Dwelling Units Per Acre); (c) Conditional Use Permit (CUP 4, Map 231-21) to allow for the construction and operation of up to a 20 MW solar electrical generating facility, as well as related ancillary structures (Section 19.12.030.G), on 80 acres in an A zone district;

(7) Vacation of existing public access easements on the project site; and

(8) Franchise Agreement for installation of generation tie lines in the County right-of-way.

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.

The comment period for this document closes on **May 7, 2021, at 5:00 P.M.** Comments can be submitted to the address above or e-mailed to Terrance Smalls (<u>SmallsT@kerncounty.com</u>). If we have not received comment by the close of the comment period, we will assume that you have no comments regarding this Draft EIR.

Sincerely,

Terrance Smalls, Supervising Planner Advanced Planning Division

SP #33; ZC #154; CUP #116, Map #231 #PP17226 (EIR 08-17 - Raceway Solar) I:\Planning\WORKGRPS\WP\LABELS\e ir08-17ts.nop.doc Sc 06/29/20 (sc 03/05/21)

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

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

City of Shafter 336 Pacific Avenue Shafter, CA 93263

City of Wasco 764 E Street Wasco, CA 93280

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

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

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

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

Environmental Protection Agency Region IX Office 75 Hawthorn Street San Francisco, CA 94105 City of Arvin P.O. Box 548 Arvin, CA 93203

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

City of McFarland 401 West Kern Avenue McFarland, CA 93250

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

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

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

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

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

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

U.S. Dept of Agriculture/NRCS 5080 California Avenue, Ste 150 Bakersfield, CA 93309-0711 Bakersfield City Planning Dept 1715 Chester Avenue Bakersfield, CA 93301

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

City of Ridgecrest 100 West California Avenue Ridgecrest, CA 93555

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

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

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

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

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

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

U.S. Army Corps of Engineers P.O. Box 997 Lake Isabella, CA 93240 U.S. Army Corps of Engineers Regulatory Division 1325 "J" Street, #1350 Sacramento, CA 95814-2920

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

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

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

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

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

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

Kern County Administrative Officer

Kern County Env Health Services Department

Kern County Library/Beale Local History Room State Air Resources Board Stationary Resource Division P.O. Box 2815 Sacramento, CA 95812

Caltrans/ Division of Structures Attn: Jim Roberts P.O. Box 1499 Sacramento, CA 95807

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

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

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

State Dept of Toxic Substance Control Environmental Protection Agency 1515 Tollhouse Road Clovis, CA 93612

Kern County Agriculture Department

Kern County Public Works Department/ Building & Development/Floodplain

Kern County Fire Dept David Witt, Interim Fire Chief

Kern County Library/Beale Andie Sullivan So. San Joaquin Valley Arch Info Ctr California State University of Bkfd 9001 Stockdale Highway Bakersfield, CA 93311

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

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

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

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

Cal Environmental Protection Agency/ Dept of Toxic Substances Control, Reg 1 Attn: Dave Kereazis, Permit Div - CEQA 8800 Cal Center Drive, 2nd Floor Sacramento, CA 95826

Kern County Airports Department

Kern County Public Works Department/ Building & Development/Survey

Kern County Fire Dept Cary Wright, Fire Marshall

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

Kern County Public Works Department/Operations & Maintenance/Regulatory Monitoring & Reporting

Mojave Town Council Bill Deaver, President P.O. Box 1113 Mojave, CA 93502-1113

KernCOG 1401 19th Street - Suite 300 Bakersfield, CA 93301

Kern County Water Agency P.O. Box 58 Bakersfield, CA 93302-0058

East Kern Airport Dist Attention Stuart Witt 1434 Flightline Mojave, CA 93501

Aero Sports Skypark Corporation P.O. Box 2567 Rosamond, CA 93560

Kern Audubon Society Attn: Frank Bedard, Chairman 4124 Chardonnay Drive Bakersfield, CA 93306

Center on Race, Poverty & the Environmental/ CA Rural Legal Assistance Foundation 1012 Jefferson Street Delano, CA 93215

Native American Heritage Council of Kern County Attn: Gene Albitre 3401 Aslin Street Bakersfield, CA 93312 Kern County Sheriff's Dept Administration

Kern County Public Works Department/ Building & Development/Code Compliance

Southern Kern Unified School Dist P.O. Box CC Rosamond, CA 93560

Local Agency Formation Comm/LAFCO 5300 Lennox Avenue, Suite 303 Bakersfield, CA 93309

East Kern Air Pollution Control District

East Kern Airport Dist Engineer 3900 Ridgemoor Avenue Bakersfield, CA 93306

Rosamond Skypark/Airport 4000 Knox Avenue Rosamond, CA 93560

Los Angeles Audubon 926 Citrus Avenue Los Angeles, CA 90036-4929

Defenders of Wildlife/ Kim Delfino, California Dir 980 - 9th Street, Suite 1730 Sacramento, CA 95814

Pacific Gas & Electric Co Land Projects 650 "O" Street, First Floor Fresno, CA 93760-0001 Kern County Public Works Department/ Building & Development/Development Review

Rosamond Municipal Advisory Council P.O. Box 626 Rosamond, CA 93560

Kern County Superintendent of Schools Attention School District Facility Services 1300 - 17th Street Bakersfield, CA 93301

Antelope Valley-East Kern Water Agency 6500 West Avenue N Palmdale, CA 93551

Mojave Airport 1434 Flightline Mojave, CA 93501

Northcutt and Associates 4220 Poplar Street Lake Isabella, CA 93240-9536

Adams, Broadwell, Joseph & Cardozo Attention: Janet M. Laurain 601 Gateway Boulevard, Suite 1000 South San Francisco, CA 94080

Center on Race, Poverty & the Environment Attn: Marissa Alexander 1999 Harrison Street – Suite 650 San Francisco, CA 94612

California Farm Bureau 2300 River Plaza Drive, NRED Sacramento, CA 95833

Sierra Club/Kern Kaweah Chapter P.O. Box 3357 Bakersfield, CA 93385 Verizon California, Inc. Attention Engineering Department 520 South China Lake Boulevard Ridgecrest, CA 93555

Kern Valley Indian Council Attn: Robert Robinson, Chairperson P.O. Box 401 Weldon, CA 93283

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

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

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

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

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

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

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

PG&E Steven Ng, Manager Renewal Dev, T&D Intercon 77 Beal Street, Room 5361 San Francisco, CA 94105 Chumash Council of Bakersfield 2421 "O" Street Bakersfield, CA 93301-2441

Kern Valley Indian Council Historic Preservation Office P.O. Box 401 Weldon, CA 93283

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

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

Carol Vaughn 509 West Ward Ridgecrest, CA 93555

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

Pleistocene Foundation 2362 Lumill Street Ridgecrest, CA 93555

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

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

Darren Kelly, Sr. Business Mgr Terra-Gen Power, LLC 1095 Avenue of the Americas, 25th Floor, Ste A New York, NY 10036-6797 David Laughing Horse Robinson P.O. Box 20849 Bakersfield, CA 93390

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

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

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

Fairmont Town Council Attn: Barbara Rogers P.O. Box 2320 Rosamond, CA 93560

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

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

EDP Renewables Company 53 SW Yamhill Street Portland, OR 97204

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

Michael Strickler, Sr Project Mgr Iberdrola Renewables 1125 NW Couch St, Ste 700, 7th Fl Portland, OR 97209 Recurrent Energy Seth Israel 300 California Street, 8th Floor San Francisco, CA 92109

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

David Walsh 22941 Banducci Road Tehachapi, CA 93561

U.S. Army Attn: Tim Kilgannon, Region 9 Coordinator Office of Strategic Integration 721 - 19th Street, Room 427 Denver, CO 80202 Wayne Mayes, Dir Tech Serv Iberdrola Renewables 1125 NW Couch St, Ste 700, 7th Fl Portland, OR 97209

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

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

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

U.S. Navy Attn: Steve Chung Regional Community & Liaison Officer 1220 Pacific Highway San Diego, CA 92132-5190 Kelly Group Kate Kelly P.O. Box 868 Winters, CA 95694

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

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

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

NOTICE OF AVAILABILITY FOR PUBLIC REVIEW AND HEARING ON THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE PROPOSED RACEWAY 2.0 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: Raceway 2.0 Solar Project by sPower Development Corporation, LLC (PP17226); Specific Plan Amendment 33, Map 231; Specific Plan Amendment 34, Map 231; Specific Plan Amendment 35, Map 231; Specific Plan Amendment 36, Map 231; Specific Plan Amendment 37, Map 231; Specific Plan Amendment 38, Map 231; Specific Plan Amendment 39, Map 231; Specific Plan Amendment 3, Map 231-20; Specific Plan Amendment 5, Map 231-21; Specific Plan Amendment 6, Map 231-28; Specific Plan Amendment 6, Map 231-21; Specific Plan Amendment 6, Map 231-28; Specific Plan Amendment 7, Map 231-21; Zoning Classification Change No. 154, Map 231; Zoning Classification Change No. 155, Map 231-21; Zoning Classification Change No. 156, Map 231-23; Zoning Classification Change No. 3, Map 231-21; Zoning Classification Change No. 3, Map 231-21; Conditional Use Permit No. 116, Map 231; Conditional Use Permit No. 117, Map 231; Conditional Use Permit No. 118, Map 231; Conditional Use Permit No. 119, Map 231; Conditional Use Permit No. 3, Map 231-20; Conditional Use Permit No. 3, Map 231-21; Conditional Use Permit No. 3, Map 231-21; Conditional Use Permit No. 3, Map 231-21; Conditional Use Permit No. 116, Map 231; Conditional Use Permit No. 117, Map 231; Conditional Use Permit No. 118, Map 231; Conditional Use Permit No. 119, Map 231; Conditional Use Permit No. 7, Map 231-28; Conditional Use Permit No. 4, Map 231-20; Conditional Use Permit No. 3, Map 231-21; Conditional Use Permit No. 7, Map 231-28; Conditional Use Permit No. 4, Map 231-20; Conditional Use Permit No. 3, Map 231-21; Conditional Use Permit No. 4, Map 231-20; Conditional Use Permit No. 3, Map 231-21; Conditional Use Permit No. 4, Map 231-20; Conditional Use Permit No. 3, Map 231-21; Conditional Use Permit No. 4, Map 231-20; Conditional Use Permit No. 3, Map 231-21; Conditional Use Permit No. 4, Map 231-20; Conditional Use Permit No. 4, Map 231-21; Conditional Use Permit No. 4, Map 231-20; Conditional Use Permit No. 4, Map 231-20; Conditional Use Permit No. 4, Map 231-20; Conditi

PROJECT LOCATION: The proposed project is in the western extent of the Mojave Desert near Rosamond, California between Rosamond Boulevard and Avenue A, and between 70th Street West and 90th Street West in Sections: 20, 21, 28, 29, and 32 T9N/R13W in the eastern portion of unincorporated Kern County, California.

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:	May 27, 2021
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

And/or submitting written comments to the project planner identified below prior to the close of the public comment period on May 7, 2021 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 May 7, 2021 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

Please limit comments to environmental issues such as traffic, biology, noise, etc.

PROJECT DESCRIPTION: The proposed project would involve construction and operation of two solar photovoltaic (PV) power-generating facilities, on six discontinuous sites, which would produce a combine total of approximately 291 megawatts (MW) of renewable electricity with up to 291 megawatt hours MWh of energy storage on 1,330 acres of land in unincorporated Kern County. The proposal includes:

(1) Raceway 2.0 Solar, Site 1: (a) Amendment to the Willow Springs Specific Plan (SPA 33, Map 231) from map code designation 7.1/4.4 (Light Industrial, Comprehensive Plan Area) to 7.1 (Light Industrial) on approximately 89 acres and from existing map code designation 7.2/4.4 (Service Industrial, Comprehensive Plan Area) to 7.2 (Service Industrial) on approximately 6 acres; (b) Change in zone classification (ZCC 154, Map 231) from the existing zone district E (2.5) RS MH FPS (Estate (2.5) Residential Suburban, Mobile Home Combining, Floodplain Secondary Combining) to A FPS (Exclusive Agriculture) on approximately 92 acres for consistency with the underlying proposed Specific Plan Designations of 7.1 (Light Industrial) and 7.2 (Service Industrial); (c) Conditional Use Permit (CUP 116, Map 231) to allow for the construction and operation of up to a 15 MW solar electrical generating facility, as well as related ancillary structures (Section 19.12.030.G), on 92 acres in an A zone district; and (d) Amendment to the Willow Springs Specific Plan circulation element (SPA 34, Map 231) to eliminate road reservations along section and mid-section lines in Section 32 of T.9N/R.13W, Zone Map 231 to allow for efficient placement of solar panels.

(2) Raceway 2.0 Solar, Site 2: (a) Amendment to Willow Springs Specific Plan (SPA 35, Map 231) from map code designation 7.1/4.4 (Light Industrial, Comprehensive Plan Area) to 7.1 (Light Industrial) on approximately 42 acres and from map code designation 7.2/4.4 (Service Industrial, Comprehensive Planning Area) to 7.2 (Service Industrial) on approximately 48 acres; (b) Change in zone classification (ZCC 155, Map 231) from the existing zone district E (2.5) RS FPS (Estate (2.5) Residential Suburban, Floodplain Secondary Combining) on approximately 40 acres and from E (2.5) RS MH FPS (Estate (2.5) Residential Suburban, Mobile Home Combining, Floodplain Secondary Combining) on approximately 50 acres to A FPS (Exclusive Agriculture, Floodplain Secondary Combining) for consistency with the underlying proposed Specific Plan Designation of 7.1 (Light Industrial); (c) Conditional Use Permit (CUP 117, Map 231) to allow for the construction and operation of up to a 20 MW solar electrical generating facility, as well as related ancillary structures (Section 19.12.030.G), on 90 acres in an A zone district; and (d) Amendment to the Willow Springs Specific Plan circulation element (SPA 36 Map 231) to eliminate road reservations along section and mid-section lines in Section 32 of T.9N/R.13W, Zone Map 231 to allow for efficient placement of solar panels.

(3) Raceway 2.0 Solar, Site 3: (a) Amendment to Willow Springs Specific Plan (SPA 37, Map 231) from map code designation 7.1/4.4 (Light Industrial, Comprehensive Plan Area) to 7.1 (Light Industrial) on approximately 75 acres and from existing map code designation 7.2/4.4 (Service Industrial, Comprehensive Planning Area) to 7.2 (Service Industrial) on approximately 38 acres; (b) Change in zone classification (ZCC 156, Map 231) from the existing E (2.5) RS FPS (Estate (2.5) Residential Suburban, Floodplain Secondary Combining) to A FPS (Exclusive Agriculture, Floodplain Secondary Combining) on approximately 510 acres for consistency with the underlying proposed Specific Plan Designation of 7.1 (Light Industrial); (c) Conditional Use Permit (CUP 118, Map 231) to allow for the construction and operation of up to a 106 MW solar electrical generating facility, as well as ancillary structures (Section 19.12.030.G), on 510 acres in an A zone district; and (d) Amendment to the Willow Springs Specific Plan circulation element (SPA 38, Map 231) to eliminate road reservations along section and mid- section lines in Section 20 and 29 of T.9N/R.13W, Zone Map 231 to allow for efficient placement of solar panels.

(4) Raceway 2.0 Solar, Site 4: (a) Conditional Use Permit (CUP 119, Map 231) to allow for the construction

and operation of up to a combined 70 MW solar electrical generating facility, as well as ancillary structures (Section 19.12.030.G), on approximately 156 acres in an A zone district; (**b**) Conditional Use Permit (CUP 4 Map 231-20) to allow for the construction and operation of up to a combined 70 MW solar electrical generating facility, as well as ancillary structures (Section 19.12.030.G), on approximately 154 acres in an A zone district; (**c**) Amendment to the Willow Springs Specific Plan circulation element (SPA 39, Map 231) to eliminate road reservations along section and mid-section lines in Section 20 and 29 of T.9N/R.13W, Zone Map 231 to allow for efficient placement of solar panels; (**d**) Amendment to the Willow Springs Specific Plan circulation along section and mid-section lines in Section 20 and 29 of T.9N/R.13W, Zone Map 231-20) to eliminate road reservations along section for efficient placement of solar panels; (**d**) Amendment to the Willow Springs Specific Plan circulation element (SPA 3, Map 231-20) to eliminate road reservations along section and mid-section lines in Section 20 and 29 of T.9N/R.13W, Zone Map 231-20 to allow for efficient placement of solar panels; and (**e**) Cancellation of a Williamson Act Contract No. 20-06 on APNs: 374-011-04 and 374-011-11 (formerly known as APNs: 257-020-11 and 257-020-04).

(5) Raceway 2.0 Solar, Site 5: (a) Amendment of Willow Springs Specific Plan Amendment (SPA 5, Map 231-21) from map code designation 5.3/4.4 (Residential, 10 Dwelling Units Per Acre/Comprehensive Plan Area) to 5.3 (Residential, 10 Dwelling Units Per Acre) on approximately 160 acres; (b) Amendment of Willow Springs Specific Plan (SPA 6, Map 231-28) from map code designation 5.3/4.4/2.85 (Residential, 10 Dwelling Units Per Acre, Comprehensive Plan Area/Noise Management Area) to 5.3/2.85 (Residential, 10 Dwelling Units Per Acre/Noise Management Area) on approximately 80 acres; (c) Change in zone classification (ZCC 3, Map 231-21) from E (2.5) RS FPS (Estate (2.5) Residential Suburban, Floodplain Secondary Combining) on approximately 160 acres for consistency with the underlying proposed Specific Plan Designation of 5.3 (Residential, 10 Dwelling Units Per Acre); (d) Change in zone classification (ZCC 3, Map 231-28) from E (2.5) RS MH FPS (Estate (2.5) Residential Suburban, Mobilehome Combining, Floodplain Secondary Combining) to A FPS (Exclusive Agriculture, Floodplain Secondary Combining) on approximately 81 acres, for consistency with the underlying proposed Specific Plan Designation of 5.3 (Residential, 10 Dwelling Units Per Acre); (e) Conditional Use Permit (CUP 3, Map 231-21) to allow for the construction and operation of up to a combined 60 MW solar electrical generating facility, as well as related ancillary activities (Section 19.12.030.G), on approximately 160 acres in an A zone district; (f) Conditional Use Permit (CUP 3, Map 231-28) to allow for the construction and operation of up to a combined 60 MW solar electrical generating facility, as well as related ancillary activities (Section 19.12.030.G), on approximately 81 acres in an A zone district; (g) Amendment to the Willow Springs Specific Plan circulation element (SPA 6, Map 231-21) to eliminate road reservations along section and mid-section lines in Sections 21 of T.9N/R.13W, Zone Map 231-21 to allow for efficient placement of solar panels; and (h) Amendment to the Willow Springs Specific Plan circulation element (SPA 6, Map 231-28) to eliminate road reservations along section and mid-section lines in Section 21 of T. 9N/R.13W, Zone Map 231-28 to allow for efficient placement of solar panels.

(6) Raceway 2.0 Solar, Site 6: (a) Amendment of Willow Springs Specific Plan Amendment (SPA 7, Map 231-21) from map code designation 5.3/4.4 (Residential, 10 Dwelling Units per Acre, Comprehensive Plan Area) to 5.3 Residential, 10 Dwelling Units per Acre) on 64 acres; (b) Change in zone classification (ZCC 4, Map 231-21) from E (2.5) RS FPS (Estate (2.5) Residential Suburban, Floodplain Secondary Combining) on approximately 40 acres to A FPS (Exclusive Agriculture, Floodplain Secondary Combining) and from Open Space (OS) on approximately 40 acres to A FPS for consistency with the underlying proposed Specific Plan Designation of 5.3 (Residential, 10 Dwelling Units Per Acre); (c) Conditional Use Permit (CUP 4, Map 231-21) to allow for the construction and operation of up to a 20 MW solar electrical generating facility, as well as related ancillary structures (Section 19.12.030.G), on 80 acres in an A zone district;

(7) Vacation of existing public access easements on the project site; and

(8) Franchise Agreement for installation of generation tie lines in the County right-of-way.

ENVIRONMENTAL REVIEW FINDINGS: Anticipated significant and unavoidable impacts on Aesthetics, Agricultural, Air Quality, Biological Resources, Noise, and Wildfire resources areas.

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>

THE ROSAMOND WEEKLY NEWS

TJS:cp (3/12/21)

cc: County Clerk (2) (with fee) Environmental Status Board Sierra Club/Kern Kaweah Chapter LiUNA Supervisorial District No. 2 California Native Plant Society/Kern Chapter Kern County Archaeological Society Native American Heritage Pres. Council/Kern County Center on Race, Poverty and Environment (2) SA #33; ZC #154; CUP #116, Map #231 #PP17226 (EIR08-17 - Raceway Solar) I:\Planning\WORKGRPS\WP\LABELS\e ir08-17ts.noa.docx Sc 06/29/20 (sc 03/05/21)

252 172 20 00 9 AEK GLOBAL INV LLC 4603 HURFORD TR ENCINO CA 91436-3345

374 400 06 00 0 ALMENDRAS JOHN ANTONIO 14622 CALIFORNIA AV BALDWIN PARK CA 91706

374 011 09 00 3 ANTELOPE VALLEY E KERN WTR AG P O BOX 3176 QUARTZ HILL CA 93534

374 240 14 00 7 ARANA JAMIE M CHANDLER 1491 W 90TH ST ROSAMOND CA 93560-7175

374 100 07 00 6 ARAUJO SANTOS 44556 E 3RD ST LANCASTER CA 92535

374 032 19 00 5 BALDWIN LANCE 8263 MOJAVE AV ROSAMOND CA 93560

374 352 07 00 3 BANZON JOSE B & LUCILA B 1049 POLK AV FRANKLIN SQUARE NY 11010-2051

375 220 23 00 4 BEERY JOHN EARL & JACQUE LEE 4361 WEST AVE N-8 PALMDALE CA 93551

374 364 02 00 5 BIEDERMAN TRUST 441 CITRUS AV IMPERIAL BEACH CA 91932-1117 374 150 12 00 5 ADAMS AUDREY 9081 BUCKHORN AV ROSAMOND CA 93560-7274

374 220 30 00 7 ALCHIN JOY 221 WEST WALNUT AV LOMPOC CA 93436

374 220 50 00 5 ALVAREZ ROBERTO & RITA M 5246 ELK CREEK SAN ANTONIO TX 78251-3545

374 011 13 00 4 ANTELOPE VALLEY EAST KERN WATER AGENCY 6500 WEST AVENUE E 15 PALMDALE CA 93551

374 171 07 00 4 ARANA WALTER E & KARIM L 159 S PACIFICO ST TRACY CA 95391-2073

374 354 02 00 2 AVOKUS HOME INVS LLC 20258 HIGHWAY 18 STE 430 APPLE VALLEY CA 92037

374 400 08 00 6 BALUN ANTHONY G TR 101 EASTGATE CT U 107 ALGONQUIN IL 60102-3078

374 351 02 00 1 BARTON JEFFREY & KAREN 2614 S ROSE GDN MESA AZ 85209-7908

374 020 38 00 3 BELTE DAUMANTS P 0 BOX 880 ROSAMOND CA 93560

374 210 21 00 8 BIGELOW ARDITH FAMILY TRUST 208 N GUIDELIGHT DR CEDAR CITY UT 84720-2277 374 011 08 00 0 ADM INVESTMENTS LLC 1875 E CENTURY PARK # 2230 LOS ANGELES CA 90067

374 230 24 00 3 ALEXANDER SAHIEB A & SARA R 42348 W 76TH ST LANCASTER CA 93536

374 351 06 00 3 ANDERSON JOHN CARROLL & RUTH 2030 E FARDOWN AV HOLLADAY UT 84121-1407

374 011 19 00 2DUPANTELOPE VALLEY EAST KERNWATER AGENCY6500 W AVENUE NPALMDALE CA 93551

374 210 17 00 7 ARAQUEL SONNY B & ANGELITA G 5545 SAMANTHA AV LAKEWOOD CA 90712

374 082 09 00 1 AYON ALEJANDRO M 38042 RUDALL AV PALMDALE CA 93550

374 220 17 00 0 BANAEI ALI ALEX 29165 RANGEWOOD RD CASTAIC CA 91384

 374 344 03 00 2
 DUP

 BEERY JOHN & JACQUE L
 4361 W AVE N-8

 PALMDALE CA 93551

374 210 20 00 5 BENGSTON ROBERT E & HELEN L PO BOX 56867 SHERMAN OAKS CA 91413-6867

374 220 34 00 9 BONHAM CORY LEE & DEBORAH ANN W REVOCABLE TR 17311 PEPPER TREE ST FOUNTAIN VLY CA 92708-2749 374 361 01 00 1 BROTHERSON FAMILY TRUST 1165 EAST 1200 NORTH OREM UT 84097-4336

374 351 03 00 4 BUZIK IVAN 11510 CHERRYLEE DR EL MONTE CA 91732-1000

374 032 09 00 6 CADEMARITORI HECTOR J & FLORENCIA V 2884 ROOSEVELT ST LA VERNE CA 91750

374 011 38 00 7 CANON ADELIA M ET AL 16902 MARINA BAY DR HUNTINGTN BCH CA 92649

374 172 07 00 1 CARRILLO JESUS & CARRILLO ALCARAZ JACQUELIN 9517 LONGDEN AV TEMPLE CITY CA 91780-1611

252 172 09 00 8 CHAN DIANNA S REVOCABLE TRUST 1335 5 CALUMET AV LOS ANGELES CA 90026

374 240 03 00 5 CHAVEZ JOEL CHRISTOPHER 1405 W 90TH ST ROSAMOND CA 93560-7175

252 172 05 00 6 CHEUNG KWOK TUNG & TSUI FUNG 1671 ABAJO DR MONTEREY PARK CA 91754-2307

374 032 06 00 7 CLEMENTE MARCELO & LOLITA P 91 1007 KAUOHA ST EWA BEACH HI 96706-4674

374 440 02 00 0 COUTURIER B & E MANAGEMENT TRUST 4856 LONGCOVE DR STOCKTON CA 95219 374 032 04 00 1 BUCHER JERRY & AMELIA J P.O. BOX 2083 ROSAMOND CA 93560

374 150 13 00 8 BYERLY DAVID A & ADAMS AUDREY J 9081 BUCKHORN AV ROSAMOND CA 93560-7274

374 410 01 00 8 CALANDRI JOHN & SHANNON TRUST PO BOX 8010 LANCASTER CA 93539-8010

252 180 05 00 5 CARLSON HERB TR 25612 GOLDENSPRING DR DANA POINT CA 92629-1537

374 210 02 00 3 CARVAJAL NICOLLE TERESA PO BOX 56867 SHERMAN OAKS CA 91413-1867

374 220 20 00 8 CHAPMAN FAMILY TRUST 1143 HOWARD ST PASADENA CA 91104

374 342 04 00 1 CHAVEZ PATRICK 4236 SILVERADO DR THOUSAND OAKS CA 91360

374 352 04 00 4 CHEUNG SUM CHRISTINE 26152 LONG ST LOMA LINDA CA 92354-6557

374 410 10 00 4 CLOVIS ONE INC 1155 AUTO MALL DR LANCASTER CA 93534

374 440 03 00 3 COUTURIER CLAIR R JR & VICKIE L REV TR 4702 NW FOXGLOVE DR GIG HARBOR WA 98332 374 354 01 00 9 BUNDALIAN ROMEO S 626 BOXCOVE PL DIAMOND BAR CA 91765-4611

375 220 12 00 2 CABALU ANTONIO P SR & LILIA C TR P O BOX 412615 LOS ANGELES CA 90041-9615

375 101 02 00 5 CALDWELL SE ELCY 5126 ARLINGTON AV LOS ANGELES CA 90043-1944

374 220 52 00 1 CARRANZA GEORGE L 2750 W 233RD ST TORRANCE CA 90505

374 172 10 00 9 CHAMBERS SIMON 5 HOLMES CT YERINGTON NV 89447-9785

374 352 05 00 7 CHARU FAMILY TRUST 445 PERALTA HILLS DR ANAHEIM CA 92807

374 172 09 00 7 CHEUNG & HELEN TR & TRS ET AL 1909 YACHT CAMILLA NEWPORT BEACH CA 92660-6702

374 011 30 00 3 CLAYTON JAMES 6639 W AVENUE A2 LANCASTER CA 93536-9593

374 220 41 00 9 COLLINS EDWARD R & ELSIE J PO BOX 340 ROSAMOND CA 93560

252 172 18 00 4 CRITCHLOW THOMAS & GENE TR 6015 SCRIPPS ST SAN DIEGO CA 92122-3215 374 100 06 00 3 CROFFORD FMLY TR 1731 TUFFREE BL PLACENTIA CA 92870

252 180 08 00 4 DAROYA JOSE L & LAURA 240 N VIRGIL AV STE 19 LOS ANGELES CA 90004

374 230 30 00 0 DIETRICH LIVING TR 3696 W 6TH ST CRAIG CO 81625-3400

252 180 04 00 2 DOUK S&B FAM TR 1101 SHELL GATE PL ALAMEDA CA 94501

374 210 19 00 3 ELKHARBOTLY ALI B & ESTHER RILL 11112 NOLAN AV EL MONTE CA 91731

374 355 01 00 6 EPPS SCOTT & MICHELLE P O BOX 2423 ROSAMOND CA 93560

374 171 06 00 1 EQUITY TR CO CUSTDN FBO GALLAGHER MARY V PO BOX 56867 SHERMAN OAKS CA 91413-6867

374 354 03 00 5 ESCALANTE LUISA E G 4327 ANDY ST LAKEWOOD CA 90712

374 346 04 00 9 EYNON EDWIN THOMAS & NANCY G 507 S OAK HOLLOW LN FRUIT HEIGHTS UT 84037-6788

375 220 13 00 5 **DUP** FERNANDES DENNIS W & AURA P ADDRESS UNKNOWN 374 220 43 00 5 CUELLAR JOSE LUIS 7865 NOEL ST ROSAMOND CA 93560-7026

374 011 06 00 4 DIAMOND HOME DEVELOPMENTS & INVESTMENTS INC 8971 SYRACUSE AV ANAHEIM CA 92804-6230

374 220 38 00 1 DOERKSEN VERNON D & JOSEPHINE L TRUST PO BOX 564 COTTONWOOD AZ 86326-0564

374 210 22 00 1 DUNN ELIZABETH ANN 8691 JENNRICH AV WESTMINSTER CA 92683

374 342 01 00 2 ENAULT MICHAEL J & FLOYD D 1314 MANDI CT PRESCOTT AZ 86301-5502

374 410 12 00 0 EPSTEIN JOSHUA T & OLIVIA 1527 LA LINDA LN ROSAMOND CA 93560-7491

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

252 172 16 00 8 ESHBACH FAMILY TR P O BOX 749 TEHACHAPI CA 93581

375 104 11 00 2 FABRICA HV929J9 TRUST 20258 HIGHWAY 18 STE 430 APPLE VALLEY CA 92307

375 101 15 00 3 FINCK RICHARD 6022 RONALD CI CYPRESS CA 90630 374 400 13 00 0 DAMON TRUST 10373 HAWTHORNE AV HESPERIA CA 92345

374 220 51 00 8 DIAZ SALVADOR & MANUELA PO BOX 2294 ROSAMOND CA 93560

374 366 06 00 1 DOU EDWARD 4241 GRAND VIEW BL LOS ANGELES CA 90066-5819

374 352 03 00 1 ELEMUREN TAIWO ADEOLA 3685 NORTON AV LOS ANGELES CA 90018

374 341 02 00 8 ENGEL D&S FAMILY TRUST PO BOX 2532 ROSAMOND CA 93560-2532

374 230 25 00 6 EQUITY TR CO CUSTDN PO BOX 56867 SHERMAN OAKS CA 91413 DUP

374 150 15 00 4 EQUITY TRUST COMPANY CUSTODIAN 2974 SWEETSPIRE CI OVIEDO FL 32766

252 172 17 00 1 ESHBACH JAY & DIANNE PO BOX 749 TEHACHAPI CA 93561

374 230 20 00 1 FENNER JANET KAY ET AL 32788 BRUGGEMAN DR WARREN MI 48093-1434

374 032 03 00 8 FISH LIVING TR 36274 FINEGOLD CREEK DR NORTH FORK CA 93643-9795 374 220 39 00 4 FLUEGGE FAMILY REVOCABLE LIVING TRUST 108 S 3RD ST NEW ULM MN 56073

252 172 03 00 0 FUNG JOHN W & VIRGINIA TR 3802 TOLAND AV LOS ALAMITOS CA 90720

374 032 08 00 3 GARINGO PACITA P O BOX 2484 CALIFORNIA CITY CA 93504

374 341 04 00 4 GODDE JAMES & JESSICA 1808 WEST AVENUE O 8 PALMDALE CA 93351

374 361 02 00 4 GONZALEZ OLGA LUCRECIA 8150 SHIRLEY AV RECEDA CA 91335

374 410 11 00 7 GROESCHEL MICHAEL & SANDRA 1575 LA LINDA LN ROSAMOND CA 93560-7491

375 101 27 00 8 HARVARD ENTERPRISES LLC PO BOX 56867 SHERMAN OAKS CA 91413-1867

374 072 21 00 2 HERNANDEZ ARTURO 7936 WOODLEY AV SP 6 VAN NUYS CA 91406-1200

374 011 25 00 9 HERNANDEZ JOSE LUIS 859 W GROVEWOOD AV BLOOMINGTON CA 92316-2106

374 240 10 00 5 HIDE TOM T & CHERRY FAMILY TR 167 SEACOUNTRY LN RANCHO SANTA MA CA 92688-5557 375 104 12 00 5 FRAIOLI ALFRED D PO BOX 270580 WEST HARTFORD CT 06127-0580

375 230 03 00 9 FUTURE ESTATES LAND HOLDINGS LLC P O BOX 304 HERMOSA BEACH CA 90254

375 101 28 00 1 GAVINS DAPHNE DALE 8119 S MORGAN ST CHICAGO IL 60620-3020

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

374 220 18 00 3 GRASELL STEVE & MELISSA 44529 OVERLAND AV LANCASTER CA 93536

374 072 13 00 9 HAMILL PAMELA RR 2 BOX 100 CIBOLA AZ 85328-9706

374 082 08 00 8 HASHIMOTO JERRY 6865 E 11TH AV DENVER CO 80220

375 220 41 00 6 HERNANDEZ FELIPE C & AURORA O 16 TIMBERGATE IRVINE CA 92614-7068

374 410 14 00 6 HICKS VICKIE E 1619 W 76TH ST ROSAMOND CA 93560-7375

252 190 09 00 0 HIGA BETTY M 1421 7TH AV HONOLULU HI 96816-2749 374 230 16 00 0 FRAY MARVIN L & DIANE L 6 ELMIRA ST GREENVILLE SC 29615

374 032 02 00 5 GARINGO PACITA PO BOX 2484 CALIFORNIA CITY CA 93504-0484

374 180 06 00 7 GEE BING H 1920 ALBION ST LOS ANGELES CA 90031-3203

374 150 10 00 9 GOMEZ RAMON & ROSA M REV TRUST 1809 AMBERIDGE WY PALMDALE CA 93551

374 011 02 00 2 GRL PARTNERSHIP 915 WILSHIRE BL STE 1760 LOS ANGELES CA 90017

374 250 04 00 1 HARTER SCOTT & KAY PO BOX 538 MCARTHUR CA 96056-0538

375 101 18 00 2 HAZBOUN RAPHAEL & TANNOUS E F 24410 PRESIDENT AV HARBOR CITY CA 90710

374 355 02 00 9 HERNANDEZ HENRY V 10159 ALPACA S EL MONTE CA 91733

374 342 05 00 4 HIDALGO JUAN R 4722 SPICE ST LANCASTER CA 93536

374 330 01 00 5 HOLIDAY ESTATES NO 2 6824 MELROSE AV HOLLYWOOD CA 90038 374 360 01 00 4 HOLIDAY ESTATES NO 3 6824 MELROSE AV HOLLYWOOD CA 90038

252 172 15 00 5 HUTH CHRISTOPHER C 3500 W 75TH ST ROSAMOND CA 93560-7179

374 344 02 00 9 INNERARITY LINDA 3276 TOOPAL DR OCEANSIDE CA 92058

374 072 18 00 4 JAIME JOSE L & RUTH P 4016 FRANCIS AV CHINO CA 91710-1520

374 210 14 00 8 KANUHA FAMILY TRUST 8120 GLEN CANYON CT CITRUS HEIGHTS CA 95610

374 220 49 00 3 KEMBLOWSKI DAVID RAY 588 ANACAPA DR CAMARILLO CA 93010-1105

374 346 01 00 0 KENNGOTT CURTIS R & JENNIFER A 2285 W 78TH ST ROSAMOND CA 93560-7536

374 032 18 00 2 KNICKLEBINE LUCAS & GWENDOLYN 8301 MOJAVE AV ROSAMOND CA 93560-7188

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

374 400 07 00 3 KUZNITSKY GERALD 3 HASTINGS ON OXFORD ROLLING MEADOWS IL 60008-1914 374 090 06 00 1 HOY LEONARD F 22603 GAYCREST AV TORRANCE CA 90505

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

375 104 09 00 7 IRA SERV TR CO CUSTDN PO BOX 56867 SHERMAN OAKS CA 91413-1867

374 230 27 00 2 JONES JEFFREY E & RITA K 2143 NE WHILSHIRE DR ROCHESTER MN 55906-4044

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

374 220 48 00 0 KEMBLOWSKI JEFFREY D 7720 HOLIDAY AV ROSAMOND CA 93560

374 440 01 00 7 KHATIBI RICHARD PO BOX 16296 ENCINO CA 91416-6296

374 032 14 00 0 KO CHRISTOPHER & JENNY 13192 MCKINLEY AV CHINO CA 91710-2923

374 011 23 00 3 KUSUHARA CATHARINE AI 1346 MONCADO DR GLENDALE CA 91207-1832

374 450 08 00 1 LANDAVERDE PRUDENCIO & ANGELA 10503 ALEXANDER AV SOUTHGAGE CA 90280 374 032 11 00 1 HUFFMAN TERRANCE LEE & MICHELE 2327 E MOUNTAIN VISTA DR PHOENIX AZ 85048-4211

374 032 17 00 9 INGLE CRESS STUART 2106 WEST UNIVERSITY PORTALES NM 88130

375 230 27 00 9 ITALIA INVS LLC 6135 WEST AVENUE M 8 PALMDALE CA 93551

374 341 01 00 5 JOVEL LILIANA B 6451 TEESDALE AV NORTH HOLLYWOOD CA 91606

374 082 07 00 5 KELLY JAME H & JOHNNIE D FAMILY TRUST 6564 BRYNWOOD WY SAN DIEGO CA 92120-3808

374 230 14 00 4 KENNEDY FRANK E ET AL 672 S SCHUG ST ORANGE CA 92869-5446

374 220 29 00 5 KLER FAMILY TRUST 9025 MEADOWRUN CT SAN DIEGO CA 92129-3301

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

374 011 28 00 8 KUSUHARA CATHARINE AI 1346 MONCADO LN LOS ANGELES CA 90077

374 343 01 00 9 LANG FAMILY TRUST 7746 RUSTIC PINE COVE MIDVALE UT 84047 374 345 04 00 2 LAUB SHARON 2825 E KENTUCKY AV SALT LAKE CITY UT 84117-5507

374 367 01 00 3 LEE CYNTHIA CENTENO 17754 RALPHS RANCH RD SAN DIEGO CA 92127-7617

374 210 26 00 3 LINGAD JOHN LIOMAR M & FE S 2621 STERN LN OXNARD CA 93035-1757

252 172 12 00 6 LOUIE MITCHELL WAYNE 12362 GLACIER CI LOS ALAMITOS CA 90720

374 150 11 00 2 MANDEVILLE EIKO LIV TR 14252 S 43RD PL PHOENIX AZ 85044

375 101 14 00 0 MARTINEZ MOISES ADDRESS UNKNOWN DUP

374 354 04 00 8 MAULDIN RONNIE LEE 3107 EDWARDS AV ROSAMOND CA 93560

375 101 16 00 6 MC GUFFIN V ELMER & EDNA C TR 301 CABEZA NEGRA DR RIO RANCHO NM 87124

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

375 104 05 00 5 MOHLENKAMP KENNETH & MARY ELLEN FAMILY TRUST 10251 STRATHERN ST SUN VALLEY CA 91352-4155 374 020 49 00 5 LE THUY THANH 16631 MT ERIN CI FOUNTAIN VALLEY CA 92708

252 172 02 00 7 LEE ELEANOR 7931 DUNBARTON AV LOS ANGELES CA 90045

252 172 21 00 2 **DUP** LIU PO-LIN & HSIUNG YAO-CHEN ADDRESS UNKNOWN

374 220 27 00 9 LOWENKRON Z BARRY & ROBERTA L REV TR 16838 ENCINO HILLS DR ENCINO CA 91436

374 344 04 00 5 MANZO ISAAC A 16864 PAINE ST FONTANA CA 92336-2526

374 366 04 00 5 MARTINEZ ROMUALDO & FELICIA LIVING TRUST 15510 GEORGIA AV PARAMOUNT CA 90723

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

374 366 01 00 6 MEDRANO MARCOS & DORIS 100 E SKYLINE DR LA HABRA HGTS CA 90631

375 220 42 00 9 MILANO VALERIE LYNN MADDOX SEP PROP TRUST PO BOX 56867 SHERMAN OAKS CA 91413-1867

374 072 15 00 5 MOLINA SERGIO MANUEL & YOLANDA PO BOX 56867 SHERMAN OAKS CA 91413 252 172 06 00 9 LEE AMY 188-11 42ND AV FLUSHING NY 11358

374 230 18 00 6 LEE TED F & LILY H ET AL 212 PIONEER CT RICHMOND CA 94803

374 011 07 00 7 LOMBARDI FAMILY TRUST 1025 GARRIDO CT CAMARILLO CA 93010-1022

374 351 07 00 6 LU ROBERT L 2035 CLEAR RIVER LN HACIENDA HEIGHT CA 91745

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374 353 06 00 7 MATO MARC JAMES 44137 MIKIOLA DR KANEOHE HI 96744-2437

252 172 07 00 2 MC GILL JACQUELINE 1705 BASSETT CT CHARLESTON SC 29412-8661

374 180 11 00 1 MESMER PAUL E ET AL PO BOX 172 SURFSIDE CA 90743-0172

375 220 24 00 7 MOHAMMADZADEH SHOKRIEH 28484 VIA MAMBRINO SAN JUAN CAPIST CA 92675-3346

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

374 020 50 00 7 NGUYEN AN THOMAS 914 N ROSITA ST SANTA ANA CA 92703-1531

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374 230 15 00 7 NOVOSEDLIK MARIE A 860 LOWER FERRY RD APT 5P EWING NJ 08628-3529

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374 346 02 00 3 PULIAFICO PAUL J TR 1840 TENNANT AV MORGAN HILL CA 95037

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374 230 28 00 5 RALLO DAVID T TRUST 13014 N WHITLOCK CANYON DR ORO VALLEY AZ 85755-1806 374 011 26 00 2 MONTOYA FRANCISCO 3300 W 15TH ST SP 67 ROSAMOND CA 93560

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Appendix C

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 #

Project Title:			
Lead Agency:		Contact Person:	
Mailing Address:		Phone:	
City:	Zip:	County:	
Project Location: County:	City/Nearest Com	munity:	
Cross Streets:			Zip Code:
Longitude/Latitude (degrees, minutes and seconds):°	<u>'</u> " N /°	′″ W Total	Acres:
Assessor's Parcel No.:	Section:	Гwp.: Rang	e: Base:
Within 2 Miles: State Hwy #:	Waterways:		
Airports:	Railways:	Schor	ols:
Document Type:			
CEQA: NOP Draft EIR Early Cons Supplement/Subsequent EII Neg Dec (Prior SCH No.) Mit Neg Dec Other:	NEPA:	NOI Other: EA Draft EIS FONSI	 Joint Document Final Document Other:
Local Action Type:			
General Plan Update Specific Plan General Plan Amendment Master Plan General Plan Element Planned Unit Developme Community Plan Site Plan	Rezone Prezone nt Land Divis	t sion (Subdivision, etc.)	 Annexation Redevelopment Coastal Permit Other:
Development Type:			
Residential: Units Acres Office: Sq.ft. Commercial:Sq.ft. Acres Industrial: Sq.ft. Acres Employees Educational: Employees Water Facilities:Type MGD	Transpor Mining: Power: Waste Tr Hazardou Other:	tation: Type Mineral Type reatment: Type us Waste: Type	MW MGD
Project Issues Discussed in Document:			
Aesthetic/Visual Fiscal Agricultural Land Flood Plain/Flooding Air Quality Forest Land/Fire Hazard Archeological/Historical Geologic/Seismic Biological Resources Minerals Coastal Zone Noise Drainage/Absorption Population/Housing Balar		rks ersities 1s ty Compaction/Grading ous	 Vegetation Water Quality Water Supply/Groundwater Wetland/Riparian Growth Inducement Land Use Cumulative Effects
Present Land Use/Zoning/General Plan Designation:			

Project Description: (please use a separate page if necessary)

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distr If you have already sent your document to the agency plea	ibution by marking agencies below with and " X ". ase denote that with an " S ".	
Air Resources Board	Office of Historic Preservation	
Boating & Waterways, Department of	Office of Public School Construction	
California Emergency Management Agency	Parks & Recreation, Department of	
California Highway Patrol	Pesticide Regulation, Department of	
Caltrans District #	Public Utilities Commission	
Caltrans Division of Aeronautics	Regional WQCB #	
Caltrans Planning	Resources Agency	
Central Valley Flood Protection Board	Resources Recycling and Recovery, Department of	
Coachella Valley Mtns. Conservancy	S.F. Bay Conservation & Development Comm.	
Coastal Commission	San Gabriel & Lower L.A. Rivers & Mtns. Conservancy	
Colorado River Board	San Joaquin River Conservancy	
Conservation, Department of	Santa Monica Mtns. Conservancy	
Corrections, Department of	State Lands Commission	
Delta Protection Commission	SWRCB: Clean Water Grants	
Education, Department of	SWRCB: Water Quality	
Energy Commission	SWRCB: Water Rights	
Fish & Game Region #	Tahoe Regional Planning Agency	
Food & Agriculture, Department of	Toxic Substances Control, Department of	
Forestry and Fire Protection, Department of	Water Resources, Department of	
General Services, Department of		
Health Services, Department of	Other:	
Housing & Community Development	Other:	
Native American Heritage Commission		
Local Public Review Period (to be filled in by lead age	ncy)	
Starting Date	Ending Date	
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:	

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

Draft Environmental Impact Report

SCH# 2020079007

Volume 1

Chapters 1 through 10

Raceway 2.0 Solar Project By sPower Development Company

SPA 33, ZM 231; ZCC 154, ZM 231; CUP 116 ZM 231; SPA 34, ZM 231; SPA 35, ZM 231; ZCC 155, ZM 231; CUP 117, ZM 231; SPA 36, ZM 231; SPA 37, ZM 231; ZCC 156, ZM 231; CUP 118, ZM 231; SPA 38, ZM 231; CUP 119, ZM 231; CUP 4, ZM 231-20; SPA 39, ZM 231; SPA 3, ZM 231-20; SPA 5, ZM 231-21; SPA 5, ZM 231-28; ZCC 3, ZM 231-21; ZCC 3, ZM 231-28; CUP 3, ZM 231-21; CUP 7, ZM 231-28; SPA 6, ZM 231-21; SPA 6, ZM 231-28; SPA 7, ZM 231-21; ZCC 4, ZM 231-21; CUP 4, ZM 231-21; CUP



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March 2021

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1.1 Introduction

The Raceway 2.0 Solar Project (project), proposed by sPower Development Company, LLC (project proponent/operator), would develop a photovoltaic (PV) solar facility and associated infrastructure necessary to generate a combined 291 megawatts (MW) (alternating current or "AC") of renewable electrical energy and/or energy storage capacity and a Battery Energy Storage System (BESS). The proposed project consists of six (6) discontinuous sites, each of which would contain solar and energy storage facilities, which together would comprise the project site (i.e. Raceway 2.0 Solar 1, Raceway 2.0 Solar 2, Raceway 2.0 Solar 3, Raceway 2.0 Solar 4, Raceway 2.0 Solar 5, and Raceway 2.0 Solar 6.). The Raceway 2.0 Solar 1 site is approximately 95 acres and would contain 15 MW of renewable energy generating solar facilities and associated structures, the Raceway 2.0 Solar 2 site is approximately 90 acres and would contain 20 MW of renewable energy generating solar facilities and associated structures, the Raceway 2.0 Solar 3 site is approximately 510 acres and would contain 106 MW of renewable energy generating solar facilities and associated structures, the Raceway 2.0 Solar 4 is site is approximately 315 acres and would contain 70 MW of renewable energy generating solar facilities and associated structures, the Raceway 2.0 Solar 5 site is approximately 240 acres and would contain 60 MW of renewable energy generating solar facilities and associated structures, and the Raceway 2.0 Solar 6 site is approximately 80 acres and would contain 20 MW of renewable energy generating solar facilities and associated structures. The project proponent proposes the project be built all at once as a single, 291-MW facility or, alternatively, developed as six independent facilities, depending upon market conditions. The power generated by the proposed project would be interconnected to an existing transmission network. The project has four interconnection options, as further described in Section 3.7, Project Characteristics. In addition, the proposed project would include the construction of generation tie (gen-tie) line with four options (Option 1A and 1B, Option 2, Option 3, or Option 4) to interconnect the proposed project to the existing Southern California Edison (SCE) transmission system.

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

Raceway 2.0 Solar Site 1

- a) Amendment to the Willow Springs Specific Plan (SPA 33, Map 231) from map code designation 7.1/4.4 (Light Industrial, Comprehensive Plan Area) to 7.1 (Light Industrial) on approximately 89 acres and from existing map code designation 7.2/4.4 (Service Industrial, Comprehensive Plan Area) to 7.2 (Service Industrial) on approximately 6 acres;
- b) Change in zone classification (ZCC 154, Map 231) from the existing zone district E (2.5) RS MH FPS (Estate (2.5) Residential Suburban, Mobile Home Combining, Floodplain Secondary Combining) to A FPS (Exclusive Agriculture) on approximately 92 acres for consistency with the underlying proposed Specific Plan Designations of 7.1 (Light Industrial) and 7.2 (Service Industrial);
- c) Conditional Use Permit (CUP 116, Map 231) to allow for the construction and operation of up to a 15 MW solar electrical generating facility, as well as related ancillary structures, on 92 acres in an A zone district; and

d) Amendment to the Willow Springs Specific Plan circulation element (SPA 34, Map 231) to eliminate road reservations along section and mid-section lines in Section 32 of T.9N/R.13W, Zone Map 231 to allow for efficient placement of solar panels.

Raceway 2.0 Solar Site 2

- a) Amendment to Willow Springs Specific Plan (SPA 35, Map 231) from map code designation 7.1/4.4 (Light Industrial, Comprehensive Plan Area) to 7.1 (Light Industrial) on approximately 42 acres and from map code designation 7.2/4.4 (Service Industrial, Comprehensive Planning Area) to 7.2 (Service Industrial) on approximately 48 acres;
- b) Change in zone classification (ZCC 155, Map 231) from the existing zone district E (2.5) RS FPS (Estate (2.5) Residential Suburban, Floodplain Secondary Combining) on approximately 40 acres and from E (2.5) RS MH FPS (Estate (2.5) Residential Suburban, Mobile Home Combining, Floodplain Secondary Combining) on approximately 50 acres to A FPS (Exclusive Agriculture, Floodplain Secondary Combining) for consistency with the underlying proposed Specific Plan Designation of 7.1 (Light Industrial) and 7.2 (Service Industrial);
- c) Conditional Use Permit (CUP 117, Map 231) to allow for the construction and operation of up to a 20 MW solar electrical generating facility, as well as related ancillary structures, on 90 acres; and
- d) Amendment to the Willow Springs Specific Plan circulation element (SPA 36, Map 231) to eliminate road reservations along section and mid-section lines in Section 32 of T.9N/R.13W, Zone Map 231 to allow for efficient placement of solar panels.

Raceway 2.0 Solar Site 3

- a) Amendment to Willow Springs Specific Plan (SPA 37, Map 231) from map code designation 7.1/4.4 (Light Industrial, Comprehensive Plan Area) to 7.1 (Light Industrial) on approximately 75 acres and from existing map code designation 7.2/4.4 (Service Industrial, Comprehensive Planning Area) to 7.2 (Service Industrial) on approximately 38 acres';
- b) Change in zone classification (ZCC 156, Map 231) from the existing E (2.5) RS FPS (Estate (2.5) Residential Suburban, Floodplain Secondary Combining) to A FPS (Exclusive Agriculture, Floodplain Secondary Combining) on approximately 510 acres for consistency with the underlying proposed Specific Plan Designation of 7.1 (Light Industrial) and 7.2 (Service Industrial;
- c) Conditional Use Permits (CUP 118, Map 231) to allow for the construction and operation of up to a 106 MW solar electrical generating facility, as well as ancillary structures, on 510 acres; and
- d) Amendment to the Willow Springs Specific Plan circulation element (SPA 38, Map 231) to eliminate road reservations along section and mid- section lines in Section 20 and 29 of T.9N/R.13W, Zone Map 231 to allow for efficient placement of solar panels.

Raceway 2.0 Solar Site 4

- a) Conditional Use Permit (CUP 119, Map 231) to allow for the construction and operation of up to a combined 70 MW solar electrical generating facility, as well as ancillary structures, on approximately 156 acres;
- b) Conditional Use Permit (CUP 4 Map 231-20) to allow for the construction and operation of up to a combined 70 MW solar electrical generating facility, as well as ancillary structures on approximately 154 acres;

- c) Amendment to the Willow Springs Specific Plan circulation element (SPA 39, Map 231) to eliminate road reservations along section and mid-section lines in Section 20 and 29 of T.9N/R.13W, Zone Map 231 to allow for efficient placement of solar panels;
- d) Amendment to the Willow Springs Specific Plan circulation element (SPA 3, Map 231- 20) to eliminate road reservations along section and mid-section lines in Section 20 and 29 of T.9N/R.13W, Zone Map 231-20 to allow for efficient placement of solar panels; and
- e) Cancellation of a Williamson Act Contract would be processed on APNs: 374-011-04 and 374-011-11 (formerly known as APNs: 257-020-11 and 257-020-04).

Raceway 2.0 Solar Site 5

- a) Amendment of Willow Springs Specific Plan Amendment (SPA 5, Map 231-21) from map code designation 5.3/4.4 (Residential, 10 Dwelling Units Per Acre/Comprehensive Plan Area) to 5.3 (Residential, 10 Dwelling Units Per Acre) on approximately 160 acres;
- b) Amendment of Willow Springs Specific Plan (SPA 5, Map 231-28) from map code designation 5.3/4.4/2.85 (Residential, 10 Dwelling Units Per Acre, Comprehensive Plan Area/Noise Management Area) to 5.3/2.85 (Residential, 10 Dwelling Units Per Acre/Noise Management Area) on approximately 80 acres;
- c) Change in zone classification (ZCC 3, Map 231-21) from E (2.5) RS FPS (Estate (2.5) Residential Suburban, Floodplain Secondary Combining) on approximately 160 acres for consistency with the underlying proposed Specific Plan Designation of 5.3 (Residential, 10 Dwelling Units Per Acre);
- d) Change in zone classification (ZCC 3, Map 231-28) from E (2.5) RS MH FPS (Estate (2.5) Residential Suburban, Mobilehome Combining, Floodplain Secondary Combining) to A FPS (Exclusive Agriculture, Floodplain Secondary Combining) on approximately 81 acres, for consistency with the underlying proposed Specific Plan Designation of 5.3 (Residential, 10 Dwelling Units Per Acre);
- e) Conditional Use Permits (CUP 3, Map 231-21) to allow for the construction and operation of up to a combined 60 MW solar electrical generating facility, as well as related ancillary activities, on approximately 160 acres;
- f) Conditional Use Permits (CUP 7, Map 231-28) to allow for the construction and operation of up to a combined 60 MW solar electrical generating facility, as well as related ancillary activities, on approximately 81 acres;
- g) Amendment to the Willow Springs Specific Plan circulation element (SPA 6, Map 231-21) to eliminate road reservations along section and mid-section lines in Section 21 of T.9N/R.13W, Zone Map 231-21 to allow for efficient placement of solar panels;
- h) Amendment to the Willow Springs Specific Plan circulation element (SPA 6, Map 231-28) to eliminate road reservations along section and mid-section lines in Section 21 of T.9N/R.13W; and
- i) Amendment to Zone Map 231-28 to allow for efficient placement of solar panels.

Raceway 2.0 Solar Site 6

- a) Amendment of Willow Springs Specific Plan Amendment (SPA 7, Map 231-21) from map code designation 5.3/4.4 (Residential, 10 Dwelling Units per Acre, Comprehensive Plan Area) to 5.3 Residential, 10 Dwelling Units per Acre) on 64 acres;
- b) Change in zone classification (ZCC 4, Map 231-21) from E (2.5) RS FPS (Estate (2.5) Residential Suburban, Floodplain Secondary Combining) on approximately 40 acres to A FPS (Exclusive

Agriculture, Floodplain Secondary Combining) and from Open Space (OS) on approximately 40 acres to A FPS for consistency with the underlying proposed Specific Plan Designation of 5.3 (Residential, 10 Dwelling Units Per Acre) and 7.1 (Light Industrial); and

c) Conditional Use Permit (CUP 4, Map 231-21) to allow for the construction and operation of up to a 20 MW solar electrical generating facility, as well as related ancillary structures, on 80 acres.

Vacations of Public Access Easements

As shown in **Table 1-1**, *Project Assessor Parcel Numbers, Corresponding Map Codes, Zoning & Acreage*, the proposed solar facility consists of a combined 24 parcels. The proposed project would be developed as six, independent facilities on approximately 1,330 acres. **Table 1-2**, *Kern County APNs for Generation Tie Lines*, summarizes the APNs for the four gen-tie line options within Kern County. **Tables 1-3** through **1-5** below, detail the Los Angeles County assessor's parcel numbers for property where the gen-tie line route would be installed, should the project be connected to the Big Sky North Substation near the City of Lancaster in Los Angeles County or a future Los Angeles Department of Water and Power (LADWP) substation.

The project proponent is requesting vacations of public access easements on the project site to allow optimum placement of solar panels. Detailed vacation requests are listed in **Table 3-7**, *Vacations of Existing Public Access Easements*, of Chapter 3, *Project Description*, of this Draft EIR.

This Draft Environmental Impact Report (EIR) has been prepared by Kern County which is the Lead Agency under CEQA. The Draft EIR provides information about the environmental setting and impacts of the project and alternatives. It informs the public about the project and its impacts and provides information to meet the needs of local, State, and federal permitting agencies that are required to consider the project. The EIR will be used by Kern County to determine whether to approve the requested CUPs (CUP 116, Map 231; CUP 117, Map 231; CUP 118, Map 231; CUP 119, Map 231; CUP 4 Map 231-20; CUP 3, Map 231-21; CUP 7, Map 231-28; CUP 4, Map 231-21) required for the project.

This Executive Summary summarizes the requirements of the CEQA *Statute and 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 photovoltaic energy (PV) generating facility. As shown in **Figure 1-1**, *Site Vicinity*, and **Figures 1-2 through 1-7**, the project is located in the south-eastern portion of Kern County near the unincorporated community of Rosamond. The project would generate a total of 291 MW of renewable electrical energy for delivery to the Statewide grid.

The project would include the development of a 1,330-acre solar facility and associated infrastructure with the capacity to generate a combined 291 MW of renewable electrical energy and/or energy storage capacity in the form of advanced energy battery storage units. A new on-site substation facility would be constructed to collect the power generated onsite and convert it from 34 kV to 230 kV of power for transmission. One substation would be constructed under this project. Its tentative location is the southwest corner of the Raceway 2.0 Solar 1 site. The project substation would transmit electricity through the existing Big Sky Substation or the proposed project would interconnect at a planned LADWP substation in Kern County, located northwest of the project site.

The proposed project includes four gen-tie options, including preferred and alternative gen-tie routes, although only one route would be constructed.

			Willow Springs Specific		Acres
Site	Megawatts (MW)	APNs	Designation	Zoning	
Raceway Solar 1	15	374-020-42, 374-020-40, 370-020-47, 370-020-48	7.1/4.4; 7.2/4.4; 7.2	E (2.5) RS MH FPS	95
Raceway Solar 2	20	374-250-04, 374-020-55	7.1/4.4; 7.2/4.4;	E (2.5) RS FPS and E (2.5);	90
			5.5/2.85; 5.6; 7.1; 7.2	RS MH FPS	
Raceway Solar 3	106	374-210-08, 374-011-13, 374-250-03, 374-250-01, 374-250-09, 374-250-08	5.5; 5.6; 5.6/2.85; 7.1/4.4; 7.2/4.4; 7.1;7.2	E (2.5) RS FPS	510
Raceway Solar 4	70	374-011-04, 374-011-11	5.5; 5.6; 5.6/2.85	A FPS; E (2.5)	315
Raceway Solar 5	60	374-440-01, 374-440-02, 374-440-03, 374-440-04, 374-440-05, 374-440-06, 374-440-07, 374-440-08, 374-011-08	5.3; 5.3/4.4; 5.3/2.85/4.4; 5.4; 5.5; 5.6/2.85	E (2.5) RS MH FPS and E (2.5) RS FPS	240
Raceway Solar 6	20	374-011-07	5.3/4.4; 5.4/2.85; 5.6/2.85; 7.1	OS, E (2.5) RS FPS	80
Total Megawatts	291	Proposed Solar Project To	otal Acreage		1,330

TABLE 1-1: PROJECT ASSESSOR PARCEL NUMBERS, CORRESPONDING MAP CODES, ZONING, & ACREAGE

		Willow Springs Specific Blan Man Code				
Site	Megawatts (MW)	APNs	Designati	on	Zoning	
Willow Spring	s Specific Plan Map Code Designations	Physical Cons	straints Overlay			
5.3 = Resident	ial, Maximum 10 units/net acre	2.8 = Military	Flight Operations			
5.4 = Residential, Maximum 4 units/net acre 2.85 = Noise Management Area						
5.5 = Resident	ial, Maximum 1 units/net acre					
5.6 = Resident	ial, Maximum 2.5 gross acres/unit					
7.1 = Light Inc	lustrial	Kern County	Zone Districts			
7.2 = Service I	ndustrial	A = (Exclusiv	ve Agriculture)	MH = Mobile Home Co	ombining	
4.4 = Compreh	ensive Plan Required	E(2.5) = Esta	ate (2.5 acre minimum)	FPS = Floodplain Cor	mbining	
		RS = Resider	ntial Suburban Combinin	g OS = Open Space		

TABLE 1-1: PROJECT ASSESSOR PARCEL NUMBERS, CORRESPONDING MAP CODES, ZONING, & ACREAGE

TABLE 1-2: KERN COUNTY APNS FOR GENERATION TIE LINES

90th Street West and Rosamond Blvd.		80th Street West	100th Street West & Ave A	110th Street West & Ave A	West Ave A		
252-152-25	374-051-14	374-042-39	374-020-53	374-020-40	359-032-08	374-020-38	
252-152-26	374-051-15	374-051-01	374-020-55	374-020-46	359-032-13	374-020-49	
252-152-27	374-052-15	374-071-23	374-121-01	374-290-01	359-032-14	374-020-50	
252-152-28	374-052-16	374-071-25	374-121-16	374-303-01	359-032-17	374-020-53	
252-152-29	374-061-01	374-071-28	374-121-17	374-303-02	359-032-27	374-122-25	
252-152-30	374-061-02	374-082-03	374-121-32	374-321-05	359-032-28	374-122-26	
252-152-31	374-061-03	374-082-08	374-122-01	374-321-06	374-020-40	374-122-27	
252-152-32	374-061-04	374-210-01	374-122-16	374-322-01	374-020-46	374-122-28	
252-331-15	374-061-05	374-210-04	374-122-17	374-322-04	374-290-01	374-122-29	
252-352-05	374-061-07	374-210-08	374-122-32	374-322-05	374-303-01	374-122-30	
252-352-22	374-061-08	374-210-12		374-322-08	374-303-02	374-122-31	

90th Street West	and Rosamond	Blvd.	80th Street West	100th Street West & Ave A	110th Street West & Ave A	West Ave A
252-352-23	374-061-09	374-210-14		374-450-08	374-321-05	374-122-32
252-352-24	374-061-10			374-450-09	374-321-06	374-132-25
252-352-33	374-061-12			374-450-13	374-322-01	374-132-26
358-030-21	374-061-14				374-322-04	374-132-27
359-051-22	374-061-16				374-322-05	374-132-28
359-051-24	374-061-17				374-322-08	374-132-29
359-051-25	374-061-18				374-450-08	374-132-30
359-051-26	374-061-19				374-450-09	374-132-31
359-051-27	374-061-21				374-450-13	374-132-32
359-051-28	374-062-01					374-142-25
359-051-29	374-062-03					374-142-26
359-051-31	374-062-21					374-142-27
374-041-32	374-062-22					374-142-28
374-041-33	374-071-01					374-142-29
374-041-34	374-071-05					374-142-30
374-041-35	374-071-08					374-142-31
374-042-01	374-071-14					374-142-32
374-042-02	374-071-16					375-020-01
374-042-03	374-071-17					
374-042-04	374-071-18					
374-042-07						
374-042-08						

TABLE 1-2: KERN COUNTY APNS FOR GENERATION TIE LINES

				(,		
3268001001	3268019099	3219015001	3220007070	3220015054	3233002047	3233015017	3229009010
3268001004	3268019086	3220001028	3220007127	3220022040	3233002042	3233015032	3229007026
3268001006	3219009011	3220001024	3220007146	3220022043	3233002037	3233013022	3229008031
3268003025	3219009010	3220001025	3220007157	3220022041	3233002049	3233013024	3229006006
3268001005	3219010012	3220001027	3220007158	3220022042	3233002048	3233018001	3229006016
3268001036	3219010013	3220004036	3220011008	3229008029	3233005007	3233018032	3229008013
3268003010	3219009014	3220004037	3220011009	3229006012	3233005008	3233018016	3229014002
3268003020	3219010016	3220004038	3220011001	3229006013	3233005009	3233019019	3229014003
3268003021	3268019099	3220004035	3220011032	3229006014	3233004025	3233019018	3233002019
3268003030	3268019086	3220005035	3220011024	3229009009	3233004026	3233018017	3233004036
3268005002	3219009011	3220005036	3220011025	3229008012	3233005006	3233019001	3233012026
3268007001	3219009010	3220005037	3220012001	3229006015	3233008004	3233019034	3233019002
3268007002	3219010012	3220006025	3220012002	3229008030	3233008002	3233022001	3219017022
3268007003	3219010013	3220006026	3220011036	3229009026	3233008001	3233022017	3219011012
3268017002	3219009014	3220006024	3220011035	3229010012	3233008003	3233022016	3219011013
3268017039	3219010016	3220005038	3220012043	3229010013	3233009008	3233022032	3219026001
3268017013	3268019099	3220006027	3220012045	3229010024	3233009009	3219009009	3265024007
3268017040	3268019086	3220007004	3220012052	3229010025	3233009024	3268005001	3265024004
3268017003	3219009011	3220007048	3220012044	3229011010	3233009025	3268001034	
3268017005	3219009010	3220007052	3220012040	3229012010	3233012010	3268001003	
3268017023	3219010012	3219015001	3220012051	3229011009	3233012025	3220016006	
3268018006	3219010013	3220001028	3220012042	3229012002	3233012034	3220011016	
3268018007	3219009014	3220001024	3220012039	3229012007	3233013023	3220015043	
3268018900	3219010016	3220005038	3220015046	3229012021	3233013026	3229009025	

TABLE 1-3: Los Angeles APNs for Generation Tie Lines (South of Avenue A) 80th Street West

TABLE 1-3:	LOS ANGELES A	PNS FOR GENERA	ATION TIE LINES ((SOUTH OF AVENU	UE A) 80TH STREET WEST	
3268018039	3219013002	3220006027	3220015042	3229012008	3233013028	
3268018017	3219013007	3220007004	3220015017	3229012009	3233013025	
3268018022	3219012007	3220007048	3220015041	3229012003	3233015001	
3268019030	3219013004	3220007052	3220016005	3233002021	3233013027	
3268019046	3219013003	3220007057	3220017019	3233002022	3233013029	
3268019087	3219010015	3220007061	3220017020	3233002038	3233015016	

LOS ANGELES APNS FOR GENERATION TIE LINES (SOUTH OF AVENUE A) 100TH STREET WEST AND AVE A **TABLE 1-4:**

3262001007	3262012001	3262025008	3265003049
3262001029	3262012002	3262025025	3265003033
3262001020	3262012003	3262025024	3265003051
3262001025	3262012004	3262024025	3265004063
3262001044	3262015002	3262025009	3265004062
3262001038	3262015003	3264001008	3265004032
3262001022	3262015001	3264001011	3265004088
3262001031	3262016001	3264001018	3265004091
3262001039	3262016002	3264001053	3265004093
3262001048	3262016007	3264001048	3265004065
3262001071	3262016003	3264002016	3265005006
3262001081	3262018019	3264001026	3265004075
3262001070	3262016006	3264001049	3265005013
3262001078	3262018053	3264003032	3265005014
3262001072	3262018056	3264003017	3219001027
3262001069	3262016004	3264003016	3219001054

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3262001075	3262018054	3264003001	3219001055
3262001077	3262018055	3264006016	3219027022
3262001082	3262019034	3264006001	3219027033
3262001084	3262019078	3264006032	3219027034
3262004003	3262019038	3264007001	3219027049
3262004002	3262019061	3264006017	3219001042
3262004001	3262019073	3264007008	3219001043
3262004004	3262019110	3264007009	3264014002
3262004008	3262019125	3264008001	3264018010
3262004007	3262019126	3264007016	3264018011
3262004009	3262019079	3264008002	3264018012
3262004005	3262019222	3264013021	3219027021
3262004006	3262019221	3264013022	3265005005
3262004025	3262020029	3264013027	3265024007
3262005001	3262020115	3264013028	3265024005
3262004024	3262020153	3264015002	3265024006
3262005013	3262020220	3264015001	
3262007001	3262020233	3264015003	
3262005014	3262020154	3264015004	
3262006002	3262021029	3264016001	
3262005027	3262020232	3264013025	
3262007021	3262021027	3264016003	
3262007022	3262020230	3264017004	
3262007020	3262021026	3264017003	
3262008002	3262020236	3264017001	

TABLE 1-4: LOS ANGELES APNS FOR GENERATION TIE LINES (SOUTH OF AVENUE A) 100TH STREET WEST AND AVE A

INDEE I II	EOS MIQUELES MINS FOR OLIVERATION T	ie Lines (South of Avenue A) found street west and five	A
3262008001	3262021028	3264018013	
3262005015	3262020235	3264017002	
3262008022	3262021018	3264016002	
3262011002	3262020234	3264016004	
3262011004	3262021039	3265003031	
3262011003	3262022001	3265003030	
3262011001	3262024009	3265003027	
3262011005	3262024008	3265003023	
3262008023	3262024024	3265003015	

TABLE 1-4: LOS ANGELES APNS FOR GENERATION TIE LINES (SOUTH OF AVENUE A) 100TH STREET WEST AND AVE A

3261017009	3262001064	3263006029	3264022049	3265015013	
3261017024	3262001065	3263006900	3264021010	3264020005	
3261017008	3262002025	3263006019	3264022005	3263020001	
3261017025	3262002017	3263006023	3264022055	3264020002	
3261018009	3262004003	3263007020	3264022050	3264020004	
3261018024	3262004002	3263008008	3264022004	3263006032	
3261019009	3262004001	3263007019	3264022059	3263020023	
3261019024	3262001053	3263006031	3265001026	3261034017	
3261019008	3262001058	3263007021	3265001047	3263020025	
3261019025	3262004004	3263008024	3265001067	3263020024	
3261018008	3262002018	3263008009	3265001088	3263020010	
3261018025	3262004008	3263007023	3265001058	3265002045	
3261020008	3262004007	3263008025	3265001036	3265001059	

			,	
3261020009	3262004005	3263009016	3265001057	3265007030
3261020031	3262004006	3263009042	3265002044	3265007007
3261020032	3262006002	3263009012	3265002043	3265024007
3261032003	3262017005	3263009046	3265002055	3265024003
3261032002	3262018001	3263009015	3265002080	
3261033001	3262017021	3263009006	3265003002	
3261032072	3262017020	3263009054	3265003006	
3261032069	3262017036	3263009073	3265002138	
3261032070	3262019044	3263020008	3265003005	
3261032071	3262019085	3263020009	3265003009	
3261033081	3262019045	3264002027	3265003008	
3261036005	3262019077	3264001031	3265002075	
3261034015	3262019084	3264001037	3265002163	
3261036009	3262019086	3264001021	3265003045	
3261036010	3262019151	3264001027	3265003054	
3261036012	3262019150	3264001046	3265003052	
3261036014	3262019205	3264002041	3265004108	
3261036015	3262019206	3264002044	3265004106	
3262001020	3262019228	3264001041	3265004107	
3262001005	3262020035	3264001047	3265006001	
3262001046	3262020004	3264002024	3265007001	
3261036006	3262020020	3264002025	3265008017	
3261036011	3262020036	3264002095	3265006002	
3262001052	3262020118	3264002096	3265007003	
3262001055	3262020117	3264002131	3265008019	

TABLE 1-5: LOS ANGELES APNS FOR GENERATION TIE LINES (SOUTH OF AVENUE A) 110TH STREET WEST AND AVE A

TADLE I-J.	LUS ANGELES AT NS FUR GENERA	TION THE LINES (SOUT	1 OF AVENUE AJ HUITI SIKEET WEST AND AVE A	1
3261036013	3262020169	3264002132	3265008029	
3262001054	3262020211	3264020007	3265008032	
3262001068	3262020168	3264020001	3265009016	
3262001067	3262020170	3264020006	3265009015	
3262001085	3262023001	3264021001	3265009010	
3262002010	3262023032	3264021011	3265014022	
3262002001	3262023017	3264021013	3265014023	
3262001086	3262023016	3264020003	3265014014	
3262002002	3263006013	3264021012	3265014024	
3262002009	3263006026	3264022001	3265014017	

TABLE 1-5: LOS ANGELES APNS FOR GENERATION TIE LINES (SOUTH OF AVENUE A) 110TH STREET WEST AND AVE A

ALE RICOCHIER & CONTRACT

KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT RACEWAY SOLAR PROJECT



2021

Draft EIR

ALL CONTRACTOR

KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT RACEWAY SOLAR PROJECT



Draft EIR

Figure 1-2: RACEWAY SOLAR 1 SITE PLAN



2021

Figure 1-3: RACEWAY SOLAR 2 SITE PLAN





Figure 1-4: RACEWAY SOLAR 3 SITE PLAN





Figure 1-5: RACEWAY SOLAR 4 SITE PLAN

OPTY + ATTRO

KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT RACEWAY SOLAR PROJECT



THEN PLOTTED ON 24" X 36" SHEET 2021

Draft EIR





The project would have the following options (Option 1A and 1B, Option 2, Option 3, or Option 4) for interconnection:

- Option 1A: Previously approved collector substation (Big Sky North Substation) 100th Street West via Avenue A. Under this option, the proposed project would interconnect at a previously approved collector substation located at the approximate intersection of 100th Street West and Avenue G-12 (further north of Avenue H) in the City of Lancaster, Los Angeles County, via Avenue A and 100th Street West. The proposed project would interconnect via an approximately 10 to 12mile 34 kV and/or 230 kV gen-tie line originating at a DC collection system located at the southwestern portion of the project site. Electricity at the previously approved collector substation would ultimately be delivered to the existing Big Sky Substation (owned and operated by the applicant) located along West Avenue J and 100th Street West in the City of Lancaster.
- Option 1B: Previously approved collector substation (Big Sky North Substation) 100th Street West via 90th Street to Avenue A-8 to 95th Street to Avenue B. Under this option, the proposed project would interconnect at a previously approved collector substation located at the approximate intersection of 100th Street West and Avenue G-12 (further north of Avenue H) in the City of Lancaster, Los Angeles County, via 90th Street heading south to Avenue A-8, then west to 95th Street, then south to Avenue B, and west to 100th Street West. The proposed project would interconnect via an approximately 10 to 12-mile 34 kV and/or 230 kV gen-tie line originating at a DC collection system located at the southwestern portion of the project Site. Electricity at the previously approved collector substation would ultimately be delivered to the existing Big Sky Substation (owned and operated by the applicant) located along West Avenue J and 100th Street West in the City of Lancaster.
- Option 2: Previously approved collector substation (Big Sky North Substation) 110th Street. Under this option, the proposed project would interconnect at a previously approved collector substation located at the approximate intersection of 100th Street West and Avenue G-12 (further north of Avenue H) in the City of Lancaster, Los Angeles County, via Avenue A and 110th Street West. The proposed project would interconnect via an approximately 10 to 12-mile 34 kV and/or 230 kV gen-tie line originating at a DC collection system located at the project Site. Electricity at the previously approved collector substation would ultimately be delivered to the Big Sky Substation (owned and operated by the applicant) located along West Avenue J and 100th Street West in the City of Lancaster.
- Option 3: Previously approved collector substation (Big Sky North Substation) 80th Street West. Under this option, the proposed project would interconnect at a previously approved collector substation located at the approximate intersection of 100th Street West and Avenue G-12 (further north of Avenue H) in the City of Lancaster, Los Angeles County, via Avenue A and 80th Street West. The proposed project would interconnect via an approximately 10 to 12-mile 34 kV and/or 230 kV gen-tie line originating at a DC collection system located at the southwestern portion of the Project Site. Electricity at the previously approved collector substation would ultimately be delivered to the Big Sky Substation (owned and operated by the applicant) located along West Avenue J and 100th Street West in the City of Lancaster.
- Option 4: Los Angeles Department of Water and Power (LADWP) Proposed Substation. Under this option, the proposed project would interconnect at a planned LADWP substation in Kern County, located northwest of the project site, along Rosamond Boulevard near the intersection of Rosamond Boulevard and 110th Street West. An approximate 3-mile 34 kV and/or 230 kV gen-tie line originating at the DC collection system located at the northwest portion of the project site, would run north along 90th Street West, west along Rosamond Boulevard, and interconnect at the planned LADWP substation. This LADWP proposed substation is currently in the design phase and is scheduled to be built and constructed by 2019 or 2020.

The power generated on the project site would assist the State of California in complying with the Renewables Portfolio Standard under Senate Bill 350 (2015), which requires 50 percent of all electricity sold in the state shall be generated from renewable energy sources by December 31, 2030. Senate Bill 100 was approved in September 2018 and would increase the Renewables Portfolio Standard to a 100 percent goal by 2045. 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 project has an anticipated operational life of up to 35 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 it would seek an extension of its CUP. If any portion of the project site is decommissioned, it would be converted to other uses in accordance with the applicable land use regulations in effect at that time.

The combined project facilities would include the following components:

- Installation of up to a total combined 291-MW of solar PV modules made of crystalline-silicon material covered by glass, mounted on a galvanized metal fixed tilt racking or single axis tracking systems embedded into the ground;
- If fixed tilt technology is not used, solar tracking system consisting of drive motors, drive arms and hydraulic systems that allow for rotation of solar panels from east to west, tracking the suns position over the course of the day;
- Underground and/or above ground medium voltage collections systems throughout the project site;
- Medium voltage inverters and step-up transformers;
- Onsite solar substation(s) including circuit breakers, switches, remote terminal units, fiber optic line telecommunication equipment, and main step-up transformer(s);
- Onsite switchyard(s);
- Onsite access roads;
- Perimeter security fencing 6- to 8-feet high with barbed wire;
- Concrete pads sized and installed to accommodate the associated equipment (inverters, switchgear, transformers, etc.);
- Meteorological data collection systems and supervisory control and data acquisition (SCADA); and
- Several battery energy storage facilities located at each inverter and associated appurtenances or one centralized battery energy storage facility.

The solar and/or energy storage facilities are intended to operate year-round, and would be designed to produce up to 291 MW of solar power at the point of interconnection to the transmission grid. The proposed project would have either several Energy Storage Systems (ESS) at each site's inverters or ESS at a centralized location onsite. The ESS would be able to provide approximately 291 MWh of energy storage.

1.2.1 Entitlements Required

The anticipated approvals needed for the project include changes in specific plan land use designations, and amendments to circulation elements, vacations, cancellation of a Williamson Act Land Use Contract (WULAC), zone classification and adoption of conditional use permits within the project boundaries.

Construction and operation of the proposed solar energy facility may require additional State, local, and federal entitlements; as well as discretionary and ministerial actions and approvals listed below:

1.2.2 Kern County

- Consideration and certification of Final EIR
- Adoption of 15091 Findings of Fact and 15093 Statement of Overriding Considerations
- Approval of proposed Mitigation Measure Monitoring Program
- Approval by the Kern County Board of Supervisors for proposed changes in zone classification
- Approval by the Kern County Board of Supervisors for proposed conditional use permits for the project site
- Approval of vacation of public access easements
- Approval of Williamson Act Contract Cancellation
- Approval of Willow Springs Specific Plan Land Use Designation Amendments
- Approval of Willow Springs Specific Plan Circulation Element Amendments (elimination of future road reservations)
- Approval of Fire Safety Plan
- Kern County grading and building permits
- Kern County encroachment permits.

1.2.3 Other Responsible Agency Entitlements

- U.S. California Public Utilities Commission (CPUC) for approval of Section 851 Permit
- U.S. Fish and Wildlife Service (USFWS) Section 10 Incidental Take Permit and Habitat Conservation Plan (if required).
- United States Army Corps of Engineers Section 404 Permit (if required)
- California Department of Fish and Wildlife (CDFW), Section 1600 et seq. permits (Lake and Streambed Alteration Agreement) or Section 2081 Permit (State-listed endangered species (if required)
- Regional Water Quality Control Board (RWQCB) Lahontan Region Waste Discharge Requirements, National Pollutant Discharge Elimination System Construction General Permit, General Construction Stormwater Permit (Preparation of a SWPPP), and Section 401 certification (if required)
- California Department of Transportation Permit for Transport of Oversized Loads
- Eastern Kern County Air Pollution Control District Authority to Construct/Permit to Operate/Fugitive Dust Control Plan.

1.3 Relationship of the Project to Other Energy Projects

The 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 energy project.

There are several existing, permitted, solar energy, wind energy, and transmission projects in the region where the project site is located, as shown in **Figure 3-5**, *Cumulative Projects* in Chapter 3, *Project Description*. Most of the projects are small, and many involving zoning changes, equipment or building remodeling that would not factor greatly as part of the cumulative impact analysis for this project. The Big Beau Solar Project is a proposed 128 MW solar facility on 2,557 acres located approximately 5 miles northwest of the project site was approved by the Board of Supervisors in January 2020, is currently under construction, and will be operational as of December 2021. The Apollo Solar Project, located approximately 6 miles north of the project site, was approved by the Planning Commission in June 2020.

1.4 Purpose and Use of the EIR

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

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

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

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

1.5 Project Overview

1.5.1 Project Objectives

The proposed project would provide 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 (SB) 350 (2015), which requires that 50 percent of all electricity sold in the state to be generated from renewable energy sources by December 31, 2030. Senate Bill 100 was approved in September 2018 and would increase the RPS to a 100 percent goal by 2045.

The following is a list of project objectives:

- Maximize renewable energy production and economic viability through the installation of solar PV panels on private lands with high solar insolation values.
- Locate the project on disturbed land or land that has been previously degraded from prior use.
- Minimize offsite impacts by using existing electrical distribution facilities, rights-of-way, roads, and other existing infrastructure where possible to minimize the need for new electrical support facilities.
- Minimize impacts to threatened or endangered species or their habitats, wetlands and waters of the United States, cultural resources, and sensitive land use.
- Generate substantial direct and indirect economic opportunities in Kern County during construction with the creation of "green" jobs.
- Minimize water usage.
- Assist the State of California in reducing fossil fuel air quality pollution and in achieving the greenhouse gas emission (GHG) reductions required by the California Global Warming Solutions Act (Assembly Bill 32) which requires the California Air Resources Board to reduce statewide emissions of GHGs to at least the 1990 emissions level by 2020. This timeline was updated in 2016 under Senate Bill 32, which requires that statewide GHG emissions are reduced to at least 40 percent below the statewide GHG emissions limit by 2030.
- Offset carbon dioxide that would have resulted from producing an equivalent amount of electricity utilizing generators powered by fossil fuels.
- Develop a viable source of clean energy to assist California and its utilities in fulfilling California's Renewable Portfolio Standard (RPS) Program. In October 2015, Governor Brown signed into law Senate Bill 350, which establishes a new RPS for all electricity retailers in the state. Electricity retailers must adopt the new RPS goals of 50 percent of retail sales from renewables by the end of 2030. Senate Bill 100 (De León, also known as the "California Renewables Portfolio Standard Program: emissions of greenhouse gases") as approved by the California legislature and signed by Governor Brown in September 2018, increases RPS in 2030 from 50 percent to 60 percent and establishes a goal of 100 percent RPS by 2045.
- Use proven and established PV technology that is efficient and requires low maintenance.

1.5.2 Regional Setting

The project site is located west of the unincorporated community of Willow Springs in southeastern Kern County, California as shown in **Figure 3-1**, *Project Vicinity*, in Chapter 3, Project Description, of this EIR. The topography of the project area generally slopes to the southeast as the project site is south of the Tehachapi Mountains. Desert vegetation dominates the region. Elevations across the project site range from approximately 2,300 feet to 2,800 feet (701 to 853 meters) above mean sea level (amsl). This area is geographically defined by the intersection where the Tehachapi Mountains meet the San Gabriel Mountains. Communities within the vicinity of the project site are the California City in Kern County and the Cities of Lancaster and Palmdale in Los Angeles County, which are roughly 27 miles northeast, 12 miles southeast of the project site, respectively. Edwards Air Force Base is located 23 miles northeast of the project site's southwestern boundary.

Existing land uses at and in the immediate vicinity of the project site include scattered rural residences, paved and unpaved roads, producing and non-producing water wells, wind and solar energy generating facilities and open-space areas. Off-road vehicle (ORV) or off-highway vehicle (OHV) activities occur in the project vicinity and a portion of the Pacific Crest Trail (PCT) is approximately 14 miles southwest of Raceway Solar Site 1 and approximately 16 miles northwest of the Raceway Solar Site 4. Topography across the project site is relatively flat and generally slopes to the southeast.

1.5.3 Surrounding Land Uses and Project Site Conditions

The area surrounding the project site is characterized by scattered vacant land and low population density. Existing development in the area 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 planned/existing met towers.

Forest, parkland, and preserve areas in the vicinity of the project site include the Angeles National Forest located in Los Angeles County, approximately 38 miles southeast of Raceway Solar Site 5; the Desert Pines Wildlife Sanctuary and the Arthur B. Ripley Desert Woodland State Park located in Los Angeles County, approximately 13 miles to the southwest of Raceway Solar Site 1; and the Antelope Valley California Poppy Reserve located in Los Angeles County, approximately 9 miles to the southwest of Raceway Solar Site 1. The Pacific Crest National Scenic Trail (commonly known as the Pacific Crest Trail or PCT) is approximately 14 miles southwest of Raceway Solar Site 1 and approximately 16 miles northwest of the Raceway Solar Site 4. The Los Angeles Aqueduct is located approximately 7 miles northwest of Raceway Solar Site 1, along Aqueduct Road.

There are several existing and permitted solar energy, wind energy, and transmission projects in the region where the project site is located. An expanded list of existing, approved, and pending projects in the vicinity of the project site is provided in **Table 3-5**, *Cumulative Projects List*, in Chapter 3, *Project Description*.

As shown in **Figure 3-7**, *Flood Map*, in Chapter 3, *Project Description*, of this EIR, the entirety of the project site is within a Federal Emergency Management Agency (FEMA) designated flood zone.

Based on a review of records maintained by the California Geologic Energy Management Division (CalGEM), wells are not identified on the project site, and the project is not within the jurisdictional boundaries of an oilfield (California Department of Conservation, 2019).

The project would be served by the Kern County Sherriff's Office (KCSO) for law enforcement and public safety, Kern County Fire Department (KCFD) for fire protection, and Kern County Medical Emergency Service for emergency medical and rescue services. The closest KCSO Substation is the Green Empire Substation, located approximately 4.5 miles east of the project in the community of Rosamond. The nearest KCFD fire station that would serve the project is Station No. 15 (Rosamond), located at 3219 35th St W in the community of Rosamond, approximately 3.5 miles east of the project site. The nearest hospitals are the Antelope Valley Hospital, in the City of Lancaster, approximately 14 miles southeast of the project in the City of Palmdale. The nearest school to the project site is Tropico Middle School, located approximately 1.6 miles northeast of the project in the community of Rosamond.

The California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP) 2018 Important Farmland Map, designates areas located within Raceway 2.0 Solar sites 1, 2, and 3 as "Grazing Land" and "Prime Farmland", and designates other proposed project sites as "Grazing Land" and/or "Vacant or Disturbed Land", "Rural Residential Land" and/or "Nonagricultural or Natural Vegetation." (DOC, 2018). Parcels within Raceway 2.0 Solar 4 are subject to a Williamson Act Land Use contract. Although Raceway Solar 4 is zoned for agricultural use, available Kern Department of Agriculture's GIS farming records indicate there has been no agricultural crop production on the parcel in the past 10 years. The entire project site is located within Agriculture Preserve No. 24, as is the standard practice in Kern County for any land that is zoned A (Exclusive Agriculture).

The project site is not located within an area covered by the Airport Land Use Compatibility Plan (ALUCP) of Kern County. The nearest airports to the project sites are the Little Buttes Antique Airfield, located approximately 2 miles south of the proposed project area in Los Angeles County, the Lloyd's Landing Airport located approximately 3.5 miles north of the proposed project area, the Rosamond Skypark approximately 2.75 miles to the northeast, the Mojave Air and Space Port approximately 15 miles to the northeast. State Route (SR) 58 is located 14 miles north of the project site, and SR 14 is located approximately 4 miles east of the project site.

Table 1-6, *Project Site and Surrounding Land Uses*, below, summarizes the existing land uses, map code designations, and zoning classifications on the project site and surrounding area. Figure 1-8, *Willow Springs Specific Plan Designations* and Figure 1-9, *Existing Zoning Classifications*, show the land use designations and the existing zoning of the project site and its surrounding area.

	Existing Land Use	Existing Willow Springs Map Code Designation	Existing Zoning Classification
Raceway 2.0 Solar 1	Undeveloped, disturbed land	7.1/4.4, 7.2/4.4	E (2.5) RS MH FPS
North	Undeveloped, sparse residential dwellings, dirt roads	7.2	E (2.5)
East	Undeveloped, sparse residential dwellings, dirt roads	7.1; 7.2	E (2.5)
South	Undeveloped, agriculture	N/A (Los Angeles County)	N/A

TABLE 1-6: PROJECT SITE AND SURROUNDING LAND USES

	Existing Land Use	Existing Willow Springs Map Code Designation	Existing Zoning Classification
West	Undeveloped, sparse residential dwellings, dirt roads	7.1; 7.2	E (2.5)
Raceway 2.0 Site 2	Undeveloped, disturbed land	7.1 /4.4, 7.2/4.4	E (2.5) RS FPS and E (2.5) RS MH FPS
North	Undeveloped, sparse residential dwellings, dirt roads	5.5/2.85	E (2.5)
East	Undeveloped, sparse residential dwellings, dirt roads	5.6	E (2.5)
South	Undeveloped, sparse residential dwellings, dirt roads	7.2	E (2.5)
West	Undeveloped, sparse residential dwellings, dirt roads	7.1; 7.2	E (2.5)
Raceway 2.0 Site 3	Undeveloped, disturbed land	5.6; 5.6/2.85; 7.1/4.4; 7.2/4.4	E (2.5) RS FPS
North	Undeveloped, sparse residential dwellings, dirt roads	5.6	E (2.5)
East	Undeveloped, sparse residential dwellings, dirt roads	5.5; 5.6/2.85	E (2.5)
South	Undeveloped, agriculture	7.1	E (2.5)
West	Undeveloped, sparse residential dwellings, dirt roads	7.1; 7.2	E (2.5)
Raceway 2.0 Site 4	Undeveloped, disturbed land	5.5, 5.6/2.85	A FPS
North	Undeveloped, sparse residential dwellings, dirt roads	5.6	E (2.5)
East	Undeveloped, sparse residential dwellings, dirt roads	5.5; 5.6/2.85	E (2.5)
South	Undeveloped, sparse residential dwellings, dirt roads	5.6/2.85	E (2.5)
West	Undeveloped, sparse residential dwellings, dirt roads	5.6; 5.6/2.85	E (2.5)
Raceway 2.0 Site 5	Undeveloped, disturbed land	5.3/4.4; 5.3/2.85/4.4	E (2.5) RS MH FPS and E (2.5) RS FPS
North	Undeveloped, sparse residential dwellings, dirt roads	5.3	E (2.5)

TABLE 1-6: PROJECT SITE AND SURROUNDING LAND USES

	Existing Land Use		Existing Willow Spr Map Code Designati	ings ion	Existing Zoning Classification
East	Undeveloped, sparse residenti dwellings, dirt roads	al	5.3/2.85; 5.4		E (2.5)
South	Undeveloped, agriculture		5.3/2.85		E (2.5)
West	Undeveloped, sparse residenti dwellings, dirt roads	al	5.5/5.6/2.85		E (2.5)
Raceway 2.0 Site 6	Undeveloped, disturbed land		5.3/4.4; 7.1		OS, E (2.5) RS FPS
North	Undeveloped, sparse residenti dwellings, dirt roads	al	5.4/2.85		E (2.5)
East	Undeveloped, sparse residenti dwellings, dirt roads	al	5.6/2.8		E (2.5)
South	Undeveloped, sparse residenti dwellings, dirt 5.3/2.85 roads	al	N/A (Los Angeles County)		N/A
West	Undeveloped, sparse residenti dwellings, dirt roads	al	5.6/2.8		E (2.5)
Willow Springs Specific Plan Map Code Designations5.3 = Residential, Maximum 10 units/net acre5.4 = Residential, Maximum 4 units/net acre5.5 = Residential, Maximum 1 units/net acre5.6 = Residential, Maximum 2.5 gross acres/unit7.1 = Light Industrial7.2 = Service Industrial		$\frac{Physical Cc}{2.8 = Milita}$ $2.85 = Nois$ $\frac{Kern Count}{A = (Exclusion)}$ $E(2.5) = E(2.5)$	nstraints Overlay ury Flight Operations se Management Area <u>y Zone Districts</u> sive Agriculture) state (2.5 acre minimum)	MH = Mo	bbile Home Combining
4.4 = Comprehensive	e Plan Kequired	E(2.5) = E RS = Resid	state (2.5 acre minimum) lential Suburban Combining	FPS = Flo	bodplain Combining

TABLE 1-6: PROJECT SITE AND SURROUNDING LAND USES

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Figure 1-8: WILLOW SPRINGS SPECIFIC PLAN MAP DESIGNATIONS







2021

Draft EIR

Figure 1-9: EXISTING ZONING CLASSIFICATIONS





KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT

RACEWAY SOLAR PROJECT

2021

1.5.4 Project Characteristics

The proposed project would include the development of solar facilities and associated infrastructure with the capacity to generate up to 291 MW of renewable electrical energy and/or energy storage capacity in the form of advanced energy battery storage units. One substation would be constructed under this project. Its tentative location is the southwest corner of the Raceway 2.0 Solar 1 site. Additionally, the proposed project includes several options for gen-tie routes as described above, although only one route would be constructed. The selected gen-tie would be constructed within its corridor and would consist of the utility poles, cabling, trenches, and a corresponding dirt maintenance road. Power generated on the project site would be collected at an onsite substation and converted from 34 kV to 230 kV of power for transmission in an overhead or underground line into the SCE transmission system and interconnection location. The project substation would transmit electricity through the existing Big Sky Substation or the proposed project would interconnect at a planned LADWP substation in Kern County, located northwest of the project site. The project power generation would be fed to the project substation at 34-kV voltage of the power collection system. Underground and/or above ground medium voltage collections systems would be installed in conjunction with roads and panel arrays within the project site, connecting each solar panel to a feeder circuit; each feeder circuit would in turn be connected to the substation. Within the solar fields, the electrical and communication wiring would be installed in underground trenches, although some of the mid-voltage collection runs and communications may be on overhead lines. The different solar panel circuits would gather at the substation (or switchyard) and would then be sent to the overhead electricity lines leading to a grid interconnection point. The proposed solar facilities are intended to operate year-round, and would generate electricity during daylight hours when electricity demand is at its peak.

1.6 Environmental Impacts

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

1.6.1 Impacts Not Further Considered in This EIR

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

- Mineral Resources;
- Population and Housing;
- Recreation.

1.6.2 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 1-11**, *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
 Geology and Soils
 - Greenhouse Gas

Emissions

Materials

Ouality

- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy

• Land Use and Planning

Hazards and Hazardous

Hydrology and Water

- Noise
- Public Services
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

1.6.3 Less-than-Significant Impacts

Table 1-7, *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 Draft EIR present detailed analysis of these impacts and describe the means by which the mitigation measures listed in Table 1-7 would reduce impacts to a less-than-significant level.

Impact	Mitigation Measures	
Kern County Raceway 2.0 Solar		
Air Quality (Project)	MM 4.3-1 through MM 4.3-5	
Biological Resources (Project)	MM 4.4-1 through MM 4.4-12, MM 4.1-4, MM 4.1-5, MM 4.1-6, MM 4.9-3, and MM 4.10-1	
Cultural Resources (Project and Cumulative)	MM 4.5-1 through MM 4.5-4	
Energy (Project and Cumulative)	No mitigation required	
Geology and Soils (Project and Cumulative)	MM 4.7-1 through MM 4.7-7	
Greenhouse Gas Emissions (Project and Cumulative)	No mitigation required	
Hazards and Hazardous Materials (Project and Cumulative)	MM 4.9-1, MM 4.9-2, MM 4.13-1, MM 4.14-1, 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	
Public Services (Project and Cumulative)	MM 4.13-1 through MM 4.13-5	
Transportation (Project and Cumulative)	MM 4.14-1	
Tribal Cultural Resources (Project)	No mitigation required	
Utilities and Service Systems (Project and Cumulative)	MM 4.10-1 and MM 4.16-1	
Wildfires (Project)	MM 4.10-1 and MM 4.13-1	

TABLE 1-7:SUMMARY OF PROJECT IMPACTS THAT ARE LESS THAN SIGNIFICANT OR LESS
THAN SIGNIFICANT WITH MITIGATION

1.6.4 Significant and Unavoidable Impacts

Section 15126.2(c) 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, *Environmental Setting, Impacts, and Mitigation Measures*, of this EIR.

According to Section 15355 of the CEQA *Guidelines*, 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)
- Agriculture and Forest Resources (Project and Cumulative)
- Air Quality (Cumulative)
- Biological Resources (Cumulative)
- Noise (Project and Cumulative)
- Wildfire (Cumulative)

Table 1-8, *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, 4.2, 4.3, 4.4, 4.12, and 4.17 of this Draft EIR present detailed analyses of these impacts and describe the means by which the mitigation measures listed in Table 1-8, would reduce the severity of impacts to the extent feasible.

TABLE 1-8:SUMMARY OF SIGNIFICANT AND UNAVOIDABLE PROJECT-LEVEL AND
CUMULATIVE IMPACTS OF THE SOLAR FACILITY

Impact	Project Impacts	Cumulative Impacts	Mitigation Measures
Kern Count	ty Raceway 2.0 Solar		
Aesthetics	The project would convert presently rural land to solar energy production; although mitigated, project impacts to visual character and quality would be reduced, but would remain significant and unavoidable	The project together with all other planned solar power projects within the Kern County portion of the Antelope Valley would result in significant and unavoidable cumulative impacts.	MM 4.1-1 through MM 4.1-7
Agriculture and Forest Resources	The project would require the cancellation of an open space contract made pursuant to the California Lands Conservation Act of 1965 for a parcel over 100 acres. No feasible mitigation is available to reduce impacts related to the cancellation of Williamson Act Contracts, therefore, impacts related to the cancellation of an open space contract would be significant and unavoidable .	The project would convert approximately 247 acres of Prime Farmland to non-agricultural uses. While development of the cumulative projects could result in conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), the proposed project's contribution to the conversion of agricultural land to non- agricultural uses would be cumulatively considerable. The project's incremental effect is cumulatively considerable when viewed in connection with the effects of other closely related past projects, the effects of other current projects and the effects of probable future projects and thus cumulative impacts would be significant and unavoidable .	No feasible mitigation is available

Impact	Project Impacts	Cumulative Impacts	Mitigation Measures
Air Quality	There would be no significant and unavoidable project impacts.	There are several alternative energy (wind and solar) projects being developed within the eastern Kern geographical area. From a site- specific, project-level operational review, these projects are required to comply with all rules and regulations of the Eastern Kern Air Pollution Control District. Impacts associated with operation of the proposed project are generally considered less than significant. However, given the total number of development proposals within the region, even with the implementation of Mitigation Measures MM 4.3-1 through MM 4.3-5, cumulative temporary construction impacts are considered significant and unavoidable .	MM 4.3-1 through MM 4.3-5
Biological Resources	There would be no significant and unavoidable project impacts.	When combined with cumulative impacts from past, present, and reasonably foreseeable future projects, including comparable renewable energy projects proposed for construction in Kern County, the project's incremental contribution to biological resources are significant and unavoidable .	MM 4.1-4 through MM 4.1-6 MM 4.4-1 through MM 4.4-12, MM 4.9-3 and MM 4.10-1
Noise	It is anticipated that there would be times during the project's construction and decommissioning activities that would result in a construction related noise impacts on adjacent sensitive receptors. Implementation of mitigation would reduce impacts to the extent feasible during construction activities. However, despite the implementation of mitigation, construction activities could generate noise greater than the standard for the Kern County General Plan and for short period of times, resulting in temporary construction impacts that would be considered significant and unavoidable.	There would be no significant and unavoidable cumulative impacts.	MM 4.12-1 through MM 4.12-4

TABLE 1-8:SUMMARY OF SIGNIFICANT AND UNAVOIDABLE PROJECT-LEVEL AND
CUMULATIVE IMPACTS OF THE SOLAR FACILITY

Impact	Project Impacts	Cumulative Impacts	Mitigation Measures
Wildfire	There would be no significant and unavoidable project impacts.	Despite implementation of mitigation, given the location in a rural area and limited infrastructure, the project and related projects have the potential to result in a cumulative impact related to exposing people or structures to significant risks as a result of runoff, post- fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.	MM 4.10-1 and MM 4.13-1

TABLE 1-8:SUMMARY OF SIGNIFICANT AND UNAVOIDABLE PROJECT-LEVEL AND
CUMULATIVE IMPACTS OF THE SOLAR FACILITY

1.6.5 Irreversible Impacts

Section 15126.2(d) 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 Willow Springs Specific Plan, as a matter of public policy, those commitments have been determined to be acceptable. These plans ensure that any irreversible environmental changes associated with those commitments will be minimized.

1.6.6 Growth Inducement

The Kern County General Plan recognizes that certain forms of growth are beneficial, both economically and socially. Section 15126.2(e) 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. Up to two to four full-time employees would be located at the project site at any given time. 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 Willow Springs, Rosamond or other local communities.

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

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

1.7 Alternatives to the Project

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

1.7.1 Alternatives Considered and Rejected

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

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

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

Wind Energy Project Alternative

The Wind Energy Project Alternative would involve the use of wind energy as an alternative to development of 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 (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 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 291 MW of power that the project would produce, the alternative would require more space than what the project site current accommodates and, consequently, the project site would need to be expanded.

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.

Industrial Power Plant Alternative

This alternative would involve the development of a natural gas-fired power plant or plants (equivalent to 291 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 291 MW PV solar facility with associated infrastructure on sites totaling 1,330 acres. CEQA *Guidelines* 15126.6(f)(2(a) states that the key and initial step in considering an alternative site is whether "any of the significant effects of the project would be avoided or substantially lessened" in relocating the project, while remaining consistent with the same basic objectives of the 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, agricultural and forestry resources, noise, 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 project are not considered "potentially feasible," as there are no suitable sites within the control of the project proponent that would reduce project impacts. The potential amount of available, similar sites is further reduced because unlike the proposed project, alternative sites may not include sites with close proximity to transmission infrastructure. Therefore, this alternative was eliminated because it would not avoid or substantially reduce the significant environmental effects of the proposed project.

1.7.2 Alternatives Selected for Analysis

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

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

Table 1-9, *Summary of Development Alternatives*, on the following page provides a summary of the relative impacts and feasibility of each alternative and **Table 1-10**, *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.

Alternative	Description	Basis for Selection and Summary of Analysis
Project	Construction and operation of a solar facility on approximately 1,330 acres would generate up to 291 MW of electricity and deliver it to the existing grid. Approval of eight Conditional Use Permits (CUP) for construction and operation of commercial solar electrical generating facilities, an Amendment to the General Plan, Willow Springs Specific Plan, and Willow Springs Specific Plan Circulation Element, removal of public easement vacations would be required.	N/A

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 GPAs, CUP, and Amendment to Circulation Plan Avoids all significant and unavoidable impacts Greater impacts to GHGs Less impact in all remaining environmental issue areas Does not meet any of the project objectives
Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative	Project site would be developed to the maximum intensity allowed under the Kern County General Plan land use designations and zoning classifications and other existing applicable restrictions.	 Avoids need for CUPs and GPA Similar impacts to biological resources, hazards and hazardous materials, and tribal cultural resources Less impact to aesthetics, agricultural and forestry resources, and land use and planning Greater overall impacts in all remaining environmental issue areas, including an additional significant and unavoidable transportation impact Does not meet any of the project objectives

TABLE 1-9: 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 695 acres on Sites 1-3. This alternative is still expected to contain enough land to construct a solar array field capable of generating approximately 141 MW due to the proportional reduction in project size. The project site would require approval of three CUPs, Amendments to General Plan, Willow Springs Specific Plan and Circulation Element, and vacation of existing public access easements on the reduced project site. Decommissioning activities would be the same as the proposed project.	 Avoids significant and unavoidable impact to agriculture and forestry resources Similar impacts to GHG emissions, hazards and hazardous materials, land use and planning, public services, and tribal cultural resources Less impacts in all remaining environmental issue areas Achieves some but not all of the project objectives
Alternative 4: No Ground-Mounted Utility- Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only	The construction of 291 MW of PV solar distributed on rooftops throughout the Antelope Valley. Electricity generated would be for on-site use only. Decommissioning of this alternative would not be required.	 Avoids need for CUP and GPA 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, agriculture and forest resources, and biological resources Greater impacts to GHG emissions Similar impacts to energy, noise, tribal cultural resources, and wildfire Less impact in all remaining issue areas Achieves some but not all of the project objectives

TABLE 1-9: SUMMARY OF DEVELOPMENT ALTERNATIVES

TABLE 1-10: COMPARISON OF ALTERNATIVES

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: General Plan/ Specific Plan and Zoning Build- Out Alternative	Alternative 3: Reduced 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	Significant and Unavoidable (project and cumulative)	Less (NI)	Less (NI)	Less (NI)	Less (NI)
Air Quality	Less than Significant with Mitigation (project); Significant and Unavoidable (cumulative)	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Biological Resources	Less than Significant with Mitigation (project); Significant and Unavoidable (cumulative)	Less (NI)	Less (Project LTS); Similar (Cumulative SU)	Less (Project LTS); Similar (Cumulative SU)	Less (LTS)
Cultural Resources	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Energy	Less than Significant	Less (NI)	Greater (LTS)	Less (LTS)	Similar (LTS)
Geology and Soils	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Greenhouse Gas Emissions	Less than Significant	Greater (LTS)	Greater (LTS)	Similar (LTS)	Greater (LTS)
Hazards and Hazardous Materials	Less than Significant with Mitigation	Less (NI)	Similar (LTS)	Similar (LTS)	Less (LTS)
Hydrology and Water Quality	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Land Use and Planning	Less than Significant with Mitigation	Less (NI)	Less (NI)	Similar (LTS)	Greater (LTS)
Noise	Significant and Unavoidable (project and cumulative)	Less (NI)	Greater (SU)	Less (SU)	Similar (SU)

TABLE 1-10: COMPARISON OF ALTERNATIVES

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: General Plan/ Specific Plan and Zoning Build- Out Alternative	Alternative 3: Reduced Acreage Alternative	Alternative 4: No Ground-Mounted Utility-Solar Alternative – Distributed Commercial and Industrial Rooftop Solar Only
Public Services	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Similar (LTS)	Less (LTS)
Transportation	Less than Significant with Mitigation	Less (NI)	Greater (SU)	Less (LTS)	Less (LTS)
Tribal Cultural Resources	No Impact	Less (NI)	Similar (NI)	Similar (NI)	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 (NI)	Greater (SU)	Less (Project LTS); Similar (Cumulative SU)	Less (SU)
Meet Project Objectives?	All	None	None	Partially	Partially
Reduce Significant and Unavoidable Impacts?	N/A	All	Some	Some	Some
NI = No Impact LTS = Less than Significant SU = Significant and Unavoidable	e				

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 photovoltaic (PV) solar facility and associated infrastructure required to generate a combined 291 megawatts (MW) of renewable electrical energy and/or energy storage capacity on the approximately 1,330-acre project site would not occur. No gen-tie lines would be constructed. The No Project Alternative would not require Conditional Use Permits (CUP) for construction and operation of a combined 291 MW solar and/or battery storage project with associated facilities on the six discontinuous sites which make up the total the project site. An amendment to the General Plan and Specific Plan 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: General Plan/Specific Plan and Zoning Build-Out Alternative

Alternative 2, the General Plan and Zoning Build-Out Alternative, would develop the project site to the maximum intensity allowed under the existing Kern County General Plan land use and zoning classifications. According to the Kern County General Plan, the project is located within land use designation of 4.1 (Nonjurisdictional land: Accepted county plan areas) (County of Kern, 2009). The accepted county plan land use designation applies to areas where specific land use plans have already been prepared and approved. The proposed project is located within unincorporated Kern County and within the jurisdiction of the Willow Springs Specific Plan. The project site is designated as Willow Springs Specific Plan Map Codes 7.1 (Light Industrial), 7.1/4.4 (Light Industrial/ Comprehensive Plan Required), 7.2 (Service Industrial), 7.2/4.4 (Service Industrial/ Comprehensive Plan Required), 5.5 (Residential, Maximum 1 units/net acre), 5.5/2.85 (Residential, Maximum 1 units/net acre/Noise Management Area), 5.6 (Residential, Maximum 2.5 gross acres/unit), 5.6/2.85 (Residential, Maximum 2.5 gross acres/unit/Noise Management Area), 5.3 (Residential, Maximum 10 units/net acre), 5.3/4.4 (Residential, Maximum 10 units/net acre/ Comprehensive Plan Required), 5.3/2.85/4.4 (Residential, Maximum 10 units/net acre/Noise Management Area/Comprehensive Plan Required), 5.4 (Residential, Maximum 4 units/net acre) and 5.4/2.85 (Residential, Maximum 4 units/net acre/Noise Management Area). Implementation of Alternative 2 would consist of developing the project site under the current land use classification of 4.1 (Willow Springs Specific Plan), where parcels designated as 5.3, 5.3/4.4, 5.4, 5.4/2.85 5.5, 5.5/2.85, 5.6, and 5.6/2.85 would be developed with residential uses specific to the requirements of defined for each residential designation. Parcels designated with 7.1, 7.1/4.4, 7.2, and 7.2/4.4 would be developed with the particular industrial uses defined for each industrial land use designation.

The project site has various zone classifications, which include: A FPS (Exclusive Agriculture – Floodplain Secondary Combining); E-2.5 RS FPS (Estate Residential – 2.5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining); E-2.5 RS MH FPS (Estate Residential – 2.5 acres Minimum – Residential Suburban Combining – Mobile Home Combining – Floodplain Secondary Combining); and OS (Open Space). Given that the zoning designation for the project site is A FPS (Exclusive Agriculture – Floodplain Secondary Combining); E-2.5 RS FPS (Estate Residential – 2.5 acres

Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-2.5 RS MH FPS (Estate Residential – 2.5 acres Minimum – Residential Suburban Combining – Mobile Home Combining – Floodplain Secondary Combining); and OS (Open Space) the project site would be developed in-accordance with those designations. The portions of the project site zoned as A would be developed with agricultural uses (approximately 315 acres), the portions of the project site zoned as E would be developed with single-family residential units (approximately 975 acres), and the portion of the project site zoned OS would be developed as open space (approximately 40 acres).

With implementation of Alternative 2, approval of eight (8) Conditional Use Permits (CUP) for construction and operation of commercial solar electrical generating facilities, an Amendment to the General Plan, Willow Springs Specific Plan, and Willow Springs Specific Plan Circulation Element, and removal of public easement vacations would not be required. No solar facilities would be developed under this alternative.

Alternative 3: Reduced Acreage Alternative

Under Alternative 3, the Reduced Acreage Alternative, the project's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would only be allowed on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would remain the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity due to the proportional reduction in project size. Similar to the proposed project, this alternative would require the approval of three (3) CUPs to allow for the construction and operation of 141 MW photovoltaic electrical generating facility with associated facilities on approximately 695 acres encompassed in Sites 1-3; approval of amendments to the Willow Springs Specific Plan to redesignate and rezone the sites with uses that allow for solar development; approval of amendments to the Willow Springs Specific Plan Circulation Element to eliminate various road reservations and mid-section lines; and approval of vacation of existing public access easements on the reduced project site. Decommissioning activities would be the similar as the proposed project but reduced proportionally with the decreased acreage of the reduced project site.

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 1,330 acres of total rooftop area) may be required to attain project's capacity of 291 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 291 MW of electricity, but it would be for on-site use only. This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater

availability of large, relatively flat roof areas necessary for efficient solar installations. Similar to the project, this alternative would be designed to operate year-round using PV panels to convert solar energy directly to electrical power. Power generated by such distributed solar PV systems would typically be consumed on-site by the commercial or industrial facility without requiring the construction of new electrical substation or transmission facilities. Decommissioning of this alternative would not be required. **Table 1-9**, *Summary of Development Alternatives*, provides a summary of the relative impacts and feasibility of each alternative.

1.7.3 Environmentally Superior Alternative

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, agriculture and forestry resources, and biological resources. Impacts related to GHG emissions would be greater under this alternative due to the lower efficiency of the distributed solar PV systems, which would not include solar tracking technology. This alternative could potentially result in greater impacts to land use and wildfire risks due to the numerous power lines that would be required to harness the distributed solar panel energy. In addition, this 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 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 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 291 MW of distributed solar generated electricity. In addition, this alternative would not achieve the project objective of assisting California load-serving entities in meeting their obligations under California's RPS Program. Nonetheless, because this alternative reduces impacts to a greater degree than the General Plan and Zoning Build-Out Alternative and Reduced Acreage Alternative, the No Ground-Mounted Utility-Solar Development Alternative is considered the Environmentally Superior Alternative.

1.8 Areas of Controversy

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

- Impacts to air quality;
- Impacts to biological resources;
- Impacts related to cultural resources;
- Impacts to hydrology and water quality;
- Impacts to transportation;
- Impacts to utilities and service systems (water supplies).

1.9 Issues to Be Resolved

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

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

1.10 Summary of Environmental Impacts and Mitigation Measures

Table 1-11, *Summary of Impacts, Mitigation Measures, and Levels 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.

`	Level of Significance Before		Level of Significance After
Impact	Mitigation	Mitigation Measures	Mitigation
4.1 Aesthetics Impact 4.1-1: The project would have a substantial adverse effect on a scenic vista.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.1-2: The project would substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.1-3: The project would, in nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage points) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.	Significant and unavoidable	 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 	Significant and unavoidable
		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	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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 a residence or parcels zoned for residential use, including E (Estate Residential), R-1 (Low-Density Residential), R-2 (Medium-Density Residential), R-3 (High-Density Residential), or PL (Platted Lands) zoning unless the adjacent property is owned by the project proponent (to be verified by the Kern County Planning and Natural Resources Department) or a public or private agency that has submitted correspondence to the Kern County Planning and Natural Resources Department requesting this requirement to be waived. Should the project proponent sell the adjacent property, slat fencing or similar view- screening materials shall be installed prior to the sale.	
		MM 4.1-3: 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	

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

	Level of Significance Before		Level of Significance After
Impact	Mitigation	Mitigation Measures d. Vegetation/ground cover shall be continuously maintained on the site by the project operator	Mitigation
		 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 	
Impact 4.1-4: The project would create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.	Potentially Significant	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 <i>Dark Skies Ordinance</i> (Chapter 19.81 of the Kern County Zoning Ordinance), and shall be designed to provide the minimum illumination needed to achieve safety and security objectives. All lighting shall be directed downward and shielded to focus illumination on the desired areas only and avoid light trespass into adjacent areas. Lenses and bulbs shall not be exposed or extend below the shields. MM 4.1-6: Prior to the issuance of building permits, the project proponent shall demonstrate the solar panels and hardware areas.	Less than Significant

 TABLE 1-11:
 Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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.	
Impact 4.1: Cumulative Impacts	Significant and unavoidable	Implement Mitigation Measures MM 4.1-1 through 4.1-7.	Significant and unavoidable
4.2 Agriculture and Forestry Resources			
Impact 4.2-1: The project would Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.2-2: The project would conflict with existing zoning for agricultural use or Williamson Act Contract.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.2-3: The project would 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 Measures MM 4.9-1 and 4.9-3.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.2-4: The project would result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code.	Potentially Significant	No feasible mitigation measures available	Significant and Unavoidable
Impact 4.2: Cumulative Impacts	Potentially Significant	No feasible mitigation measures available.	Significant and Unavoidable
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 NO_X 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. 	Less than significant
		e. Electric equipment shall be used to the extent feasible in lieu of diesel or gasoline-powered equipment.	

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

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		vehicle speed limits shall be posted along onsite roadways, at the site entrance/exit, and along unpaved site access roads.	
		c. 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.	
		d. 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, 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.	
		e. The amount of the disturbed area (e.g., grading, excavation) shall be reduced and/or phased where possible.	
		f. 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.	
		g. All clearing, grading, earth moving, and excavation activities shall cease during periods when dust plumes of 20 percent or	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact	,	greater opacity affect public roads or nearby occupied structures.	
		h. 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.	
		i. All active and inactive disturbed surface areas shall be stabilized, where feasible.	
		j. Equipment and vehicle access to disturbed areas shall be limited to only those vehicles necessary to complete the construction activities.	
		k. Where applicable, permanent dust control measures shall be implemented as soon as possible following completion of any soil-disturbing activities.	
		1. 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.	
		m. Water shall be applied prior to and during the demolition of onsite structures sufficient to minimize wind-blown dust.	
		n. 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.	
		o. All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least six inches of freeboard	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		(minimum vertical distance between top of the load and top of the trailer) in accordance with California Vehicle Code Section 23114.	
		p. 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.	
		q. Haul trucks and off-road equipment leaving the site shall be washed with water or high-pressure air, and/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.	
		r. 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.	
		s. 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.	
		t. 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	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		shall be provided to the EKAPCD Compliance Division prior to the start of any grading or earthwork.	
		 u. 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. v. 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	Implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2, as provided in Section 4.3, Air Quality, of this Draft EIR would be required.	Less than significant
		MM 4.3-3: 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.	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact	muguum	 c. The area immediately behind grading or trenching equipment shall be sprayed with water before ground workers move into the area. 	miguion
		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 <i>Coccidioides immitis</i> (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	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		respiratory protection program in accordance with Cal/OSHA's Respiratory Protection standard (8 CCR 5144).	
		 MM 4.3-4: 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 4.3-5: 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: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	Less than significant	No Mitigation Measures are required.	Less than significant
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	Potentially significant	Implementation of Mitigation Measures MM 4.3-1 through MM 4.3-5 is required.	Less than significant
Impact 4.3: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.3-1 through MM 4.3-5 is required.	Significant and unavoidable (Construction) Less than significant (Operation)

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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 speciel status species in local or regional	Potentially significant	Implementation of Mitigation Measures MM 4.1-4, MM 4.1-5, and MM 4.9-3, as provided in Sections 4.1, Aesthetics, 4.9, Hazards and Hazardous Materials, and 4.10 Hydrology and Water Ouality of this EIR, respectively.	Less than significant
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.		MM 4.4-1: Biological Monitoring. Prior to the issuance of grading or building permits and prior to decommissioning, the project operator shall retain a Lead Biologist who meets the qualifications of an Authorized Biologist as defined by U.S. Fish and Wildlife Service to oversee compliance with protection measures for all listed and other special-status species. The Lead Biologist shall be on the project site during construction of perimeter fencing and grading activities throughout the construction phase, and as-needed during decommissioning. The Lead Biologist shall have the right to halt all activities that are in violation of the special-status species protection measures. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk. The Lead Biologist shall have in her/his possession a copy of all the compliance measures and appropriate Plans while work is being conducted on the project site.	
		MM 4.4-2: Construction Worker Environmental Awareness Training and Education Program. Prior to the issuance of grading or building permits and for the duration of construction and decommissioning activities, within one week of employment all new construction workers at the project site, laydown area and/or transmission routes shall attend an Environmental Awareness Training and Education Program, developed and presented by the Lead Biologist. Any employee responsible for the operations and maintenance or decommissioning of the project facilities shall also attend the Environmental Awareness Training and Education Program.	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		The program shall include information on the life history of the alkali mariposa lily, burrowing owl, Swainson's hawk and other raptors, nesting birds, American badger, desert kit fox, as well as other wildlife and plant species that may be encountered during construction activities. The program shall also discuss the legal protection status of each species, the definition of "take" under the federal Endangered Species Act and California Endangered Species Act, measures the project operator is implementing to protect the species, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species, and penalties for violation of the federal Endangered Species Act or California Endangered Species Act.	
		a. An acknowledgement form signed by each worker indicating that Environmental Awareness Training and Education Program has been completed would be kept on record;	
		b. A sticker shall be placed on hard hats indicating that the worker has completed the Environmental Awareness Training and Education Program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker;	
		c. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the Environmental Awareness Training and Education Program and copies of the signed acknowledgement forms shall be submitted to the Kern County Planning and Community Development Department; and	
		 d. The construction crews and contractor(s) shall be responsible for unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits. 	

	Level of Significance Before		Level of Significance After
Impact	Mitigation	 Mitigation Measures e. An Operation and Maintenance-phase version of the WEAP will be maintained within the applicant's centralized O&M headquarters for all AV projects, located in the City of Lancaster, for review as may be necessary during the life of the project. 	Mitigation
		MM 4.4-3: Avoidance and Protection of Biological Resources. During construction, operations and maintenance, and decommissioning the project operator shall implement the following general avoidance and protective measures:	
		a. All proposed impact areas, including solar fields, staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging prior to construction to avoid natural resources where possible. Construction-related activities outside of the impact zone shall be avoided.	
		b. The project operator shall limit the areas of disturbance to the extent feasible. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.	
		c. Spoils shall be stockpiled in disturbed areas that lack native vegetation. Best management practices shall be employed to prevent erosion in accordance with the project's approved stormwater pollution prevention plan (SWPPP). All detected erosion shall be remedied within 2 days of discovery or as described in the SWPPP.	
		d. To prevent inadvertent entrapment of desert kit foxes, American badgers, or other wildlife during construction, all excavated, steep-walled holes or trenches more than 2 feet deep shall be covered with plywood or similar materials at the close of each working day, or provided with one or more	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		escape ramps constructed of earth fill or wooden planks. All holes and trenches, whether covered or not, shall be inspected for trapped wildlife at the start and end of each workday. Before such holes or trenches are filled, they shall be thoroughly inspected by the Lead Biologist or approved biological monitor for trapped wildlife. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape. If a listed species is found trapped, all work shall cease immediately. If the animal is apparently uninjured, then the Lead Biologist shall directly supervise the provision of escape structures and/or trench modification to allow the trapped animal to escape safely. Work shall not resume in the vicinity of the animal, and it shall be allowed to leave the work area and project site on its own. If the listed animal is injured, then the Lead Biologist or approved biological monitor shall immediately contact the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife to identify an individual with the appropriate permit or authorization to handle listed species, who shall bring the animal to a pre-identified wildlife rehabilitation or veterinary facility for care.	
		e. Burrowing owls, mammals, and nesting birds may use construction pipes, culverts, or similar structures for refuge or nesting. All towers shall be of the monopole variety and all hollow vertical structures, such as solar mount poles, or fencing poles, shall be capped immediately after installation to prevent bird entrapment. Therefore, all construction pipes, culverts, or similar structures with a diameter of 4 inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for special- status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		not be moved until the Lead Biologist has been consulted and the animal has either moved from the structure on its own accord (for listed species) or until the animal has been captured and relocated (for non-listed species) by the Lead Biologist. If the animal is a listed species, then work shall immediately halt in the vicinity, and the animal shall be allowed to move from the structure and the work area of its own accord. The Lead Biologist will direct work stoppages near the animal to allow it to freely move out of the pipe and away from the work area. Listed species shall not be handled or captured by anyone without the appropriate permit or authorization.	
		f. No vehicle or equipment parked on the project site shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of wildlife. If present, the animal shall be left to move on its own.	
		g. Vehicular traffic to and from the project site shall use existing routes of travel. Cross country vehicle and equipment use outside designated work areas shall be prohibited.	
		h. A speed limit of 15 miles per hour shall be enforced within the limits of the proposed project.	
		i. A long-term trash abatement program shall be established for construction, operations and maintenance, and decommissioning. Trash and food items shall be contained in closed containers and removed daily to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.	
		j. Workers shall be prohibited from bringing pets and firearms to the project area and from feeding wildlife.	
		 k. Intentional killing or collection of any plant or wildlife species shall be prohibited. 	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		 To enable kit foxes and other wildlife (e.g., American badger) to pass through the project site after construction, the security fence, and any permanent interior fencing shall be a wildlife friendly design that meets the goals of allowing wildlife to move freely through the project site during operation, leaving 4- to 7-inch openings or portals in the fence or the fence shall be raised 7 inches above the ground leaving a gap between the fence mesh and the ground. In the latter case the bottom of the fence fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife that passes under the fence. 	
		MM 4.4-4: Preconstruction Clearance Surveys. During construction and decommissioning, the Lead Biologist or approved biological monitor shall monitor all initial ground-disturbance activities and remain on-call throughout construction/decommissioning in the event a special-status species wanders into the project site.	
		Preconstruction surveys for special-status species shall be conducted within the project boundaries by the Lead Biologist or approved biological monitor within 14 days of the start of any vegetation clearing or grading activities. Methodology for preconstruction surveys shall be appropriate for each potentially occurring species-status species and shall follow U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife preconstruction survey guidelines where appropriate. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days of the portion of the project site being disturbed. The Lead Biologist may use a variety of approaches (including but not limited to monitoring, track plates, and direct observation) and evidence (including burrow characteristics and presence of sim	
		such as scat and tracks) to determine burrow activity. If any evidence of occupation of the project site special-status species is	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact	Mitigation	 Mitigation Measures observed, a buffer shall be established by a qualified biologist that results in sufficient avoidance, as described below. If desert tortoises are found onsite during subsequent surveys or biological monitoring activities, construction activities shall cease to avoid the potential for take and consultation with U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be initiated to obtain the necessary incidental take permit authorizations or provide evidence such a permit is not required: a. Desert kit fox or American badger potential den: 50 feet. b. Desert kit fox or American badger natal den: 500 feet. c. Desert kit fox or American badger natal den: 500 feet. d. If avoidance of the potential dens is not possible, the following measures are required to avoid potential adverse effects to the American badger and desert kit fox: e. If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent American badgers or desert kit foxes from re-using them during construction. f. If the qualified biologist determines that potential dens may be active, an onsite passive relocation program shall be implemented. This program shall consist of excluding American badgers or desert kit foxes from occupied burrows by installation of one-way doors at burrow entrances, monitoring of the burrow for 7 days to confirm usage has been discontinued, and excavation and collapse of the burrow to prevent reoccupation. After the qualified biologist determines that potential biologist determines that potentian biologist determines that potentian burrow to prevent reoccupation. After the qualified biologist determines that potentian biologist determines that potentian biologist determines by and with a shovel to prevent and the program shall consist of excluding American badgers or desert kit foxes from occupied burrows by installati	Mitigation
		during construction.	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		During fencing and grading activities daily monitoring reports shall be prepared by the monitoring biologists. The Lead Biologist shall prepare a summary monitoring report documenting the effectiveness and practicality of the protection measures that are in place and making recommendations for modifying the measures to enhance species protection, as needed. The report shall also provide information on the overall activities conducted related to biological resources, including the Environmental Awareness Training and Education Program, clearance/pre- activity surveys, monitoring activities, and any observed special- status species, including injuries and fatalities. These monitoring reports shall be submitted to the Kern County Planning and Community Development Department and relevant resource agencies, as applicable, on a monthly basis along with copies of all survey reports. MM 4.4-5: Preconstruction Desert Tortoise Surveys. Within 14 days prior to the commencement of any ground-disturbing activities, the project operator shall conduct preconstruction surveys for special-status and protected plant species within the project area, including but not limited to western Joshua trees and alkali mariposa lily. After the preconstruction survey determines the exact location of these species, if present, on the project site and the number of individuals or populations present the project	
		proponent/operator shall submit written documentation to the Kern County Planning and Natural Resources Department confirming implementation of the measures described below.	
		a. The project proponent/operator shall work with a qualified biologist to determine presence of and identify all known locations of western Joshua tree and alkali mariposa lily to establish "avoidance areas". All special-status plants found within the project site shall be avoided by a buffer of 25 feet through micro-siting activities. Sturdy, highly visible, orange plastic construction fencing (or equivalent material verified by	
Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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Impact	migation	the authorized biologist) shall be installed around all locations of detected special-status plants to protect from impacts during the construction phase, until they can be relocated. The fence shall be securely staked and installed in a durable manner that would be reasonably expected to withstand wind and weather events and last at least through the construction period. Fencing shall be removed upon completion of the project construction.	mugation
		b. All alkali mariposa lilies that cannot feasibly be avoided in final project design shall have bulbs collected prior to construction. Additionally, a transplantation plan for alkali mariposa lily will be submitted and approved by the County prior to ground disturbance and bulb collection. The plan will include the following:	
		1. Identify an area of occupied habitat to be preserved and removed;	
		2. Identify areas of onsite or offsite preservation, restoration, or enhancement locations;	
		3. Methods for preservation, restoration, enhancement, and/or translocation	
		4. Indicate a replacement ratio and success standard of 1:1 for impacted individuals	
		5. Establish a monitoring program to ensure mitigation success	
		6. Create an adaptive management and remedial measures in the event that performance standards are not achieved	
		 Ensure financial assurances and a mechanism for conservation of any mitigation lands required in perpetuity. 	
		c. Temporary ground disturbance associated with the gen-tie lines or collector lines shall be recontoured to natural grade (if	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		the grade was modified during the temporary disturbance activity), and revegetated with an application of a native seed mix prior to or during seasonal rains to promote passive restoration of the area to pre-project conditions. However, if invasive plant species were present, these species would not be restored. An area subjected to temporary ground disturbance means any area that is disturbed but will not be subjected to further disturbance as part of the project. This does not include areas already designated as urban/developed. Prior to seeding temporary ground disturbance areas, the qualified biologist will review the seeding palette to ensure that no seeding of invasive plant species, as identified in the most recent version of the California Invasive Plant Inventory for the region, will occur.	
		d. The project operator shall correspond with the County to determine what is needed for project compliance with the Willow Springs Specific Plan.	
		MM 4.4-6: Preconstruction Burrowing Owl Surveys. A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct preconstruction surveys of the permanent and temporary impact areas to locate active breeding or wintering burrowing owl burrows no fewer than 14 days prior to ground-disturbing activities (i.e., vegetation clearance, grading, tilling). The survey methodology shall be consistent with the methods outlined in the 2012 California Department of Fish and Wildlife (CDFW) Staff Report on Burrowing Owl Mitigation and shall consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls. Surveys may be conducted concurrently with the preconstruction clearance surveys. As each burrow is investigated, surveying biologists shall also look for signs of American baddeer and desett kit for	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Copies of the survey results shall be submitted to CDFW and the Kern County Planning and Community Development Department.	
		If burrowing owls are detected onsite, no ground-disturbing activities shall be permitted within a buffer of no fewer than 100 meters (330 feet) from an active burrow during the breeding season (i.e., February 1 to August 31), unless otherwise authorized by CDFW. During the non-breeding (winter) season (i.e., September 1 to January 31), ground-disturbing work can proceed as long as the work occurs no closer than 50 meters (165 feet) from the burrow. Depending on the level of disturbance, a smaller buffer may be established in consultation with CDFW.	
		If burrow avoidance is infeasible during the non-breeding season or during the breeding season (February 1 through August 31) where resident owls have not yet begun egg laying or incubation, or where the juveniles are foraging independently and capable of independent survival, a qualified biologist shall implement a passive relocation program in accordance with Appendix E1 (i.e., Example Components for Burrowing Owl Artificial Burrow and Exclusion Plans) of the 2012 CDFW Staff Report on Burrowing Owl Mitigation.	
		If passive relocation is required, a qualified biologist shall prepare a Burrowing Owl Exclusion and Mitigation Plan and a Mitigation Land Management Plan in accordance with the 2012 CDFW Staff Report on Burrowing Owl Mitigation, for review by CDFW prior to passive relocation activities. The Mitigation Land Management Plan shall include a requirement for the permanent conservation of offsite Burrowing Owl Passive Relocation Compensatory Mitigation. At a minimum, the following recommendations shall be implemented:	

Level of Significar Before Impact Mitigatio	ce Mitigation Measures	Level of Significance After Mitigation
	a. Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions including decompacting soil and revegetating.	
	b. Permanent impacts to nesting, occupied and satellite burrows and/or burrowing owl habitat shall be mitigated such that the habitat acreage, number of burrows and burrowing owl impacted are replaced based on a site-specific analysis and shall include permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non- breeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals.	
	c. Permanently protect mitigation land through a conservation easement, deed restriction, or similar mechanism deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a CDFW-approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits. Land identified to mitigate for passive relocation of burrowing owl may be combined with other offsite mitigation requirements of the proposed project if the compensatory habitat is deemed suitable to support the species.	
	MM 4.4-7: Nesting Birds and Raptors. If construction is scheduled to commence during the non-nesting season (i.e., September 1 to January 31), no preconstruction surveys or additional measures are required. To avoid impacts to nesting birds in the project area, a qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitat within the project site for construction activities that are initiated	

 TABLE 1-11:
 Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		during the breeding season (i.e., February 1 to August 31). The raptor survey shall focus on potential nest sites (e.g., cliffs, large trees, windrows) within a 0.5-mile buffer around the project site. Surveys shall be conducted no more than 14 days prior to construction activities. Surveys need not be conducted for the entire project site at one time; they may be phased so that surveys occur shortly before a portion of the project site is disturbed. The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. If active nests are found, a suitable buffer (e.g., 200–300 feet for common raptors; 0.5 mile for Swainson's hawk; 30–50 feet for passerine species) shall be established around active nests and no construction within the buffer allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). For non-listed species, consultation with CDFW shall occur prior to encroachment into the aforementioned buffers.	
		MM 4.4-8: Swainson's Hawk Monitoring and Mitigation Plan. The project proponent/operator shall be required to prepare and implement a Swainson's Hawk Monitoring and Mitigation Plan in consultation 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 by CDFW and the County and shall include the following in order to avoid and minimize impacts to Swainson's hawks in and near the project site:	
		a. If a nest site is found, design the project site to allow sufficient foraging and fledgling area to maintain the nest site.	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		b. During the nesting season, ensure no new disturbances, habitat conversions, or other project-related activities that may cause nest abandonment or forced fledgling occur 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.	
		c. Do 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.	
		d. 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 outside of normal business hours. Notify the appropriate personnel via telephone or email, followed by a written incident report. Include the date, time, location, and circumstances of the incident in reports.	
		e. Plan will focus on providing habitat management (HM) lands. Lands which are currently in urban use or lands that have no existing or potential value for foraging Swainson's hawks will not require mitigation nor would they be suitable for mitigation. The plans should call for mitigating loss of Swainson's hawk foraging habitat by providing HM lands within the Antelope Valley Swainson's hawk breeding range	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		 at a minimum 1:1 ratio for such habitat impacted within a 5-mile radius of active Swainson's hawk nest(s). The Department considers a nest active if it was used one or more times within the last 5 years. Project developers may consider delegating responsibilities for acquisition and management of the HM lands to the Department or a third party, such as a nongovernmental organization dedicated to Mojave Desert habitat conservation. Seek approval of such delegations from the Department and the appropriate lead agency. Approaches for acquisition and management of HM lands include the following: 1. HM Land Selection Criteria. 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. Review and Approval of HM Lands Prior to Acquisition. 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. 	
		 Land Acquisition Schedule and Financial Assurances. Complete acquisition of proposed HM lands before initiating ground-disturbing project activities. If an irrevocable letter of credit or other form of security is provided, complete land acquisition within 12 months prior to beginning ground-disturbing project activities. Provide financial assurances for dedicating adequate funding for impact avoidance, minimization and 	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		 compensation measures required for project approval (see 3. d. below). 4. HM Lands Acquisition. Be prepared to provide a preliminary title report, initial hazardous materials survey report, biological analysis, at a minimum to the Department and the appropriate lead agency. 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 	
		MM 4.4-9: APLIC Compliance. 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	

TABLE 1-11:	SUMMARY OF IMPACTS	, MITIGATION MEASURES,	AND LEVELS OF SIGNIFICANCE
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Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Reducing Avian Collisions with Power Lines: The State of the Art in 2012 (APLIC 2012), or any superseding document issued by APLIC.	
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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	Potentially significant	 Implementation of Mitigation Measure 4.10-1, as provided in Section 4.10, Hydrology and Water Quality, of this Draft EIR. MM 4.4-10: Prior to issuance of any grading or building permit, the project proponent/operator shall submit a final Jurisdictional Delineation report. A copy of this report shall also be provided to the Lahontan Regional Water Quality Control Board (RWQCB), CDFW, and the County. The report shall include information as shown below as a plan if necessary and shall outline compliance to the following: a. Delineation of all jurisdictional features at the project site. Potential jurisdictional features (ephemeral drainages) within the project boundary identified in the jurisdictional delineation report that are not anticipated to be directly impacted by project related activities shall be avoided. This may be shown in plan form. b. Any material/spoils generated from project activities shall be located away from jurisdictional areas or special-status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate. c. Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from 	Less than significant
		d. Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned and any	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative will be notified.	
		MM 4.4-11: Prior to ground disturbance activities that would impact aquatic features, the project proponent/operator shall be subject to provisions as identified below:	
		a. 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 streambed alteration agreement. Copies of reports shall be submitted to the County.	
		b. 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.	
		c. Compensatory mitigation for impacts to unvegetated streambeds/washes shall be identified prior to disturbance of the features at a minimum 1:1 ratio, as approved by the RWQCB or CDFW either through onsite or offsite mitigation, or purchasing credits from an approved mitigation bank.	
		d. The project proponent/operator shall comply with the compensatory mitigation required and proof of compliance, along with copies of permits obtained from RWQCB and/or CDFW, which shall be provided to the County.	
		e. 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	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After 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 offsite, mitigation lands shall be comprised of similar or higher quality and preferably located in Kern County. Offsite land shall be preserved through a deed restriction or conservation easement and the HMMP shall identify an approach for funding assurance for the long-term management of the conserved land. Alternatively, the applicant may purchase credits from an approved mitigation bank. 4. Copies of any coordination, permits, etc., with RWQCB and CDFW shall be provided to the County. 	
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.	No Impact	No mitigation would be required.	No Impact
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	Implementation of Mitigation Measures MM 4.1-4 through MM 4.1-6 is required, as provided in Section 4.1, Aesthetics, of this Draft EIR.	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	Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-5 is required.MM 4.4-12: Prior to the issuance of a grading permit, the project proponent/operator shall develop a Joshua Tree Preservation Plan.	Less than Significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		The Plan shall be prepared by a qualified biologist pre-approved by Kern County and shall be approved by the appropriate agencies, including Kern County, prior to implementation. At a minimum, the plan shall include the following:	
		a. The plan shall identify the methods utilized, as applicable, that the project is taking to comply with any CDFW CESA take requirements and compensatory mitigation related to the protection or mitigation of impacted Joshua Trees and documentation of any such CDFW take authorization and mitigation shall be provided to the Kern County Planning and Natural Resources Department.	
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.	No Impact	No mitigation would be required.	No Impact
Impact 4.4: Cumulative Impacts	Significant and unavoidable	Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-12 would be required.	Significant and unavoidable
		Additionally, Implementation of Mitigation Measures MM 4.1-4 through MM 4.1-6, MM 4.9-3 and MM 4.10-1, as provided in Sections 4.1, Aesthetics, 4.9, Hazards and Hazardous Materials, and 4.10 Hydrology and Water Quality of this EIR, respectively, would be required.	
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 <i>Guidelines</i> 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	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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 shall conduct a Cultural Resources Sensitivity Training for all personnel working on the proposed project. A Cultural Resources Sensitivity Training Guide approved by the Lead Archaeologist shall be provided 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. 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 monitor(s) for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources. 	
		b. A copy of the Cultural Resources Sensitivity Training Guide/Materials shall be kept on-site and available for all personnel to review and be familiar with as necessary. It is the responsibility of the Lead Archaeologist to ensure all employees receive appropriate training before the work on- site.	
		MM 4.5-2: Prior to this issuance of any grading or building permit, the project operator shall submit to the Kern County	

• · ·	Level of Significance Before		Level of Significance After
Impact	Mitigation	Mitigation Measures	Mitigation
		Planning and Natural Resources Department a Cultural Resources Treatment Plan. The plan shall:	
		a) Provide an overview of best management practices to be utilized during construction activities to ensure protection of cultural resources.	
		b) Outline the process for evaluation of any unanticipated cultural discoveries during project construction activities.	
		MM 4.5-3: During implementation of the project, in the event archaeological materials are encountered during the course of grading or construction, the project contractor shall cease any ground disturbing activities within 50 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 50-foot radius from the location of discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area and all entrance to the area shall be avoided until the discovery is assessed by the Lead Archaeologist, as well as Native American representatives affiliated with the project site vicinity. The Lead Archaeologist in consultation with Native American representatives, shall evaluate the significance of the resources and recommend appropriate treatment measures. If further treatment of the discovery is necessary, the Environmentally Sensitive Area shall remain in place until all work is completed. Per California Environmental Quality Act Guidelines (CEQA) 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 Section $15126.4(b)(3)(C)$, if it is demonstrated that resources cannot be avoided, the Lead	
		Archaeologist in consultation with Native American representatives shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The County shall consult with	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. Diagnostic archaeological materials with research potential recovered during any investigation shall be curated at an accredited curation facility. The Lead Archaeologist, in consultation with a designated Native American monitor, shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to the southern San Joaquin Valley Information Center at California State University, Bakersfield.	
Impact 4.5-2: The project would cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA <i>Guidelines</i> Section 15064.5.	Potentially significant	Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-3 is required.	Less than significant
Impact 4.5-3: The project would disturb any human remains, including those interred outside of formal cemeteries.	Potentially significant	MM 4.5-4: If human remains are uncovered during project construction, the project contractor shall immediately halt work within 100 ft. of the find, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.4 (e)(1) of the California Environmental Quality Act Guidelines. If the County Coroner determines that the remains are Native American, the coroner shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by Assembly Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendent for the remains per Public Resources Code 5097.98. Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located,	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. If the remains are determined to be neither of forensic value to the Coroner, nor of Native American origin, provisions of the California Health and Safety Code (7100 et. seq.) directing identification of the next-of-kin will apply.	
Impact 4.5: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4 is required.	Less than significant
4.6 Energy			
Impact 4.6-1: The project would result in a less than significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.6-2: The project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.6: Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant
4.7 Geology and Soils			
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 measures are required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.7-2: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: strong seismic ground shaking.	Potentially Significant	MM 4.7-1: Prior to the issuance of building or grading permits for the project, the project proponent shall conduct a full geotechnical study to evaluate soil conditions and geologic hazards on the project site and submit it to the Kern County Public Works Department for review and approval.	Less than significant
		a. The geotechnical study must be signed by a California- registered and licensed professional geotechnical engineer or engineering geologist and must include, but not be limited to, the following:	
		1. Location of fault traces and potential for surface rupture and ground shaking potential;	
		2. Maximum considered earthquake and associated ground acceleration for design;	
		3. Potential for seismically induced liquefaction, landslides, differential settlement, and unstable soils;	
		4. Stability of any existing or proposed cut-and-fill slopes;	
		5. Collapsible or expansive soils;	
		6. Foundation material type;	
		7. Potential for wind erosion, water erosion, sedimentation, and flooding;	
		8. Location and description of unprotected drainage that could be impacted by the proposed development; and,	
		9. 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.	
		c. The Kern County Public Works Department shall evaluate any final facility siting design developed prior to the issuance of	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		any building or grading permits to verify that geological constraints have been avoided or mitigated.	
		MM 4.7-2: Prior to the issuance of grading permits, the project proponent shall retain a California registered and licensed geotechnical engineer to design the project facilities to withstand probable seismically induced ground shaking at the site. All grading and construction onsite shall adhere to the specifications, procedures, and site conditions contained in the final design plans, which shall be fully compliant with the seismic recommendations of the California-registered professional engineer.	
		a. The procedures and site conditions shall encompass site preparation, foundation specifications, and protection measures for buried metal.	
		b. The final structural design shall be subject to approval and follow-up inspection by the Kern County Building Inspection Department. Final design requirements shall be provided to the onsite construction supervisor and the Kern County Building Inspector to ensure compliance. A copy of the approved design shall be submitted to the Kern County Planning and Natural Resources Department.	
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.	Less than Significant	No mitigation measures are required.	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: substantial soil erosion or the loss of topsoil.	Potentially Significant	MM 4.7-3: The construction contractor shall incorporate Best Management Practices consistent with the National Pollutant Discharge Elimination System General Construction Permit Program for all construction projects that would not retain all stormwater onsite and the Kern County Grading Code. The project proponent shall prepare an Erosion and Sedimentation Control Plan as well as a Stormwater Pollution Prevention Plan.	Less than Significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		The Stormwater Pollution Prevention Plan shall be prepared by a Qualified Stormwater Pollution Prevention Plan Developer and submitted for review and approval by the applicable Regional Water Quality Control Board. The Stormwater Pollution Prevention Plan Best Management Practices shall include, but not be limited to, the following:	
		a. Scheduling to avoid ground disturbance during rain events to the maximum extent possible	
		b. Preservation of existing vegetation and topography to the maximum extent practicable	
		c. Stabilized construction entrances and exits	
		d. Erosion control (including all pertinent temporary erosion control practices as specified in Chapter 17.28.140 of the Kern County Grading Code), such as mulching, temporary drains and cullies, sandbag barrier, geotextiles and mats, silt fences, brush or rock filters, earth dikes, straw bale barriers, and sediment traps	
		e. Sediment control	
		f. Waste management	
		g. Good housekeeping	
		h. Post-construction site stabilization	
		i. Prior to initial construction mobilization, preconstruction surveys shall be performed and sediment and erosion controls shall be installed in accordance with the approved Stormwater Pollution Prevention Plan. A copy of the approved Stormwater Pollution Prevention Plan shall be submitted to the Kern County Planning and Natural Resources Department.	
		MM 4.7-4: The project proponent shall limit grading to the minimum area necessary for construction. Prior to the initiation of construction, the project proponent shall retain a California	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		registered and licensed professional engineer to submit final grading earthwork and foundation plans to the Kern County Public Works for approval.	
Impact 4.7-5: 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-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	Potentially Significant	Implementation of Mitigation Measures MM 4.7-1 is required.	Less than Significant
Impact 4.7-6: The project would be located on expansive soils creating substantial direct or indirect risks to life or property.	Potentially Significant	Implementation of Mitigation Measures MM 4.7-1 is required.	Less than Significant
Impact 4.7-7: The project would 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.	No impact	No mitigation measures are required.	No impact
Impact 4.7-8: The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Potentially Significant	MM 4.7-5: The project proponent shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology's Professional Standards (SVP, 2010), to carry out all mitigation measures related to paleontological resources.	Less than Significant
		a. Prior to the start of any ground disturbing activities, the qualified paleontologist shall conduct a Paleontological Resources Awareness Training program for all construction personnel working on the project. A Paleontological Resources Awareness Training Guide approved by the qualified paleontologist shall be provided to all personnel. A copy of the Paleontological Resources Awareness Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form.	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact	Miligation	 b. Paleontological Resources Awareness Training may be conducted in conjunction with other awareness training requirements. 	Mitigation
		c. The training shall include an overview of potential paleontological resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified paleontologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of paleontological resources.	
		d. The Paleontological Resources Awareness Training Guides shall be kept onsite and available for all personnel to review and be familiar with as necessary.	
		MM 4.7-6: A qualified paleontologist or designated monitor shall monitor all ground-disturbing activity (with the exception of vibratory or hydraulic installation of tracking or mounting structures and foundations or supports) that occurs at a depth of 12 feet or deeper below ground surface in areas mapped as younger Quaternary alluvium and for all ground disturbance within the mapped older Quaternary Alluvium.	
		a. The duration and timing of monitoring shall be determined by the qualified paleontologist in consultation with the Kern County Planning and Natural Resources Department, and shall be based on a review of geologic maps and grading plans.	
		 During the course of monitoring, if the paleontologist can demonstrate based on observations of subsurface conditions that the level of monitoring should be reduced, the paleontologist, in consultation with the Kern County Planning and Natural Resources Department, may adjust the level of monitoring to circumstances, as warranted. 	
		b. Paleontological monitoring shall include inspection of exposed rock units during active excavations within sensitive	

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

TABLE 1-11:	SUMMARY OF IMPACTS,	MITIGATION MEASURES,	AND LEVELS OF SIGNIFICANCE
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	Lovel of		Lavel of
	Significance Before		Significance After
Impact	Mitigation	Mitigation Measures	Mitigation
4.8 Greenhouse Gases			
Impact 4.8-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than Significant	No mitigation measures are required.	Less than Significant
Impact 4.8-2: The project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gas.	Less than Significant	No mitigation measures are required.	Less than Significant
Impact 4.8: Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant
4.9 Hazards and Hazardous Materials			
Impact 4.9-1: The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Potentially Significant	 Implementation of Mitigation Measure MM 4.16-1 as provided in Section 4.16, Utilities and Service Systems, of this EIR, would be required. MM 4.9-1: Prior to the issuance of grading or building permits, the project proponent shall prepare a hazardous materials business plan and submit it to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval. a. The hazardous materials business plan shall: Delineate hazardous material and hazardous waste storage areas. Describe proper handling, storage, transport, and disposal techniques. Describe methods to be used to avoid spills and minimize impacts in the event of a spill. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction. 	Less than Significant

	Level of Significance Before		Level of Significance After
Impact	Mitigation	Mitigation Measures	Mitigation
		5. Establish public and agency notification procedures for spills and other emergencies, including fires.	
		6. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site.	
		b. The project proponent shall provide the hazardous materials business plan to all contractors working on the project and shall ensure that one copy is available at the project site at all times.	
		c. A copy of the approved hazardous materials business plan shall be submitted to the Kern County Planning and Natural Resources Department.	
Impact 4.9-2: The project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions	Potentially Significant	Implementation of Mitigation Measures MM 4.9-1 and MM 4.16- 1 as provided in Section 4.16, Utilities and Service Systems, of this EIR, would be required.	Less than Significant
involving the release of hazardous materials into the environment.		MM 4.9-2: The project proponent shall continuously comply with the following:	
		a. The construction contractor or project personnel shall use herbicides that are approved by the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service 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	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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.	
Impact 4.9-3: The project would emit hazardous emissions or involves handling hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school.	No impact	No mitigation measures are required.	No impact
Impact 4.9-4: The project would be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.	No impact	No mitigation measures are required.	No impact
Impact 4.9-5: The project would result in a safety hazard or excessive noise for people residing or working in the project area, for a project located within the adopted Kern County Airport Land Use Plan.	No impact	No mitigation measures are required.	No impact

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Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.9-6: The project would impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan	Less than Significant	Implementation of Mitigation Measure MM 4.14-1 would be required as provided in Section 4.14, <i>Transportation</i> , of this Draft EIR.	Less than Significant
Impact 4.9-7: The project would expose people or structures either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	Potentially significant	Implementation of Mitigation Measure MM 4.13-1 would be required as provided in Section 4.13, <i>Public Services</i> , of this Draft EIR.	Less than Significant
 Impact 4.9-8: The project would generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, the proposed project would not exceed the following qualitative threshold: the presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the proposed project is significant when the applicable enforcement agency determines that any of the vectors: i. occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; or ii. are associated with design, layout, and management of proposed project operations; or iii. disseminate widely from the property; or iv. cause detrimental effects on the public health or well-being of the majority of the surrounding population. 	Less than Significant	No mitigation measures are required.	Less than Significant
Impact 4.9: Cumulative Impacts	Potentially Significant	Implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.13-1, MM 4.14-1, and MM 4.16-1 are required, as provided in Sections 4.9, Hazards and Hazardous Materials, 4.13, Public Services, 4.14, Transportation, and 4.16, Utilities and Service Systems of this EIR, respectively.	Less than Significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.10 Hydrology and Water Quality			
Impact 4.10-1: The project would violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality.	Potentially Significant	Implementation of Mitigation Measure MM 4.9-1 as provided in Section 4.9, Hazards and Hazardous Materials, of this EIR is required.	Less than Significant
		MM 4.10-1: Prior to issuance of a grading permit, the project proponent/operator shall submit a Stormwater Pollution Prevention Plan (SWPPP) for review and approval by the Kern County Planning and Natural Resources Department and/or Kern County Public Works Department. The SWPPP shall be designed to minimize runoff and shall specify best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sediment or any other pollutants from moving offsite and into receiving waters. The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Recommended best management practices to be incorporated in the SWPPP may include the following:	
		a. Minimization of vegetation removal;	
		b. Implementing sediment controls, including silt fences a necessary;	
		c. Installation of a stabilized construction entrance/exit and stabilization of disturbed areas;	
		d. Properly containing and disposing of hazardous materials used for construction onsite;	
		e. Properly covering stockpiled soils to prevent wind erosion;	
		f. Proper protections and containment for fueling and maintenance of equipment and vehicles; and	
		g. Appropriate disposal of demolition debris, concrete and soil, and aggressively controlling litter.	
		h. Cleanup of silt and mud on adjacent street due to construction activity.	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact	Miligation	i Checking all lined and unlined ditches after each rainfall	Miligation
		 j. Restore all erosion control devices to working order to the satisfaction of the Kern County Planning and Natural Resources Department and/or Kern County Public Works Department after each rainfall run-off. 	
		k. Install additional erosion control measures as may be required due to uncompleted grading operations or unforeseen circumstances which may arise.	
		MM 4.10-2: Prior to the issuance of a grading permit, the project proponent/operator shall complete a hydrologic study and final drainage plan designed to evaluate and minimize potential increases in runoff from the project site. The study and plan shall include 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. An assessment of the 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 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 on-site or off-site.	
		d. A specification that the final design of the solar arrays shall include 1 foot of freeboard clearance above the calculated maximum flood depths for the solar arrays or the finished	

 TABLE 1-11:
 Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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 (1) foot or as required by Kern County's Floodplain Ordinance.	
		e. The hydrologic study and drainage plan shall be prepared in accordance with the Kern County Grading Code and Kern County Development Standards, and approved by the Kern County Public Works Department prior to the issuance of grading permits.	
Impact 4.10-2: The project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	Less than Significant	No mitigation measures are required.	Less than Significant
Impact 4.10-3: The project would substantially alter the existing drainage patterns of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion and/or sedimentation on-site or off-site.	Potentially Significant	Implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2 is required.	Less than Significant
Impact 4.10-4: The project would substantially alter the existing drainage patterns of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff which would result in flooding on- or off site.	Potentially Significant	Implementation of Mitigation Measure MM 4.10-2 is required.	Less than Significant

TABLE 1-11:	SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE
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Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.10-5: The project would create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.	Less than Significant	Implementation of Mitigation Measure MM 4.10-2 is required.	Less than Significant
Impact 4.10-6: The project would be placed within a 100-year flood hazard area structures that would impede or redirect flood flows.	Potentially Significant	Implementation of Mitigation Measure MM 4.10-2 is required.	Less than Significant
Impact 4.10-7: The project would contribute to inundation by a flood hazard, tsunami, or seiche zones, that would result in risk of release of pollutants.	Potentially Significant	Implementation of Mitigation Measure MM 4.10-2 is required.	Less than Significant
Impact 4.10-8: The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Less than Significant	No mitigation measures are required.	Less than Significant
Impact 4.10: Cumulative Impacts	Potentially Significant	Implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2 are required. Additionally, implementation of Mitigation Measure MM 4.9-1, as provided in Section 4.9, Hazards and Hazardous Materials, of this Draft EIR would be required.	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 measures are required.	Less than significant
Impact 4.11-2: The project would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	Less than significant	No mitigation measures are required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.11: Cumulative Impacts	Potentially significant	 MM 4.11-1: Prior to issuance of any building permit, the project operator shall provide a Decommission Plan for review and approval by the Kern County Public Works Department or a County-contracted consulting firm at a cost to be borne by the project operator. The Decommission Plan shall factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from removal of support structures, and control of fugitive dust on the remaining undeveloped land. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations. The assumption, when preparing the estimate, is that the project operator is incapable of performing the work or has abandoned the solar facility, thereby requiring Kern County to hire an independent contractor to perform the decommissioning work. In addition to submitting a Decommission Plan, the project operator shall post or establish and maintain financial assurances with Kern County related to the 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 by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department. 	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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 a consecutive period of twelve 12 months that portion of the site shall be deemed abandoned and shall be removed within sixty (60) days from the date a written notice is sent to the property owner and solar field owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project operator may provide the director of the Kern County Planning and Natural Resources Department a written request and justification for an extension for an additional twelve (12) months. The Kern County Planning and Natural Resources Director shall consider any such request at a Director's Hearing as provided for in Section 19.102.070 of the Kern County Zoning Ordinance. In no case shall a solar field that has been deemed abandoned be permitted to remain in place for more than forty-eight (48) months from the date, the solar facility was first deemed abandoned.	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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 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. 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 further protection and activities for market area from north result and uses 	Significant and unavoidable (Construction) Less than significant (Operation)
		To the extent possible, staging and laydown areas should be located at least 500 feet of 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	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		d) Haul trucks shall not be allowed to idle for periods greater than five minutes, except as needed to perform a specified function (e.g., concrete mixing).	
		e) Onsite vehicle speeds shall be limited to 15 miles per hour, or less (except in cases of emergency).	
		f) Back-up beepers for all construction equipment and vehicles shall be broadband sound alarms or adjusted to the lowest noise levels possible, provided that the Occupational Safety and Health Administration and California Division of Occupational Safety and Health's safety requirements are not violated. On vehicles where back-up beepers are not available, alternative safety measures such as escorts and spotters shall be employed.	
		MM 4.12-2: 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 to 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	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		posted at the construction site throughout construction, which includes the same details as the notices.	
		MM 4.12-4: The project shall be designed to ensure that operational noise levels at nearby sensitive receptors, depending on their location within or outside of the WSSP area, would not exceed the applicable WSSP or County noise standards. Techniques that can be incorporated into the BESS design to achieve compliance with the applicable noise standards may include, but are not limited to, the following:	
		• Place HVAC units on the far side of the BESS containers relative to the nearest off-site sensitive receptors to allow the containers to act as a barrier to provide noise attenuation.	
		• Erect permanent noise barriers of sufficient height to attenuate noise levels from the BESS containers.	
		• Provide a sufficient buffer distance between the BESS containers and the nearest off-site receptor.	
		• The adequacy of the selected noise control technique(s) shall be demonstrated in an acoustical study submitted to and approved by the County prior to the issuance of building permits.	
Impact 4.12-2: The project would generate excessive groundborne vibration or groundborne noise levels.	Less than significant	No mitigation measures are 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.	Potentially significant	Implementation of Mitigation Measure MM 4.12-4 would be required	Less than significant
Impact 4.12-4: 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.	Less than significant	No mitigation measures are required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.12: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.12-1 through MM 4.12-4 would be required.	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 maintain acceptable service ratios, response times, or other performance objectives for fire protection services or law enforcement protection services.	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
		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.	
Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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		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	
		1. 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.	
		2. The map for either the total project or a phase shall calculate the Cumulative Impact Charge (CIC) net acreage as follows:	
		i Total gross acreage (Phase)	
		ii Total acres for Operations and Maintenance building permanent accessory improvements	
		iii Total acres for Energy Storage structure and permanent accessory improvements	
		iv Total acres of recorded easements	
		3. Formula: Net Acreage = $2(i)$ minus the sum of $[2(ii) + 2(iii) + 2(iv)]$.	
		4. Temporary storage areas or non-permanent commercial coaches or cargo containers for construction or operations are not eligible for inclusion under 2(ii) or 2(iii), above.	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
	8	5. All areas of buildings, accessory improvements and easement used in the calculations shall be shown on the submitted Phase Map.	
		6. 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)	
		1. 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.	
		2. 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.	
		3. 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. If the project is sold to a city, county, or utility company with assessed taxes that total less than \$3,000 per megawatt per year, then a Supplemental Cumulative Impact Charge (SCIC) shall be paid for the difference annually up to \$3,000 per megawatt. The SCIC payments shall be made annually directly to the County Administrative Office Fiscal	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact	Mitigation	 Mitigation Measures 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. 	Mitigation
Impact 4.13: Cumulative Impacts	Potentially	 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. Implementation of Mitigation Measures MM 4.13-1 through 	Less than

TABLE 1-11: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.14 Transportation			
Impact 4.14-1: The project would conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.14-2: The project would conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).	Less than significant	No mitigation measures are 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	 MM 4.14-1: Prior to the issuance of construction or building permits, the project proponent/operator shall: a. Prepare and submit a Construction Traffic Control Plan to Kern County Public Works Department- Development Review and the California Department of Transportation offices for District 9, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues: 1. Timing of deliveries of heavy equipment and building materials; 2. Directing construction traffic with a flag person; 3. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic; 4. Ensuring access for emergency vehicles to the project sites; 	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		 Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections; 	
		6. Maintaining access to adjacent property; and,	
		7. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hours.	
		b. Obtain all necessary encroachment permits for the work within the road right-of-way or use of oversized/overweight vehicles that will utilize county maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Natural Resources Department, the Kern County Public Works Department- Development Review, and the California Department of Transportation.	
		c. Enter into a secured agreement with Kern County to ensure that any County roads that are demonstrably damaged by project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the State and/or Kern County.	
		d. Submit documentation that identifies the roads to be used during construction. The project proponent/operator shall be responsible for repairing any damage to non- county maintained roads that may result from construction activities. The project proponent/operator shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Kern County Public Work Department-Development Review and the Kern County Planning and Natural Resources Department.	
		e. Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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 4.14-4: The project would result in inadequate emergency access.	Potentially significant	Implementation of Mitigation Measure MM 4.14-1 is required.	Less than significant
Impact 4.14: Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant
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).	Less than significant	No mitigation measures are required.	Less than significant
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	Less than significant	No mitigation measures are required.	Less than significant

TABLE 1-11: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.			
Impact 4.15: Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant
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	Implementation of Mitigation Measure MM 4.10-1 as provided in Section 4.10, Hydrology and Water Quality, of this Draft EIR would be required.	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 measures are required.	Less than significant
Impact 4.16-3: 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. A Recycling Coordinator shall be designated by the project proponent/operator to facilitate recycling as part of the Construction, Operation and Maintenance, and Decommissioning, Trash Abatement and Pest Management Program. b. The Recycling Coordinator shall facilitate recycling of all 	Less than significant
		construction waste through coordination with contractors,	

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
	8	local waste haulers, and/or other facilities that recycle construction/demolition wastes.	8
		c. The 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 and decommissioning. A site plan showing the recycling storage area for construction shall be submitted prior to the issuance of any grading or building permit for the site.	
Impact 4.16-4: The project would not comply with Federal, State, and Local management and reduction statutes and regulations related to solid waste.	Potentially significant	Implementation of Mitigation Measure MM 4.16-1 would be required.	Less than significant
Impact 4.16: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.10-1, as provided in Section 4.10, Hydrology and Water Quality, of this Draft EIR, and MM 4.16-1 would be required.	Less than significant
4.17 Wildfire			
Impact 4.17-1: The project would substantially impair an adopted emergency response plan or emergency evacuation plan.	Less than significant	No mitigation measures are required.	Less than significant

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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 measures are 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 4.13-1 as provided in Section 4.13, Public Services, of this Draft EIR would be required.	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 instability, or drainage changes.	Potentially Significant	Implement Mitigation Measure 4.10-1 as provided in Section 4.10, Hydrology and Water Quality, of this Draft EIR is required.	Less than significant
Impact 4.17: Cumulative Impacts	Potentially Significant	Implement Mitigation Measures MM 4.10-1 as provided in Section 4.10, Hydrology and Water Quality, and MM 4.13-1 as provided in Section 4.13, Public Services, of this Draft EIR would be required.	Significant and unavoidable

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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 Raceway 2.0 Solar Project (project). The project is located on approximately 1,330-acres and would generate a combined 291 megawatts (MW) (alternating current or "AC") of renewable electrical energy and/or energy storage capacity in the form of advanced energy battery storage units.

The project site encompasses a study area of privately owned land in unincorporated Kern County. The proposed project consists of six (6) discontinuous sites, each of which would contain solar and energy storage facilities, which together would comprise the project site (i.e. Raceway 2.0 Solar 1, Raceway 2.0 Solar 2, Raceway 2.0 Solar 3, Raceway 2.0 Solar 4, Raceway 2.0 Solar 5, and Raceway 2.0 Solar 6.). As Lead Agency, the County of Kern will be considering the privately owned parcels during consideration of this project.

The proposed project includes several options for generation tie (gen-tie) routes (gen-tie line Option 1A and 1B, Option 2, Option 3, or Option 4), although only one route would be constructed. Gen-tie Option 1A would exit the project boundary heading southwest would interconnect at a previously approved collector substation located at the approximate intersection of 100th Street West and Avenue G-12 (further north of Avenue H) in the City of Lancaster, via Avenue A and 100th Street West and would connect into the existing Big Sky Substation (owned and operated by the applicant), which is located along West Avenue J and 100th Street West in the City of Lancaster. Gen-tie Option 1B would interconnect at a previously approved collector substation located at the approximate intersection of 100th Street West and Avenue G-12 in the City of Lancaster, via 90th Street heading south to Avenue A-8, then west to 95th Street, then south to Avenue B, and west to 100th Street West to connect into the existing Big Sky Substation. Gen-tie Option 2 would interconnect at a previously approved collector substation located at the approximate intersection of 100th Street West and Avenue G-12 in the City of Lancaster, via Avenue A and 110th Street West to connect into the existing Big Sky Substation. Gen-tie Option 3 would interconnect at a previously approved collector substation located at the approximate intersection of 100th Street West and Avenue G-12 in the City of Lancaster, via Avenue A and 80th Street West. Gen-tie Option 4 would interconnect at a planned LADWP substation in Kern County, located northwest of the project site, along Rosamond Boulevard near the intersection of Rosamond Boulevard and 110th Street West. This LADWP proposed substation is currently in the design phase and is scheduled to be built and constructed by 2019 or 2020.

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 decisionmakers 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 projectlevel EIR will analyze the environmental impacts of the project. The Kern County Planning Commission and Board of Supervisors will consider the information in the EIR, including the public comments and staff response to those comments, during the public hearing process. The final decision is made by the Board of Supervisors, who may approve, conditionally approve, or deny the project. The purpose of an EIR is to identify:

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

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

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

2.2.1 Issues to Be Resolved

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

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

2.3 Terminology

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

- *Project* means the whole of an action that has the potential for resulting in a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.
- *Environment* refers to the physical conditions that exist in the area and that would be affected by a proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved is where significant direct or indirect impacts would occur as a result of the project. The environment includes both natural and man-made (artificial) conditions.
- *Impacts* analyzed under CEQA must be related to a physical change. Impacts are:
 - Direct or primary impacts that would be caused by the project and would occur at the same time and place; or
 - Indirect or secondary impacts that would be caused by the project and would be later in time or farther removed in distance, but would still be reasonably foreseeable. Indirect or secondary impacts may include growth-inducing impacts and other effects related to induced changes in the pattern of land use; population density or growth rate; and related effects on air and water and other natural systems, including ecosystems.
- *Significant impact on the environment* means a substantial, or potentially substantial, adverse change in any of the physical conditions in the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. An economic or social change by itself is not considered a significant impact on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.
- *Mitigation* consists of measures that avoid or substantially reduce the project's significant environmental impacts by:
 - Avoiding the impact altogether by not taking a certain action or parts of an action;
 - Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
 - Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
 - Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or
 - Compensating for the impact by replacing or providing substitute resources or environments.
- *Cumulative impacts* are two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts. The following statements also apply when considering cumulative impacts:
 - The individual impacts may be changes resulting from a single project or separate projects.
 - The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor, but collectively significant projects taking place over time.

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

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

2.4 Decision-Making Process

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

- Initial Study/Notice of Preparation (IS/NOP). Kern County prepared and circulated a IS/NOP for 30 days to responsible, trustee, and local agencies for review and comment beginning on July, 1, 2020, and ending on July, 31, 2020.
- **Draft EIR Preparation/Notice of Completion (NOC).** A Draft EIR is prepared, incorporating public and agency responses to the IS/NOP and the scoping process. The Draft EIR is circulated for review and comment to appropriate agencies and additional individuals and interest groups who have requested to be notified of EIR projects. Per Section 15105 of the CEQA *Guidelines*, Kern County will provide for a 45-day public review period on the Draft EIR. Kern County will subsequently respond to each comment on the Draft EIR received in writing through a Response to Comments chapter in the Final EIR. The Response to Comments will be provided to each agency or person who provided written comments on the EIR a minimum of 10 business days before the scheduled Planning Commission hearing on the Final EIR and project.
- **Preparation and Certification of Final EIR.** The Kern County Planning Commission will consider the Final EIR and the project, acting in an advisory capacity to the Kern County Board of Supervisors. Upon receipt of the Planning Commission's recommendation, the Board of Supervisors will also consider the Final EIR, all public comments, and the project and take final action on the project. At least one public hearing will be held by both the Planning Commission and Board of Supervisors to consider the Final EIR, take public testimony, and then approve, conditionally approve, or deny the project.

2.4.1 Initial Study/Notice of Preparation

Pursuant to Section 15082 of the CEQA *Guidelines*, as amended, the Kern County Planning and Natural Resources Department circulated an IS/NOP to the State Clearinghouse, public agencies, special districts,

and members of the public for a public review period beginning July 1, 2020 and ending on July 31, 2020. The IS/NOP was also posted in the Kern County Clerk's office for 30 days and sent to the State Clearinghouse at the Governor's Office of Planning and Research to solicit Statewide agency participation in determining the scope of the EIR.

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

2.4.2 Scoping Meeting

Pursuant to 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. In compliance with the Governor's Executive Order, the California Department of Public Health's guidelines on gatherings regarding COVID-19, and Kern County Local Emergency Declaration, Kern County hosted a virtual scoping meeting on July 17, 2020. In compliance with the Governor's Executive Order, the California Department of Public Health's guidelines on gatherings regarding COVID-19, and Kern County Local Emergency Declaration, Kern County Local Emergency Declaration, the scoping meeting required by the CEQA Guidelines was conducted online.

Initial Study/Notice of Preparation and Scoping Meeting Results

The online July 17, 2020 scoping meeting did not result in public comment. However, there were specific environmental concerns raised in written comments received during the IS/NOP public review period and are discussed below. The IS/NOP and all comments received are included in Appendix A, along with the Summary of Proceedings from the Scoping Meeting.

NOP Written Comments

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

Commenter/Date	Summary of Comment
State Agencies	
State Clearinghouse	The commenter acknowledges the receipt of the NOP.
July 1, 2020	

 TABLE 2-1:
 SUMMARY OF IS/NOP COMMENTS

Commenter/Date	Summary of Comment
Native American Heritage Commission (NAHC) July 3, 2020	The commenter states that the proposed project should comply with Senate Bill (SB) 18 and Assembly Bill (AB) 52, contact CA Native American Tribes and their representatives that are within the geographic area of the project and conduct consultations in accordance with SB 18 and AB 52, evaluate if the project will have an adverse impact on historical resources within the project area, contact appropriate regional archaeological information center for a record search, prepare an archaeological inventory survey (if required), contact the Native American Heritage Commission, and include mitigation measures for inadvertent discoveries of archaeological resources.
The California Department of Transportation (Caltrans), District 9 July 24, 2020	The commenter suggests that as part of the environmental analysis and potential impacts on the roadway system from construction related trips, the proposed project should analyze adequacy of the Avenue A/State Route (SR) 14 intersection, SR-138, and the need for a traffic management plan. The commenter also suggests that the project review and meet (if required) the requirement for a Caltrans encroachment permit for work within State right of way, which would potentially apply to the gen-tie crossing over SR- 138 in District 7.
Local	
Kern County Public Works Department July 22, 2020	The commenter states that a traffic engineering study should be provided to the Kern County Public Works Department for review and comment.
Antelope Valley – East Kern Water Agency (AVEK) July 27, 2020	The commenter states that AVEK does have an underground transmission pipelines running east through two easements in front of Sites 2 and 3 of the project site. Additionally, AVEK has an underground transmission pipeline running north on the east side of Site 4 and then turns east and runs in front of Site 5 of the proposed project. AVEK expresses concern for the integrity of their transmission pipelines and requests information on how the protection of those pipes during construction and during regular operations would be guaranteed. Additionally, AVEK requests to be contacted in order to obtain an agreement to cross their easements.
Interested Parties	
California Unions for Reliable Energy (CURE) July 8, 2020	The commenter requests for mailed notice of the availability of any environmental review document, prepared pursuant to CEQA, related to the proposed project, of any and all hearings and/or actions related to the proposed project and a copy of the environmental review document when it is made available for public review.
Kern Audubon Society July 29, 2020	The commenter recommends the environmental analysis to identify and evaluate potential adverse impacts to protected wildlife that may utilize the existing project site. The commenter suggests a biological site evaluation to be performed by a qualified biological consultant using the appropriate survey protocols as established by both state and federal wildlife agencies, such as time of year to discern wildlife activities for the eco-region. Additionally, the commenter expresses concern over undeveloped areas that have potential to support desert kit fox, American badger, Western burrowing owl, Swainson's hawk, Mohave ground squirrel, and desert tortoise.

TABLE 2-1: SUMMARY OF IS/NOP COMMENTS

Commenter/Date	Summary of Comment
National Audubon Society July 31, 2020	The commenter recommends the environmental analysis to fully evaluate the project impacts on species of birds in the Antelope Valley prioritizing endangered and threatened or California Species of Special Concern under federal Endangered Species Act or state California Endangered Species Act. The commenter lists Swainson's hawk, Tricolored Blackbird, Burrowing Owl and LeConte's Thrasher as species known to occur in the area. The commenter recommends utilizing the data from protocol surveys recommended in <i>Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California by State of California Energy Commission and Department of Fish and Game, June 2, 2010</i> as well as data on Swainson's hawks active nests within 5 miles of the proposed project and the foraging habitat within that five-mile radius.
Antelope Acres Town Council July 31, 2020	The commenter expresses opposition to the proposed project's generation tie (gen-tie) Options 1A, 1B and Option 2 and states that project implementation would result in an increased disturbance of surrounding properties and suggests that gen-tie Option 4 be adopted. Additionally, the commenter asks that the Antelope Acres Town Council be added to the mailing list.
Ronald Strange July 27, 2020	The commenter objects to the proposed project based on the proposed project design in proximity to the commenter's property and states that project implementation would result in decreased property value. In addition, the commenter questions the economic and employment benefits of the proposed project to the citizens of Rosamond.

TABLE 2-1:SUMMARY OF IS/NOP COMMENTS

2.4.3 Availability of the Draft EIR

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

Kern County Planning and Natural Resources Department 2700 "M" Street, Suite 100 Bakersfield, CA 93301-2370 Phone: (661) 862-8600, Fax: (661) 862-8601

This EIR is also available on the Kern County Planning and Natural Resources Department website: http://www.co.kern.ca.us/planning/eirs.asp.

Additionally, this EIR is available at the following libraries:

Kern County Library/Beale Local History Room 701 Truxtun Avenue Bakersfield, CA 93301 Kern County Library Mojave Branch 16916 ½ Highway 14, Space D2 Mojave, CA 93501

2.5 Format and Content

This EIR addresses the potential environmental effects of the project and was prepared following input from the public and responsible and affected agencies, and through the EIR scoping process, as discussed previously. The contents of this EIR were based on the findings in the IS/NOP, and public and agency input. Based on the findings of the IS/NOP, a determination was made that an EIR was required to address potentially significant environmental effects on the following resources:

- Aesthetics;
- Agriculture and Forest Resources;
- Air Quality;
- Biological Resources;
- Cultural Resources;
- Energy;
- Geology and Soils;
- Greenhouse Gas Emissions;

- Hydrology and Water Quality;
- Land Use and Planning;
- Noise;
- Public Services;
- Transportation;
- Tribal Cultural Resources;
- Utilities and Service Systems; and
- Wildfires.
- Hazards and Hazardous Materials;

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

- Mineral Resources;
- Population and Housing;
- Recreation

The IS/NOP determined that the proposed project area does not contain mineral resources of regional or statewide significance, nor is the project site designated by the Kern County General Plan or Willow Springs Specific Plan for mineral resources activities; therefore, the project would not have an impact on mineral resources. The proposed project would not include any permanent employees as the operations and maintenance buildings would be remotely operated. Maintenance personnel would be expected to visit the project site several times per year for routine maintenance, but they would likely be drawn from the local labor force and would commute from their permanent residences to the project site during those times. Construction workers are expected to travel to the project site from various local communities, such as Rosamond, Mojave, Lancaster or other local towns and the majority would likely come from the existing labor pool. The number of workers anticipated to relocate to the area is not expected to be substantial. If temporary housing should be necessary, it is expected that accommodations would be available in the nearby hotels in Rosamond, Mojave, Lancaster, or other local towns. Consequently, this would represent a minor increase in the number of users at local recreational facilities. As a result, the project would not directly or indirectly induce the development of any new housing or businesses, and there would not be a detectable increase in the use of parks or other recreational facilities. No impacts to mineral resources or recreation would occur and no further analysis is warranted.

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

2.5.1 Required EIR Content and Organization

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

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

TABLE 2-2:REQUIRED EIR CONTENTS

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 decisionmaking process, organization of the EIR, and a responsible and trustee agency list.
- Chapter 3, *Project Description*, provides a description of the location, characteristics, and objectives of the projects, and the relationship of the projects to other plans and policies associated with the project.
- Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, contains a detailed environmental analysis of the existing conditions, projects impacts, mitigation measures, and cumulative impacts.

- Chapter 5, *Consequences of Project Implementation*, presents an analysis of the project's cumulative and growth-inducing impacts and other CEQA requirements, including significant and unavoidable impacts and irreversible commitment of resources.
- Chapter 6, *Alternatives*, describes a reasonable range of alternatives to the projects that could reduce the significant environmental effects that cannot be avoided.
- Chapter 7, *Responses to Comments*, is reserved for responses to comments on the Draft EIR.
- Chapter 8, *Organizations and Persons Consulted*, lists the organizations and persons contacted during preparation of this EIR.
- Chapter 9, *Preparers*, identifies persons involved in the preparation of the EIR.
- Chapter 10, *Bibliography*, identifies reference sources for the EIR.
- *Appendices* provide information and technical studies that support the environmental analysis contained within the EIR.

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

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

2.6 Responsible and Trustee Agencies

Projects or actions undertaken by the lead agency, in this case the Kern County Planning and Natural Resources Department, may require subsequent oversight, approvals, or permits from other public agencies in order to be implemented. Other such agencies are referred to as "responsible agencies" and "trustee agencies." Pursuant to 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:

2.6.1 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)

2.6.2 State Agencies

- Governor's Office of Planning and Research (OPR)
- California Energy Commission (CEC)
- California Air Resources Board (CARB)
- 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)

2.6.3 Local Agencies

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

2.6.4 Kern County

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

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.

2.7.1 Kern County General Plan

The Kern County General Plan is a policy document with land use maps and related information that are designed to give long-range guidance to those County officials making decisions affecting the growth and resources of the unincorporated Kern County jurisdiction, excluding the metropolitan Bakersfield planning area. This document, adopted on June 14, 2004, and last amended on September 22, 2009, helps ensure that day-to-day decisions conform to the long-range program designed to protect and further the public interest as related to Kern County's growth and development and mitigate environmental impacts. The Kern County General Plan also serves as a guide to the private sector of the economy in relating its development initiatives to the public plans, objectives, and policies of the County.

2.7.2 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.

2.7.3 Kern County Zoning Ordinance

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

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

2.7.4 Regional Transportation Plan

The latest Regional Transportation Plan (RTP) was prepared by the Kern Council of Governments (COG), and was adopted 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.

2.7.5 Kern County Airport Land Use Compatibility Plan

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

The ALUCP identifies policies and compatibility criteria for influence zones or planning area boundaries. The ALUCP maps and labels these 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.

2.8 Sources

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

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3.1 Introduction

This Environmental Impact Report (EIR) has been prepared by Kern County (County), which is the Lead Agency, to identify and evaluate potential environmental impacts associated with the construction and operation of the approximately 1,330-acre Raceway 2.0 Solar Project (project) proposed by sPower Development Company, LLC (project proponent/operator). The project proposes to develop a photovoltaic (PV) solar facility and associated infrastructure necessary to generate a combined 291 megawatts (MW) of renewable electrical energy and/or energy storage capacity in the form of advanced energy battery storage units.

The proposed project consists of six (6) discontinuous sites, each of which would contain solar and energy storage facilities, which together would comprise the project site (i.e. Raceway 2.0 Solar 1, Raceway 2.0 Solar 2, Raceway 2.0 Solar 3, Raceway 2.0 Solar 4, Raceway 2.0 Solar 5, and Raceway 2.0 Solar 6.). The Raceway 2.0 Solar 1 site is approximately 95 acres and would contain 15 MW of renewable energy generating solar facilities and associated structures, the Raceway 2.0 Solar 2 site is approximately 90 acres and would contain 20 MW of renewable energy generating solar facilities and associated structures, the Raceway 2.0 Solar 3 site is approximately 510 acres and would contain 106 MW of renewable energy generating solar facilities and associated structures, the Raceway 2.0 Solar 4 is site is approximately 315 acres and would contain 70 MW of renewable energy generating solar facilities and associated structures, the Raceway 2.0 Solar 5 site is approximately 240 acres and would contain 60 MW of renewable energy generating solar facilities and associated structures, and the Raceway 2.0 Solar 6 site is approximately 80 acres and would contain 20 MW of renewable energy generating solar facilities and associated structures. The project proponent proposes the project be built all at once as a single, 291-MW facility or, alternatively, developed as six independent facilities, depending upon market conditions. The power generated by the proposed project would be interconnected to an existing transmission network. The project has four interconnection options, as further described in Section 3.7, Project Characteristics. In addition, the proposed project would include the construction of generation tie (gen-tie) line with four options (Option 1A and 1B, Option 2, Option 3, or Option 4) to interconnect the proposed project to the existing Southern California Edison (SCE) transmission system.

3.2 Project Location

The project is located in the unincorporated area of eastern Kern County in Central California, as shown in **Figure 3-1**, *Project Site Vicinity*. The project site is approximately 14 miles south of State Route 58 (SR-58) and approximately 4 miles west of SR-14, which are both four-lane highways. Paved and unpaved roadways, generally following section lines, are found throughout the area. The nearest populated areas to the project site are the unincorporated community of Mojave, the unincorporated community of Rosamond, and the City of Tehachapi, which are approximately 13 miles northeast, 5.5 miles east, and 25 miles northwest of the project site, respectively.

The proposed project is in the western extent of the Mojave Desert near Rosamond, California between Rosamond Boulevard and Avenue A, and between 70th Street West and 90th Street West. Land uses in the region include a mix of undeveloped land, agriculture, residential, recreational, and renewable energy projects (solar and wind). Desert vegetation dominates the project site and region. Topography across the project site is relatively flat as the site is located on the bajada of the Tehachapi Mountains, which is an overlapping of alluvial fans with southern trending slope. The project site is bounded by Rosamond Boulevard to the north, open space to the east and the west, and the Los Angeles County boundary along West Avenue A to the south, adjacent to the southernmost portion of the project site. The project would be accessed off of SR-58 and SR-14. The various project sites would be accessed from gates along Avenue A, Gaskell Road, 90th Street West, Willow Avenue and or 80th Street West, Gaskell Road and/or 80th Street West, and 70th Street West.

The proposed site can be found within United States Geological Survey (USGS) Sections 20, 21, 28, 29, and 32, Township 9 North, Range 13 West, San Bernardino Base and Meridian (SBB&M). As shown in **Figure 3-2**, *Project Site*, depicts the project boundaries. The proposed project is located on privately–owned land. The Assessor Parcel Numbers (APNs) are summarized in **Table 3-1**, *Project Assessor Parcel Numbers, Corresponding Map Codes, Zoning & Acreage*. **Table 3-2**, *Kern County APNs for Generation Tie Lines*, summarizes the APNs for the four gen-tie line options within Kern County. **Tables 3-3** through **3-5** below, detail the Los Angeles County assessor's parcel numbers for property where the gen-tie line route would be installed, should the project be connected to the Big Sky North Substation near the City of Lancaster in Los Angeles County or a future Los Angeles Department of Water and Power (LADWP) substation.

The proposed project is in the eastern high desert region of unincorporated Kern County and within the jurisdictional boundaries of the Willow Springs Specific Plan and the Kern County Zoning Ordinance.

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KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT RACEWAY SOLAR PROJECT



2021

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Figure 3-2: PROJECT SITE



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT RACEWAY SOLAR PROJECT



3-4

2021

Site	Megawatts (MW)	APNs	Willow Springs Specific Plan Map Code Designation	Zoning	Acres
Raceway Solar 1	15	374-020-42, 374-020-40, 370- 020-47, 370-020-48	7.1/4.4; 7.2/4.4; 7.2	E (2.5) RS MH FPS	95
Raceway Solar 2	20	374-250-04, 374-020-55	7.1/4.4; 7.2/4.4; 5.5/2.85; 5.6; 7.1; 7.2	E (2.5) RS FPS and E (2.5); RS MH FPS	90
Raceway Solar 3	106	374-210-08, 374-011-13, 374-250-03, 374-250-01, 374-250-09, 374-250-08	5.5; 5.6; 5.6/2.85; 7.1/4.4; 7.2/4.4; 7.1;7.2	E (2.5) RS FPS	510
Raceway Solar 4	70	374-011-04, 374-011-11	5.5; 5.6; 5.6/2.85	A FPS; E (2.5)	315
Raceway Solar 5	60	374-440-01, 374-440-02, 374-440-03, 374-440-04, 374-440-05, 374-440-06, 374-440-07, 374-440-08, 374-011-08	5.3; 5.3/4.4; 5.3/2.85/4.4; 5.4; 5.5; 5.6/2.85	E (2.5) RS MH FPS and E (2.5) RS FPS	240
Raceway Solar 6	20	374-011-07	5.3/4.4; 5.4/2.85; 5.6/2.85; 7.1	OS, E (2.5) RS FPS	80
Total Megawatts	291	Proposed Solar Project Total Acreage			1,330

TABLE 3-1: PROJECT ASSESSOR PARCEL NUMBERS, CORRESPONDING MAP CODES, ZONING, & ACREAGE

Megawatts		Willow Springs Specific Plan Map Code		
Site (MW)	APNs	Designation	Zoning	Acres
Willow Springs Specific Plan Map Co	ode Designations Physical Constrain	ts Overlay		
5.3 = Residential, Maximum 10 units/	net acre 2.8 = Military Flig	ht Operations		
5.4 = Residential, Maximum 4 units/n	et acre 2.85 = Noise Mana	agement Area		
5.5 = Residential, Maximum 1 units/n	et acre			
5.6 = Residential, Maximum 2.5 gross	s acres/unit			
7.1 = Light Industrial	Kern County Zone	Districts		
7.2 = Service Industrial	A = (Exclusive Ag	riculture) MH = Mobile Home Combini	ng	
4.4 = Comprehensive Plan Required	E(2.5) = Estate(2	.5 acre minimum) FPS = Floodplain Combining	5	
	RS = Residential S	Suburban Combining OS = Open Space		

TABLE 3-1: PROJECT ASSESSOR PARCEL NUMBERS, CORRESPONDING MAP CODES, ZONING, & ACREAGE

TABLE 3-2: KERN COUNTY APNS FOR GENERATION TIE LINES

90th Street West an	nd Rosamond Blvd.		80th Street West	100th Street West & Ave A	110th Street West & Ave A	West Ave A
252-152-25	374-051-14	374-042-39	374-020-53	374-020-40	359-032-08	374-020-38
252-152-26	374-051-15	374-051-01	374-020-55	374-020-46	359-032-13	374-020-49
252-152-27	374-052-15	374-071-23	374-121-01	374-290-01	359-032-14	374-020-50
252-152-28	374-052-16	374-071-25	374-121-16	374-303-01	359-032-17	374-020-53
252-152-29	374-061-01	374-071-28	374-121-17	374-303-02	359-032-27	374-122-25
252-152-30	374-061-02	374-082-03	374-121-32	374-321-05	359-032-28	374-122-26
252-152-31	374-061-03	374-082-08	374-122-01	374-321-06	374-020-40	374-122-27
252-152-32	374-061-04	374-210-01	374-122-16	374-322-01	374-020-46	374-122-28
252-331-15	374-061-05	374-210-04	374-122-17	374-322-04	374-290-01	374-122-29
252-352-05	374-061-07	374-210-08	374-122-32	374-322-05	374-303-01	374-122-30
252-352-22	374-061-08	374-210-12		374-322-08	374-303-02	374-122-31
252-352-23	374-061-09	374-210-14		374-450-08	374-321-05	374-122-32

90th Street West a	nd Rosamond Blvd.	80th Street West	100th Street West & Ave A	110th Street West & Ave A	West Ave A
252-352-24	374-061-10		374-450-09	374-321-06	374-132-25
252-352-33	374-061-12		374-450-13	374-322-01	374-132-26
358-030-21	374-061-14			374-322-04	374-132-27
359-051-22	374-061-16			374-322-05	374-132-28
359-051-24	374-061-17			374-322-08	374-132-29
359-051-25	374-061-18			374-450-08	374-132-30
359-051-26	374-061-19			374-450-09	374-132-31
359-051-27	374-061-21			374-450-13	374-132-32
359-051-28	374-062-01				374-142-25
359-051-29	374-062-03				374-142-26
359-051-31	374-062-21				374-142-27
374-041-32	374-062-22				374-142-28
374-041-33	374-071-01				374-142-29
374-041-34	374-071-05				374-142-30
374-041-35	374-071-08				374-142-31
374-042-01	374-071-14				374-142-32
374-042-02	374-071-16				375-020-01
374-042-03	374-071-17				
374-042-04	374-071-18				
374-042-07					
374-042-08					

TABLE 3-2: KERN COUNTY APNS FOR GENERATION TIE LINES

3268001001 3268019099 3219015001 3220007070 322015054 3233002047 3233015017 3229009010 3268001004 3268019086 3220001028 3220007127 3220022040 3233002042 3233015032 3229007026 3268001006 3219009011 3220001025 3220007157 3220022041 3233002049 3233013024 322906066 3268001005 3219010012 3220001027 3220007158 3220022042 3233002049 323301801 3229006016 3268001005 3219010013 3220004036 3220011008 3229006012 3233005007 323301801 3229008013 3268003001 3219010016 3220004035 3220011001 3229006013 3233004025 3233018016 3223019019 3268003002 3219010016 3220004035 3220011025 3223004025 3233018017 3233012019 3268003001 3268019086 3220004035 3220011025 323004026 3233018017 3233012026 3268003002 3219010011 3220005037 3220011025 3233004026						,		
3268001004 3268019086 3220001028 3220007127 3220022040 3233002042 3233015032 3229007026 3268001006 3219009011 3220001024 3220007146 3220022043 3233002037 3233013022 3229008031 3268001005 3219010012 3220001027 3220007157 3220022042 3233002048 3233018021 3229006016 3268001005 3219010013 3220004036 322001108 3229008029 3233005007 3233018032 3229014002 3268003010 321909014 322004037 322001109 3229006012 3233005008 3233019019 3229014003 3268003020 3219010016 322004035 3220011024 3229006014 3233005008 323301918 3233004036 3268003002 3219010016 3220004035 322011025 3229008012 3233004026 323301901 3233004036 3268003002 321901001 322000537 322011025 3229008012 3233008004 323301901 3233012026 3268007002 3219010013 322000537 32201102	3268001001	3268019099	3219015001	3220007070	3220015054	3233002047	3233015017	3229009010
3268001006 3219009011 3220001024 3220007146 322002043 3233002037 3233013022 3229008031 3268003025 3219009010 3220001025 3220007157 322002041 3233002049 3233013024 3229006066 3268001005 3219010012 3220001027 322007158 322002042 3233002048 3233018021 3229006016 3268001036 3219010013 3220004036 3220011008 3229008029 3233005007 3233018016 3229014002 3268003010 3219010016 3220014038 322001101 3229006013 3233005009 3233018016 3229014003 3268003021 3268019096 3220014035 3220011024 3229006013 3233004026 3233018017 3233002019 326800302 3219009011 322000536 3220011025 3223008012 3233018017 3233012026 3268007002 3219009011 322000536 322001026 323300800 323301901 3233012026 3268007002 3219009011 3220005037 322001202 3233008001 3233020	3268001004	3268019086	3220001028	3220007127	3220022040	3233002042	3233015032	3229007026
3268003025 3219009010 3220001025 3220007157 322002041 3233002049 3233013024 3229006006 3268001005 3219010012 3220001027 3220007158 322002042 3233002048 3233018021 3229006016 3268001036 3219010013 3220004036 3220011009 3229006012 3233005007 3233018016 3229014002 3268003010 3219010016 3220014037 322001101 3229006013 3233005009 3233019019 3229014003 3268003020 3219010016 3220014035 322001102 3229006013 3233004025 3233018017 3233002019 326800302 3219009011 3220005035 3220011025 3229008012 3233004026 3233018017 323300206 3268007002 3219009011 3220005036 322001020 3233008004 3233019001 323301902 3268007002 321901012 3220005037 322001202 3233008001 323302017 321901702 3268017002 3219010013 3220005038 3220011025 323008001 32330202	3268001006	3219009011	3220001024	3220007146	3220022043	3233002037	3233013022	3229008031
3268001005 3219010012 3220001027 3220007158 3220022042 3233002048 3233018001 3229006016 3268001036 3219010013 3220004036 3220011009 3229006012 3233005007 3233018032 3229014002 3268003020 3219010016 3220004037 3220011001 3229006013 3233005009 3233019019 3229014002 3268003020 3219010016 3220004035 3220011032 3229006013 3233004025 3233019018 3233002019 3268003030 3268019086 3220005035 3220011024 3229006015 3233004026 3233019001 3233012026 3268007001 3219009010 3220005037 3220012001 3229006015 3233008004 3233019034 3233019002 3268007002 3219010012 3220012002 3229008030 3233022017 3219017022 3268007003 3219010013 3220006027 322001202 3223008003 3233022017 3219011012 3268017002 3219010016 3220012043 3229010012 3233002003 3233022016	3268003025	3219009010	3220001025	3220007157	3220022041	3233002049	3233013024	3229006006
3268001036 3219010013 322004036 3220011008 322908029 3233005007 3233018032 3229008013 3268003010 3219009014 322004037 3220011009 3229006012 3233005008 3233018016 3229014002 3268003020 3219010016 322004038 3220011032 3229006013 3233005009 3233019018 322300219 326800302 3268019099 3220004035 3220011024 3229008012 3233004025 3233019018 323301206 3268005002 321909011 322005036 3220011025 3229008012 3233008004 3233019001 323301902 3268007001 3219009010 322005037 322001202 322900803 3233008002 323302001 3213019002 3268007002 3219010012 3220016025 322001202 322900803 3233008001 3233022017 3219017022 3268007003 3219010013 3220006024 322001202 323300803 3233022017 3219011012 326801702 3219010016 3220001024 3229010013 3233022032 <th>3268001005</th> <td>3219010012</td> <td>3220001027</td> <td>3220007158</td> <td>3220022042</td> <td>3233002048</td> <td>3233018001</td> <td>3229006016</td>	3268001005	3219010012	3220001027	3220007158	3220022042	3233002048	3233018001	3229006016
3268003010 3219009014 3220004037 3220011009 3229006012 323305008 3233018016 3229014002 3268003020 3219010016 3220004038 3220011032 3229006013 323305009 3233019019 3229014003 3268003021 3268019099 3220004035 3220011032 3229006014 323304025 3233018017 3233004036 3268003030 3268019086 3220005035 322011024 3229008012 3233004026 3233019001 3233012026 3268005002 3219009011 3220005037 3220012001 3229006015 3233008004 3233019034 3233019002 3268007002 3219010012 3220006025 322011020 3229008030 3233008001 3233022011 3219017022 3268007003 3219010013 3220006026 3220011035 3229010012 3233008001 3233022017 3219011012 3268017002 3219010016 3220006027 3220011035 3229010013 3233009008 3233022012 3219026001 326801703 3219001016 322000704 32	3268001036	3219010013	3220004036	3220011008	3229008029	3233005007	3233018032	3229008013
3268003020 3219010016 3220004038 3220011001 3223005009 3233019019 3229014003 3268003021 3268019099 3220004035 3220011032 3229006014 3233004025 3233019018 3233002019 3268003030 3268019086 3220005035 3220011024 3229009009 3233014026 323301901 3233012026 3268005002 3219009011 3220005037 322001201 3229006015 323308004 3233012034 3233019002 3268007002 3219010012 3220006025 3220012002 3229008030 3233008004 3233022017 3219017022 3268007003 3219010013 3220006026 3220011036 3229010012 3233088001 3233022017 3219011012 3268017002 3219009014 3220006024 3220011035 3229010012 3233009008 3233022016 3219011013 326801703 3219010016 3220006027 3220012043 3229010024 3233009009 3219009009 3265024007 326801703 321900901 3220007044 322001204 32	3268003010	3219009014	3220004037	3220011009	3229006012	3233005008	3233018016	3229014002
32680030213268019099322004035322001103232290060143233040253233019018323300201932680030303268019086322005035322001102432290090093233004026323301801732330403632680050023219009011322000503732200120013229008012323300800432330190013233012026326800700132190090103220006025322001200232290080153233008004323302201132190170223268007003321901011232200602632201103632290090263233008001323302201732190110123268017002321900901432200602432200110353229010012323300800332330220163219011013326801703321901001632200050383220012043322901001332330090083233022032321902600132680170332680190863220070043220012045322901002432330090093219009009326502400732680170033219009011322000704832200120443229011010323301202532680103432680170033219009011322000705232200120443229011003233012025326801034326801700332190090113220007052322001204132230120103233012025322001600632680170033219009011322000705232200120413223012025323012025322001600632680170033219009011322000705232200120413230120253220016006322001606632680170033219010013322000705	3268003020	3219010016	3220004038	3220011001	3229006013	3233005009	3233019019	3229014003
326800300326801908632200050353220011024322909090932330402632330180173233040363268005002321900901032200050363220011025322900801232330050063233019001323301202632680070013219009010322000602532200120023229008030323300800432330220013219017022326800700332190100133220006026322001103632290090263233008001323302201732190117023268017002321900901432200060243220011035322901001232330080033233022016321901101332680170393219010016322000503832200124332290100133233009008323302203232190260013268017033326801908632200070443220012523229010025323300900932190090093265024007326801700332190090103220007048322001204432290110103233012010326800100332680170033219009010322000705232200120413229011010323301201032680010033268017003321901001232190150013220012051322901100932330120103268001003326801700332190100133220007052322001204132290110093233012025322001600632680170033219010011322000705232200120413229012002323301203432200110163268017003321901001332200010283220012042322901200232330120343220011016326801800632190100133220001024 <td< td=""><th>3268003021</th><td>3268019099</td><td>3220004035</td><td>3220011032</td><td>3229006014</td><td>3233004025</td><td>3233019018</td><td>3233002019</td></td<>	3268003021	3268019099	3220004035	3220011032	3229006014	3233004025	3233019018	3233002019
32680050023219009011322005036322001102532290080123233050663233019001323301202632680070013219009010322005037322001200132290060153233008004323301903432330190023268007002321901001232200060253220012002322900803032330080023233022011321901702232680070033219010013322000602632200110363229009026323300800132330220173219011012326801700232190090143220006024322001103532290100123233009008323302203232190110133268017039321901001632200050383220012043322901002432330090083233022032321902600132680170403268019099322000700432200120523229010025323300900932190090093265024007326801703321900901132200705232200120443229011010323301202532680100343268017033219009010322007052322001204032290120103233012025322001600632680170233219010012321901500132200120513229012002323301202532200160063268018006321901001332200010243220012042322901200232330120343220011016326801800732190100133220001024322001204232290120073233013023322001504332680180073219010016322000102432200120423229012007323301302332200150433268018007321901001632200010243	3268003030	3268019086	3220005035	3220011024	3229009009	3233004026	3233018017	3233004036
3268007001321900901032200050373220012001322900601532330080043233019034323301900232680070023219010012322000602532200120023229008030323300800232330220113219017022326800700332190100133220006026322001103632290090263233008001323302201732190110123268017002321900901432200060243220011035322901001232330080033233022016321901101332680170393219010016322000503832200120433229010013323300900832330220323219026001326801704032680190993220006027322001204532290100253233009009321900900932650240073268017040326801908632200070043220012052322901002532330120103268005001326502400432680170332190090113220007052322001204432290110103233012010326800100332680170233219010012321901500132200120513229011009323301202532200160063268018006321901001332200010283220012042322901200232330120343220011016326801800732190090143220001024322001203932290120073233013023322001504332680180073219009014322000102432200120393229012007323301302332200150433268018006321901001632200503832200150463229012021323301302632290090253268018003219010016322005038 <t< td=""><th>3268005002</th><td>3219009011</td><td>3220005036</td><td>3220011025</td><td>3229008012</td><td>3233005006</td><td>3233019001</td><td>3233012026</td></t<>	3268005002	3219009011	3220005036	3220011025	3229008012	3233005006	3233019001	3233012026
32680070023219010012322006025322001200232290080303233080023233022011321901702232680070033219010013322006026322001103632290090263233008001323302201732190110123268017002321900901432200602432200110353229010012323300800332330220163219011013326801703932190100163220005038322001204332290100133233009008323302203232190260013268017040326801909932200060273220012045322901002432330090093219009009326502400732680170403268019086322000700432200120523229010025323300902432680050013265024004326801703332190090113220007052322001204432290110103233020053268001034326801702332190100123219015001322001204032290120103233012025322001600632680180063219010013322000102832200120423229012002323301203432200110163268018007321900901432200010243220012039322901200732330130233220015043326801800732190100163220005038322001504632290120213233013026322900902532680180073219010016322000503832200150463229012021323301302632290090253268018900321901001632200050383220015046322901202132330130263229009025	3268007001	3219009010	3220005037	3220012001	3229006015	3233008004	3233019034	3233019002
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32680170023219009014322000602432200110353229010012323300800332330220163219011013326801703932190100163220005038322001204332290100133233009008323302203232190260013268017013326801909932200060273220012045322901002432330090093219009009326502400732680170403268019086322000700432200120523229010025323300902432680050013265024004326801700332190090113220007048322001204432290110103233009025326800100332680170053219009010322000705232200120403229012010323301201032680010033268017023321901001232190150013220012051322901100932330120253220016006326801800632190100133220001028322001204232290120023233012034322001101632680180073219009014322000102432200120393229012007323301302332200150433268018900321901001632200050383220015046322901202132330130263229009025	3268007003	3219010013	3220006026	3220011036	3229009026	3233008001	3233022017	3219011012
326801703932190100163220005038322001204332290100133233009008323302203232190260013268017013326801909932200060273220012045322901002432330090093219009009326502400732680170403268019086322000700432200120523229010025323300902432680050013265024004326801700332190090113220007048322001204432290110103233009025326800103432680170053219009010322000705232200120403229012010323301201032680010033268017023321901001232190150013220012051322901100932330120253220016006326801800632190100133220001028322001204232290120023233012034322001101632680180073219009014322000102432200120393229012007323301302332200150433268018900321901001632200050383220015046322901202132330130263229009025	3268017002	3219009014	3220006024	3220011035	3229010012	3233008003	3233022016	3219011013
3268017013326801909932200060273220012045322901002432330090093219009009326502400732680170403268019086322000700432200120523229010025323300902432680050013265024004326801700332190090113220007048322001204432290110103233009025326800103432680170053219009010322000705232200120403229012010323301201032680010033268017023321901001232190150013220012051322901100932330120253220016006326801800632190100133220001028322001204232290120023233012034322001101632680180073219009014322000102432200120393229012007323301302332200150433268018900321901001632200050383220015046322901202132330130263229009025	3268017039	3219010016	3220005038	3220012043	3229010013	3233009008	3233022032	3219026001
32680170403268019086322000700432200120523229010025323300902432680050013265024004326801700332190090113220007048322001204432290110103233009025326800103432680170053219009010322000705232200120403229012010323301201032680010033268017023321901001232190150013220012051322901100932330120253220016006326801800632190100133220001028322001204232290120023233012034322001101632680180073219009014322000102432200120393229012007323301302332200150433268018900321901001632200050383220015046322901202132330130263229009025	3268017013	3268019099	3220006027	3220012045	3229010024	3233009009	3219009009	3265024007
3268017003321900901132200070483220012044322901101032330090253268010343268017005321900901032200070523220012040322901201032330120103268010033268017023321901001232190150013220012051322901100932330120253220016006326801800632190100133220001028322001204232290120023233012034322001101632680180073219009014322000102432200120393229012007323301302332200150433268018900321901001632200050383220015046322901202132330130263229009025	3268017040	3268019086	3220007004	3220012052	3229010025	3233009024	3268005001	3265024004
3268017005321900901032200070523220012040322901201032330120103268010033268017023321901001232190150013220012051322901100932330120253220016006326801800632190100133220001028322001204232290120023233012034322001101632680180073219009014322000102432200120393229012007323301302332200150433268018900321901001632200050383220015046322901202132330130263229009025	3268017003	3219009011	3220007048	3220012044	3229011010	3233009025	3268001034	
3268017023321901001232190150013220012051322901100932330120253220016006326801800632190100133220001028322001204232290120023233012034322001101632680180073219009014322000102432200120393229012007323301302332200150433268018900321901001632200050383220015046322901202132330130263229009025	3268017005	3219009010	3220007052	3220012040	3229012010	3233012010	3268001003	
3268018006321901001332200102832200120423229012002323301203432200110163268018007321900901432200102432200120393229012007323301302332200150433268018900321901001632200050383220015046322901202132330130263229009025	3268017023	3219010012	3219015001	3220012051	3229011009	3233012025	3220016006	
3268018007 3219009014 322001024 3220012039 3229012007 3233013023 3220015043 3268018900 3219010016 3220005038 3220015046 3229012021 3233013026 3229009025	3268018006	3219010013	3220001028	3220012042	3229012002	3233012034	3220011016	
<u>3268018900</u> <u>3219010016</u> <u>3220005038</u> <u>3220015046</u> <u>3229012021</u> <u>3233013026</u> <u>3229009025</u>	3268018007	3219009014	3220001024	3220012039	3229012007	3233013023	3220015043	
	3268018900	3219010016	3220005038	3220015046	3229012021	3233013026	3229009025	

TABLE 3-3: Los Angeles APNs for Generation Tie Lines (South of Avenue A) 80th Street West

TABLE 3-3:	LOS ANGELES A	APNS FOR GENER	ATION TIE LINES ((SOUTH OF AVEN	UE A) 80 th STREET WEST	
3268018039	3219013002	3220006027	3220015042	3229012008	3233013028	
3268018017	3219013007	3220007004	3220015017	3229012009	3233013025	
3268018022	3219012007	3220007048	3220015041	3229012003	3233015001	
3268019030	3219013004	3220007052	3220016005	3233002021	3233013027	
3268019046	3219013003	3220007057	3220017019	3233002022	3233013029	
3268019087	3219010015	3220007061	3220017020	3233002038	3233015016	

LOS ANGELES APNS FOR GENERATION TIE LINES (SOUTH OF AVENUE A) 100TH STREET WEST AND AVE A **TABLE 3-4:**

3262001007	3262012001	3262025008	3265003049	
3262001029	3262012002	3262025025	3265003033	
3262001020	3262012003	3262025024	3265003051	
3262001025	3262012004	3262024025	3265004063	
3262001044	3262015002	3262025009	3265004062	
3262001038	3262015003	3264001008	3265004032	
3262001022	3262015001	3264001011	3265004088	
3262001031	3262016001	3264001018	3265004091	
3262001039	3262016002	3264001053	3265004093	
3262001048	3262016007	3264001048	3265004065	
3262001071	3262016003	3264002016	3265005006	
3262001081	3262018019	3264001026	3265004075	
3262001070	3262016006	3264001049	3265005013	
3262001078	3262018053	3264003032	3265005014	
3262001072	3262018056	3264003017	3219001027	
3262001069	3262016004	3264003016	3219001054	
3262001075	3262018054	3264003001	3219001055	
3262001077	3262018055	3264006016	3219027022	
3262001082	3262019034	3264006001	3219027033	
3262001084	3262019078	3264006032	3219027034	
3262004003	3262019038	3264007001	3219027049	
3262004002	3262019061	3264006017	3219001042	

3262004001 3262019073 3264007008 3219001043 3262004004 3262019110 3264007009 3264018010 3262004007 3262019125 3264008001 3264018010 3262004007 3262019079 3264008002 3264018011 3262004005 3262019222 3264013021 3219027021 3262004006 3262019221 3264013027 3265005005 3262004025 326202029 3264013027 3265024007 3262004024 3262020153 3264015002 3265024005 326200501 326202020 3264015003 3265024005 3262007001 326202023 3264015003 3265024005 3262005013 326202023 3264015003 3265024005 3262005014 326202023 3264015003 3265024005 3262005027 326202023 3264015003 3262024006 3262005027 3262020230 3264017001 3262021027 3262007020 3262020230 3264017001 3262020230 3262007020 3262021026 326401700					
3262004004 3262019110 3264007009 3264014002 3262004008 3262019125 3264008001 3264018010 3262004007 3262019079 3264008002 3264018011 3262004005 326201922 3264013021 3219027021 3262004006 3262019221 3264013022 3265005005 3262004005 3262020153 3264013027 3265024007 3262004024 3262020153 3264015001 3265024005 326200501 326202020 3264015001 3265024005 3262007001 326202020 3264015003 3265024005 3262005013 326202020 3264015003 3265024006 3262005014 3262020233 3264015003 326202406 3262005027 326202032 3264015004 326200502 3262007021 326202030 3264016003 326200702 326200702 326202030 3264017004 326202036 326200702 326202036 3264017001 326202035 3264017001 326200702 3262021028	3262004001	3262019073	3264007008	3219001043	
3262004008 3262019125 3264008001 3264018010 3262004007 3262019079 3264008002 3264018012 3262004005 3262019222 326401802 3264018012 3262004006 3262019221 326401802 3265024007 3262004006 3262019221 3264013027 3265024007 3262004025 3262020029 3264013028 3265024005 3262005001 3262020153 3264015001 3265024005 3262005013 326202020 3264015001 3265024005 3262005013 3262020233 3264015001 3265024005 3262005014 326202033 3264015004 3262005014 3262005014 3262020232 3264015004 3262007021 3262007021 3262020230 3264016003 3262007021 3262007021 3262020230 3264017003 326200702 3262007020 3262020236 3264017004 326200702 3262007020 3262020235 3264017003 326200702 3262007020 3262020235 326401700	3262004004	3262019110	3264007009	3264014002	
3262004007 3262019126 3264007016 3264018011 3262004009 3262019079 3264008002 3264018012 3262004006 3262019221 3264013022 3265005005 3262004005 326202029 3264013027 3265024007 3262004025 3262020153 3264013028 3265024005 3262005011 3262020153 3264015002 3265024005 3262005013 326202023 3264015001 32620206 3262005014 3262020153 3264015001 3262005013 3262005013 326202023 3264015001 326200502 3262005014 3262020154 3264015004 326200502 3262005027 3262020230 3264015004 3262005027 3262005027 3262020230 3264017004 326200702 3262007020 3262021027 3264017004 326200702 3262007020 3262020236 3264017001 326200702 3262008002 3262020235 3264017001 326200802 326200102 3262020235 3264017002 <td>3262004008</td> <td>3262019125</td> <td>3264008001</td> <td>3264018010</td> <td></td>	3262004008	3262019125	3264008001	3264018010	
3262004009 3262019079 3264008002 3264018012 3262004005 3262019222 3264013021 3219027021 3262004005 3262019221 3264013022 3265005 3262004025 3262020029 3264013027 3265024007 3262004024 3262020115 3264013028 3265024005 3262004024 32620200 3264015002 3265024005 3262005013 32620220 3264015001 32620205 3262005014 32620203 3264015003 326200501 3262005014 3262020154 3264015004 3262005027 3262005027 3262020232 3264015004 3262005027 3262005027 326202030 3264015003 326200502 3262007021 326202030 3264017004 326200702 3262007020 3262020236 3264017004 326200702 3262007020 3262020235 3264017001 326200235 3262008002 3262020235 3264017002 326200104 3262008022 3262021018 3264016002	3262004007	3262019126	3264007016	3264018011	
3262004005 3262019222 3264013021 3219027021 3262004006 3262019221 3264013022 3265005005 3262005001 3262020115 3264013028 3265024005 326200501 3262020153 3264015002 3265024005 3262005013 326202020 3264015002 3265024005 3262005013 326202020 3264015001 3265024005 3262005014 3262020233 3264015003 3265024005 3262005027 3262020154 3264015004 3262005027 3262007021 3262020230 3264016001 326200702 3262007022 326202030 3264017004 326200702 3262007020 3262020236 3264017004 326200702 3262007020 3262021027 3264017001 326200702 3262007020 3262021028 3264017001 326200702 3262007020 3262021028 3264017001 326201002 3262008022 3262021028 3264016002 3262011002 3262011002 3262021039 3265003031 </td <td>3262004009</td> <td>3262019079</td> <td>3264008002</td> <td>3264018012</td> <td></td>	3262004009	3262019079	3264008002	3264018012	
3262004006 3262019221 3264013022 3265005005 3262004025 326202029 3264013027 3265024007 3262004024 326202115 3264015002 3265024005 3262005013 32620220 3264015002 3265024006 3262007001 3262020233 3264015003 3265024006 3262005027 3262020232 3264015004 3262005027 3262007021 3262020232 3264016003 3262007021 3262007020 3262021027 3264017004 326200702 3262007021 3262021027 3264017003 326200702 3262007020 3262021026 3264017004 326200702 3262007020 3262021026 3264017001 32620102 3262008002 3262021028 3264017001 32620102 3262008001 3262021028 3264017002 32620102 3262008022 3262021018 3264017002 32620102 3262008022 326202035 3264017002 32620102 3262011002 326202035 3264016002	3262004005	3262019222	3264013021	3219027021	
3262004025 3262020029 3264013027 3265024007 3262005001 3262020115 3264013028 3265024005 3262005013 326202020 3264015001 3265024006 3262007001 3262020233 3264015003 3262005014 3262005014 326202023 3264015004 3262005027 3262005027 3262020232 3264013025 3262007021 3262007021 326202030 3264017004 3262020236 3262007020 326202036 3264017004 326200702 3262007020 326202036 3264017001 326202036 3262008002 3262021028 3264017001 3262005015 3262008022 3262021028 3264017002 326200802 3262008022 3262021018 3264016002 3262011002 3262011002 326202034 3264016004 3262021039 3262011004 326202034 3264016004 3262021039 3262011004 326202034 3265003031 3262021039 3262011004 3262021039 3265003027 <td>3262004006</td> <td>3262019221</td> <td>3264013022</td> <td>3265005005</td> <td></td>	3262004006	3262019221	3264013022	3265005005	
3262005001 3262020115 3264013028 3265024005 3262004024 3262020153 3264015002 3265024006 3262005013 326202020 3264015001 3265024006 3262007001 326202033 3264015003 326502504 3262005014 3262021029 3264015004 3262005027 3262005027 3262021029 3264016003 3262007021 3262007021 3262021027 3264017004 3262007020 3262007020 3262021026 3264017003 3262007020 3262008001 3262021028 3264017001 3262008001 3262008001 3262021028 3264017001 3262008001 3262008002 3262021028 3264017001 326200802 3262008002 3262021028 3264017002 3262011002 3262008022 3262021018 3264017002 3262011002 3262011002 3262021039 3264016004 3262021039 3262011004 3262021039 3265003031 3265003031 3262011003 3262021010 326500	3262004025	3262020029	3264013027	3265024007	
3262004024 3262020153 3264015002 3265024006 3262005013 326202020 3264015001 3262002033 3264015003 3262005014 3262020154 3264015004 3262005002 32620201029 3264016001 3262005027 3262020232 3264016003 3262007021 3262020230 3264017004 3262007022 3262020230 3264017004 3262007020 3262020236 3264017004 3262008002 3262021026 3264017001 326200801 326200235 3264017001 326200801 3262020235 3264017002 326200235 3264016002 3262008022 3262021028 3264016002 3262011002 3262020234 3264016002 3262011002 3262022031 3265003031 3262021039 3265003031 3262011001 3262024009 3265003027 3262011003 3262024009 3265003023 3265003023 326201402 3265003023 3262011005 326024008 3265003023 3262024024 3265003023 3262024024	3262005001	3262020115	3264013028	3265024005	
32620050133262020203264015001326200700132620202333264015003326200501432620210293264016001326200502732620210293264013025326200702132620210273264016003326200702232620210263264017004326200702032620210263264017004326200800232620210283264017001326200801326202035326401700232620080223262021018326401600232620110023262020343264016004326201100432620200132650030313262011003326202001326500302732620110013262020013265003027326201100132620240093265003027326201100132620240093265003027326201100532602400832650030233262080233260240243265003023	3262004024	3262020153	3264015002	3265024006	
3262007001326202023332640150033262005014326202015432640150043262006002326202102932640160013262005027326202032326401302532620070213262021027326401700432620070203262021026326401700332620080023262021026326401700132620080013262021028326401700232620080223262020353264017002326201023326202034326401600232620110023262021039326500303132620110033262020013265003023262011001326202001326500302326201100532620240083265003023326201100532620240243265003015	3262005013	3262020220	3264015001		
326200501432620201543264015004326200600232620210293264016001326200502732620202323264013025326200702132620210273264016003326200702232620202303264017004326200702032620210263264017003326200800232620210283264018013326200800132620210283264017002326200802232620202353264017002326201100232620202343264016002326201100432620202343264016004326201100432620210393265003031326201100332620220013265003027326201100532620240083265003023326201100532620240243265003023	3262007001	3262020233	3264015003		
3262006002 3262021029 3264016001 3262005027 3262020232 3264013025 3262007021 3262021027 3264016003 3262007022 3262020230 3264017004 3262007020 3262021026 3264017003 3262008002 3262021028 3264017001 3262008001 3262021028 3264017002 3262005015 326202035 3264017002 3262011002 326202034 3264016002 3262011002 3262020234 3264016004 3262011004 326202001 3265003031 3262011004 3262022001 3265003027 3262011001 3262024009 3265003023 3262011005 3262024024 3265003023	3262005014	3262020154	3264015004		
32620050273262020232326401302532620070213262021027326401600332620070203262020303264017004326200702032620202363264017001326200800132620210283264018013326200501532620202353264016002326200802232620202343264016002326201100232620210393265003031326201100332620220013265003027326201100132620240093265003023326201100532620240243265003015	3262006002	3262021029	3264016001		
326200702132620210273264016003326200702232620202303264017004326200702032620210263264017001326200800232620202363264017001326200501532620202353264017002326200802232620210183264016002326201100232620202343264016004326201100432620210193265003031326201100132620240093265003027326201100532620240243265003015	3262005027	3262020232	3264013025		
32620070223262020303264017004326200702032620210263264017003326200800232620202363264017001326200800132620210283264018013326200501532620202353264017002326200802232620210183264016002326201100232620202343264016004326201100432620210393265003031326201100332620220013265003027326201100132620240093265003023326201100532620240243265003015	3262007021	3262021027	3264016003		
326200702032620210263264017003326200800232620202363264017001326200800132620210283264018013326200501532620202353264017002326200802232620210183264016002326201100232620202343264016004326201100332620220013265003031326201100132620240093265003027326201100532620240083265003023326200802332620240243265003015	3262007022	3262020230	3264017004		
326200800232620202363264017001326200800132620210283264018013326200501532620202353264017002326200802232620210183264016002326201100232620202343264016004326201100432620210393265003031326201100332620220013265003027326201100532620240083265003023326200802332620240243265003015	3262007020	3262021026	3264017003		
326200800132620210283264018013326200501532620202353264017002326200802232620210183264016002326201100232620202343264016004326201100432620210393265003031326201100332620220013265003030326201100132620240093265003027326201100532620240083265003023326200802332620240243265003015	3262008002	3262020236	3264017001		
3262005015 3262020235 3264017002 3262008022 3262021018 3264016002 3262011002 3262020234 3264016004 3262011004 3262021039 3265003031 3262011003 3262022001 3265003030 3262011001 3262024009 3265003027 3262011005 3262024008 3265003023 3262008023 3262024024 3265003015	3262008001	3262021028	3264018013		
3262008022 3262021018 3264016002 3262011002 3262020234 3264016004 3262011004 3262021039 3265003031 3262011003 3262022001 3265003030 3262011001 3262024009 3265003027 3262011005 3262024008 3265003023 3262008023 3262024024 3265003015	3262005015	3262020235	3264017002		
3262011002 3262020234 3264016004 3262011004 3262021039 3265003031 3262011003 3262022001 3265003030 3262011001 3262024009 3265003027 3262011005 3262024008 3265003023 3262008023 3262024024 3265003015	3262008022	3262021018	3264016002		
3262011004 3262021039 3265003031 3262011003 3262022001 3265003030 3262011001 3262024009 3265003027 3262011005 3262024008 3265003023 3262008023 3262024024 3265003015	3262011002	3262020234	3264016004		
3262011003 3262022001 3265003030 3262011001 3262024009 3265003027 3262011005 3262024008 3265003023 3262008023 3262024024 3265003015	3262011004	3262021039	3265003031		
3262011001 3262024009 3265003027 3262011005 3262024008 3265003023 3262008023 3262024024 3265003015	3262011003	3262022001	3265003030		
3262011005 3262024008 3265003023 3262008023 3262024024 3265003015	3262011001	3262024009	3265003027		
3262008023 3262024024 3265003015	3262011005	3262024008	3265003023		
	3262008023	3262024024	3265003015		

TABLE 3-4: Los Angeles APNs for Generation Tie Lines (South of Avenue A) 100th Street West and Ave A

		(,	
3261017009	3262001064	3263006029	3264022049	3265015013
3261017024	3262001065	3263006900	3264021010	3264020005
3261017008	3262002025	3263006019	3264022005	3263020001
3261017025	3262002017	3263006023	3264022055	3264020002
3261018009	3262004003	3263007020	3264022050	3264020004
3261018024	3262004002	3263008008	3264022004	3263006032
3261019009	3262004001	3263007019	3264022059	3263020023
3261019024	3262001053	3263006031	3265001026	3261034017
3261019008	3262001058	3263007021	3265001047	3263020025
3261019025	3262004004	3263008024	3265001067	3263020024
3261018008	3262002018	3263008009	3265001088	3263020010
3261018025	3262004008	3263007023	3265001058	3265002045
3261020008	3262004007	3263008025	3265001036	3265001059
3261020009	3262004005	3263009016	3265001057	3265007030
3261020031	3262004006	3263009042	3265002044	3265007007
3261020032	3262006002	3263009012	3265002043	3265024007
3261032003	3262017005	3263009046	3265002055	3265024003
3261032002	3262018001	3263009015	3265002080	
3261033001	3262017021	3263009006	3265003002	
3261032072	3262017020	3263009054	3265003006	
3261032069	3262017036	3263009073	3265002138	
3261032070	3262019044	3263020008	3265003005	
3261032071	3262019085	3263020009	3265003009	
3261033081	3262019045	3264002027	3265003008	
3261036005	3262019077	3264001031	3265002075	
3261034015	3262019084	3264001037	3265002163	
3261036009	3262019086	3264001021	3265003045	
3261036010	3262019151	3264001027	3265003054	
3261036012	3262019150	3264001046	3265003052	
3261036014	3262019205	3264002041	3265004108	
3261036015	3262019206	3264002044	3265004106	
3262001020	3262019228	3264001041	3265004107	
3262001005	3262020035	3264001047	3265006001	
3262001046	3262020004	3264002024	3265007001	

TABLE 3-5: Los Angeles APNs for Generation Tie Lines (south of Avenue A) 110th Street West and Ave A

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TABLE 3-3:	LUS ANGELES APINS FOR GENER	ATION THE LINES (SOUTH OF	S AVENUE A) HUTH STREET WEST A	ND AVE A
3261036006	3262020020	3264002025	3265008017	
3261036011	3262020036	3264002095	3265006002	
3262001052	3262020118	3264002096	3265007003	
3262001055	3262020117	3264002131	3265008019	
3261036013	3262020169	3264002132	3265008029	
3262001054	3262020211	3264020007	3265008032	
3262001068	3262020168	3264020001	3265009016	
3262001067	3262020170	3264020006	3265009015	
3262001085	3262023001	3264021001	3265009010	
3262002010	3262023032	3264021011	3265014022	
3262002001	3262023017	3264021013	3265014023	
3262001086	3262023016	3264020003	3265014014	
3262002002	3263006013	3264021012	3265014024	
3262002009	3263006026	3264022001	3265014017	

TABLE 3-5: LOS ANGELES APNS FOR GENERATION TIE LINES (SOUTH OF AVENUE A) 110TH STREET WEST AND AVE A
3.3 Project Objectives

The proposed project would provide 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 (SB) 350 (2015), which requires that 50 percent of all electricity sold in the state to be generated from renewable energy sources by December 31, 2030. Senate Bill 100 was approved in September 2018 and would increase the RPS to a 100 percent goal by 2045.

The following is a list of project objectives:

- Maximize renewable energy production and economic viability through the installation of solar PV panels on private lands with high solar insolation values.
- Locate the project on disturbed land or land that has been previously degraded from prior use.
- Minimize offsite impacts by using existing electrical distribution facilities, rights-of-way, roads, and other existing infrastructure where possible to minimize the need for new electrical support facilities.
- Minimize impacts to threatened or endangered species or their habitats, wetlands and waters of the United States, cultural resources, and sensitive land use.
- Generate substantial direct and indirect economic opportunities in Kern County during construction with the creation of "green" jobs.
- Minimize water usage.
- Assist the State of California in reducing fossil fuel air quality pollution and in achieving the greenhouse gas emission (GHG) reductions required by the California Global Warming Solutions Act (Assembly Bill 32) which requires the California Air Resources Board to reduce statewide emissions of GHGs to at least the 1990 emissions level by 2020. This timeline was updated in 2016 under Senate Bill 32, which requires that statewide GHG emissions are reduced to at least 40 percent below the statewide GHG emissions limit by 2030.
- Offset carbon dioxide that would have resulted from producing an equivalent amount of electricity utilizing generators powered by fossil fuels.
- Develop a viable source of clean energy to assist California and its utilities in fulfilling California's Renewable Portfolio Standard (RPS) Program. In October 2015, Governor Brown signed into law Senate Bill 350, which establishes a new RPS for all electricity retailers in the state. Electricity retailers must adopt the new RPS goals of 50 percent of retail sales from renewables by the end of 2030. Senate Bill 100 (De León, also known as the "California Renewables Portfolio Standard Program: emissions of greenhouse gases") as approved by the California legislature and signed by Governor Brown in September 2018, increases RPS in 2030 from 50 percent to 60 percent and establishes a goal of 100 percent RPS by 2045.
- Use proven and established PV technology that is efficient and requires low maintenance.

3.4 Environmental Setting

3.4.1 Regional Setting

The project site is located at the western edge of the Antelope Valley, in the southern portion of Kern County, adjacent to the northern boundary of Los Angeles County, in central California as shown in Figure 3-1, *Project Site Vicinity*. The project site is located on the gentle south-facing slopes below the Tehachapi Mountains, a relatively featureless portion of the northwestern end of the Antelope Valley with an elevation that ranges from approximately 2,300 feet to 2,800 feet (701 to 853 meters) above mean sea level (amsl). This area is geographically defined by the intersection where the Tehachapi Mountains meet the San Gabriel Mountains.

The project site is located approximately 5.5 miles west of the community of Rosamond, approximately 25 miles southeast of the City of Tehachapi, and approximately 55 miles southeast of the City of Bakersfield. Other communities within the vicinity of the proposed additional property include California City in Kern County and the Cities of Lancaster and Palmdale in Los Angeles County, which are roughly 27 miles northeast, 12 miles southeast, and 19 miles southeast of the project site, respectively. Edwards Air Force Base is located 23 miles northeast of the project site's southwestern boundary.

Land usages in the project area consist of a mix of agricultural grazing, undeveloped land, scattered singlefamily residences, and several approved or proposed large-scale solar facilities. Several commercial wind projects are also operating north of the Whirlwind Substation. Topography across the region is relatively flat on the bajada of the Tehachapi Mountains, which is an overlapping of alluvial fans on lands that gradually slope downward from the northwest to the southeast. The foothills of the Tehachapi Range occur approximately 13 miles west of the project. The project and surrounding land are mostly flat and exhibit little topographic variation. Land administered by the Bureau of Land Management (BLM) is located approximately 2 miles north of the project.

Desert vegetation dominates the region. Vegetation on the project site consists of Mojave Saltbush Scrubland with the most common species being saltbush (*Atriplex polycarpa*); Russian thistle (*Salsola tragus*) and ripgut brome (*Bromus diandrus*) are also very common to the area. This 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.

3.4.2 Surrounding Land Uses and Project Site Conditions

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 planned/existing met towers. There are several existing and permitted solar energy, wind energy, and transmission projects in the region where the project site is located. An expanded list of existing, approved, and pending projects in the vicinity of the project site is provided in **Table 3-9**, *Cumulative Projects List*.

A portion of the Pacific Crest Trail (PCT) is approximately 14 miles southwest of Raceway Solar Site 1 and approximately 16 miles northwest of the Raceway Solar Site 4.

The nearest airports to the proposed project are the Rosamond Skypark located 3 miles to the northeast and the Mojave Air and Space Port located 14.5 miles to northeast. Private airstrips include the Lloyd's Landing airport, located approximately 3.5 miles north, and the Little Buttes Antique Airfield, located approximately 2.5 miles south of the project in Los Angeles County.

The California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP) 2018 Important Farmland Map, designates areas located within Raceway 2.0 Solar sites 1, 2, and 3 as "Grazing Land" and "Prime Farmland", and designates other proposed project sites as "Grazing Land" and/or "Vacant or Disturbed Land", "Rural Residential Land" and/or "Nonagricultural or Natural Vegetation." (DOC, 2018). Surrounding properties are designated as either: (a) vacant or disturbed, (b) rural residential, or (c) nonagricultural and natural vegetation. Parcels within Raceway 2.0 Solar 4 are subject to a Williamson Act Land Use contract. Although Raceway Solar 4 is zoned for agricultural use, available Kern Department of Agriculture's GIS farming records indicate there has been no agricultural crop production on the parcel in the past 10 years. The entire project site is located within Agriculture Preserve No. 24, as is the standard practice in Kern County for any land that is zoned A (Exclusive Agriculture).

Private land within locally designated agricultural preserve areas are eligible for enrollment under a Williamson Act contract. 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 rules of each agricultural preserve specify the allowed uses. Local governments may identify compatible uses that can be permitted under a use permit (DOC, 2015); 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.

The proposed project is located within unincorporated Kern County and within the jurisdiction of the Willow Springs Specific Plan. The existing designations are listed in Table 3-1, *Project Assessor Parcel Numbers, Corresponding Map Codes, Zoning & Acreage*, above, and depicted in **Figure 3-3**, *Existing Willow Springs Specific Plan Designations*. The entire project is also subject to the provisions of the Kern County Zoning Ordinance and is zoned as specified in Table 3-1, above, and depicted in **Figure 3-4** *Existing Kern County Zoning Classifications*, **Figure 3-5**, *Proposed Willow Springs Specific Plan Map Designations*, and **Figure 3-6** *Proposed Amendment to Willow Springs Specific Plan Circulation Element* (to Eliminate Future Road Reservations) shows the road along the section and mid-section lines proposed to be eliminated from the Willow Springs Specific Plan Circulation Element.

As shown in **Figure 3-7**, *Flood Map*, the majority of the project site is located entirely within the Federal Emergency Management Agency (FEMA) designated Zone "A." Zone A is the 100-year floodplain or 1 percent annual chance of flood. There are drainage routes near several of the project sites and gen-tie routes. All drainage routes are isolated episodic or ephemeral waters, which typically only flow for brief periods in response to rainfall. The project area usually receives an annual precipitation (rainfall) average of 6.7 inches per year. There are no identified state designated Alquist-Priolo Earthquake Fault Zones on the project site. The nearest active fault is the Garlock Fault zone, located approximately 14 miles northeast of the project.

Based on a review of records maintained by the California Geologic Energy Management Division (CalGEM), wells are not identified on the project site, and the project is not within the jurisdictional boundaries of an oilfield (California Department of Conservation, 2017).

Figure 3-3: EXISTING WILLOW SPRINGS SPECIFIC PLAN MAP DESIGNATIONS







Figure 3-4: EXISTING KERN COUNTY ZONING CLASSIFICATIONS

2021



3-17

KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT RACEWAY SOLAR PROJECT

CHINA & CHINA





KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT RACEWAY SOLAR PROJECT



2021

Proposed removal of future dedicated roads County Boundary Project Boundary Dirt Roads Collectors Arterials Sections HOLIDAY AV BOGGS STREET ≷ **BRABHAM AV** BUTTE W TS HT28 22 GOBI AV 27 **BOBTAIL LN** SOLEDAD AV SUE AV **BUCKHORN AV** TOTH STREET WEST W TS TSI1 **ASTORIA AV** 9 N 13 W 28 RANEE AV SOLEDAD AV BRABHAM AV GASKELL RD 3 W TS HTð? MATRA AV ABARTH AV DINKEY AV HOLIDAY AV MADIGAN AV NOEL AV SUE AV TSEW TEER WEST ROSAMOND BLVD **BOBTAIL LN BUCKHORN AV** MOJAVE AV JOYCE AV W TS HT48 29 SETH STREET WES 20 **ASTORIA AV TS NOXID** TSEW TEER WEST 123W 133812 H106

KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT **RACEWAY SOLAR PROJECT**



€2-2,550 3,400 Feet T9N/R13W - Sec. 20, 21, 28, 29, & 32 1,700 850 o _ W TS HT23 W T2 HT33

34

TSEW_TEER HT07

DOGWOOD AV CYPRESS AV **BIRCH AV**

TREET WEST

SPUR RANCH RD

אור<mark>ן</mark> מבבא אא

OWL AV

TSEW TEER WEST

SAFE LANDING

W TS HTð?

ROLAND AV

ELDER AV

32

KINGBIRD AV

3

W TS HT68

GEORGE AV

TSETT WEST

GASKELL RD SOLEDAD AV

BUCKHORN AV

CATHY AV

2021

Figure 3-6: PROPOSED AMENDMENT TO WILLOW SPRINGS SPECIFIC PLAN CIRCULATION ELEMENT

Los Angeles County

AVENUE A





2021

The project site is not located within an area covered by the Airport Land Use Compatibility Plan (ALUCP) of Kern County. The nearest airports to the project sites are the Little Buttes Antique Airfield, located approximately 2 miles south of the proposed project area in Los Angeles County, the Lloyd's Landing Airport located approximately 3.5 miles north of the proposed project area, the Rosamond Skypark approximately 2.75 miles to the northeast, the Mojave Air and Space Port approximately 15 miles to the northeast.

The project would be served by the Kern County Sherriff's Office (KCSO) for law enforcement and public safety, Kern County Fire Department (KCFD) for fire protection, and Kern County Medical Emergency Service for emergency medical and rescue services. The closest KCSO Substation is the Green Empire Substation, located approximately 4.5 miles east of the project in the community of Rosamond. The nearest KCFD fire station that would serve the project is Station No. 15 (Rosamond), located at 3219 35th St W in the community of Rosamond, approximately 3.5 miles east of the project site. The nearest hospitals are the Antelope Valley Hospital, in the City of Lancaster, approximately 14 miles southeast of the project in the City of Palmdale. The nearest school to the project site is Tropico Middle School, located approximately 1.6 miles northeast of the project in the community of Rosamond.

3.5 Land Use and Zoning

3.5.1 Kern County General Plan and Willow Springs Specific Plan

According to the Kern County General Plan, the project is located within land use designation of 4.1 (Nonjurisdictional land: Accepted county plan areas) (County of Kern, 2009). The accepted county plan land use designation applies to areas where specific land use plans have already been prepared and approved. The proposed project is located within unincorporated Kern County and within the jurisdiction of the Willow Springs Specific Plan. The project site is designated as Willow Springs Specific Plan Map Codes 7.1 (Light Industrial), 7.1/4.4 (Light Industrial/ Comprehensive Plan Required), 7.2 (Service Industrial), 7.2/4.4 (Service Industrial/ Comprehensive Plan Required), 5.5 (Residential, Maximum 1 units/net acre), 5.5/2.85 (Residential, Maximum 1 units/net acre/Noise Management Area), 5.6 (Residential, Maximum 2.5 gross acres/unit), 5.6/2.85 (Residential, Maximum 2.5 gross acres/unit/Noise Management Area), 5.3 (Residential, Maximum 10 units/net acre), 5.3/4.4 (Residential, Maximum 10 units/net acre/ Comprehensive Plan Required), 5.3/2.85/4.4 (Residential, Maximum 10 units/net acre/Noise Management Area/Comprehensive Plan Required), 5.4 (Residential, Maximum 4 units/net acre) and 5.4/2.85 (Residential, Maximum 4 units/net acre/Noise Management Area). Table 3-6, Project Site and Surrounding Land Uses, and Figure 3-3, Existing Willow Springs Specific Plan Map Designations, highlight the land uses for the project site and surrounding area. The proposed Willow Springs Specific Plan designations are shown in Figure 3-5, Proposed Willow Springs Specific Plan Map Designations. The project proponent has proposed to modify these land use designations as set forth herein in Section 3.6, Proposed Project, below.

The project proponent also requested a Specific Plan Amendment to amend the Circulation Element of the Willow Springs Specific Plan to eliminate the future road reservation along portions of the section and midsection lines of Sections 20, 21, 28, 29, 32 and 34 T9N R13W, SBB&M, as shown on Figure 3-6, *Proposed Amendment to Willow Springs Specific Plan Circulation Element*.

	Existing Land Use	Existing Willow Springs Map Code Designation	Existing Zoning Classification	
Raceway 2.0 Solar 1	Undeveloped, disturbed land	7.1/4.4, 7.2/4.4	E (2.5) RS MH FPS	
North	Undeveloped, sparse residential dwellings, dirt roads	7.2	E (2.5)	
East	Undeveloped, sparse residential dwellings, dirt roads	7.1; 7.2	E (2.5)	
South	Undeveloped, agriculture	N/A (Los Angeles County)	N/A	
West	Undeveloped, sparse residential dwellings, dirt roads	7.1; 7.2	E (2.5)	
Raceway 2.0 Site 2	Undeveloped, disturbed land	7.1 /4.4, 7.2/4.4	E (2.5) RS FPS and E (2.5) RS MH FPS	
North	Undeveloped, sparse residential dwellings, dirt roads	5.5/2.85	Е (2.5)	
East	Undeveloped, sparse residential dwellings, dirt roads	5.6	E (2.5)	
South	Undeveloped, sparse residential dwellings, dirt roads	7.2	E (2.5)	
West	Undeveloped, sparse residential dwellings, dirt roads	7.1; 7.2	E (2.5)	
Raceway 2.0 Site 3	Undeveloped, disturbed land	5.6; 5.6/2.85; 7.1/4.4; 7.2/4.4	E (2.5) RS FPS	
North	Undeveloped, sparse residential dwellings, dirt roads	5.6	E (2.5)	
East	Undeveloped, sparse residential dwellings, dirt roads	5.5; 5.6/2.85	Е (2.5)	
South	Undeveloped, agriculture	7.1	E (2.5)	
West	Undeveloped, sparse residential dwellings, dirt roads	7.1; 7.2	Е (2.5)	
Raceway 2.0 Site 4	Undeveloped, disturbed land	5.5, 5.6/2.85	A FPS	
North	Undeveloped, sparse residential dwellings, dirt roads	5.6 E (2.5)		
East	Undeveloped, sparse residential dwellings, dirt roads	5.5; 5.6/2.85	E (2.5)	

TABLE 3-6: PROJECT SITE AND SURROUNDING LAND USES

	Existing Land Use		Existing Willow Spring Map Code Designation	gs Existing Zoning Classification	
South	Undeveloped, sparse residential dwellings, dirt roads		5.6/2.85	E (2.5)	
West	Undeveloped, sparse residential dwellings, dirt roads		5.6; 5.6/2.85	E (2.5)	
Raceway 2.0 Site 5	Undeveloped, disturbed land		5.3/4.4; 5.3/2.85/4.4	E (2.5) RS MH FPS and E (2.5) RS FPS	
North	Undeveloped, sparse residential dwellings, dirt roads		5.3	E (2.5)	
East	Undeveloped, sparse residential dwellings, dirt roads		5.3/2.85; 5.4	E (2.5)	
South	Undeveloped, agriculture		5.3/2.85	E (2.5)	
West	Undeveloped, sparse residential dwellings, dirt roads		5.5/5.6/2.85	E (2.5)	
Raceway 2.0 Site 6	Undeveloped, disturbed land		5.3/4.4; 7.1	OS, E (2.5) RS FPS	
North	Undeveloped, sparse residential dwellings, dirt roads		5.4/2.85	E (2.5)	
East	Undeveloped, sparse residential dwellings, dirt roads		5.6/2.8	E (2.5)	
South	Undeveloped, sparse residential dwellings, dirt 5.3/2.85 roads		N/A (Los Angeles County)	N/A	
West	Undeveloped, sparse residential dwellings, dirt roads		5.6/2.8	E (2.5)	
Willow Springs Specific Plan Map Code Designations5.3 = Residential, Maximum 10 units/net acre5.4 = Residential, Maximum 4 units/net acre5.5 = Residential, Maximum 1 units/net acre5.6 = Residential, Maximum 2.5 gross acres/unit7.1 = Light Industrial		 <u>Physical Constraints Overlay</u> 2.8 = Military Flight Operations 2.85 = Noise Management Area <u>Kern County Zone Districts</u> 			
7.2 = Service Industrial4.4 = Comprehensive Plan Required		A = (Exclusive Agriculture) E (2.5) = Estate (2.5 acre minimum) RS = Residential Suburban Combining		MH = Mobile Home Combining FPS = Floodplain Combining	

TABLE 3-6:PROJECT SITE AND SURROUNDING LAND USES

3.5.2 Kern County Zoning Ordinance

The Kern County Zoning Ordinance designates the project site as zoned A (Exclusive Agriculture), E (2.5), and OS (Open Space) as shown in Figure 3-4, *Existing Kern County Zoning Classifications*. The project proponent has proposed a zone change from E (2.5) to A and from OS to A as part of the project. According to the Kern County Zoning Ordinance Section 19.12.030 G, solar energy electrical generators when not accessory to a permitted or conditionally permitted use are permitted within the A Zone District subject to approval of a CUP. A portion of the site has been requested to be changed from the existing classification to include the Flood Plain Secondary (FPS) Combining District. The purpose of the FPS Combining Districtis to prohibit any uses at the site that may increase the chance of flooding, as well as uses such as septic systems and water wells unless approved by the Kern County Engineering and Surveying Services Department. The existing zoning designations are as specified in **Table 3-6**, *Project Site and Surrounding Land Uses*, and depicted in Figure 3-4, *Existing Kern County Zoning Classifications*, and **Figure 3-8**, *Proposed Zoning Map Designations*.

3.6 Proposed Project

The proposed project would include the development a solar facility and associated infrastructure with the capacity to generate up to 291 MW of renewable electric energy, including energy storage capacity, on 1,330 acres of privately-owned land in the eastern portion of unincorporated Kern County, directly east of the community of Rosamond.

Implementation of the project as proposed would include:

Raceway 2.0 Solar Site 1

- a) Amendment to the Willow Springs Specific Plan (SPA 33, Map 231) from map code designation 7.1/4.4 (Light Industrial, Comprehensive Plan Area) to 7.1 (Light Industrial) on approximately 89 acres and from existing map code designation 7.2/4.4 (Service Industrial, Comprehensive Plan Area) to 7.2 (Service Industrial) on approximately 6 acres;
- b) Change in zone classification (ZCC 154, Map 231) from the existing zone district E (2.5) RS MH FPS (Estate (2.5) Residential Suburban, Mobile Home Combining, Floodplain Secondary Combining) to A FPS (Exclusive Agriculture) on approximately 92 acres for consistency with the underlying proposed Specific Plan Designations of 7.1 (Light Industrial) and 7.2 (Service Industrial);
- c) Conditional Use Permit (CUP 116, Map 231) to allow for the construction and operation of up to a 15 MW solar electrical generating facility, as well as related ancillary structures, on 92 acres in an A zone district; and
- d) Amendment to the Willow Springs Specific Plan circulation element (SPA 34, Map 231) to eliminate road reservations along section and mid-section lines in Section 32 of T.9N/R.13W, Zone Map 231 to allow for efficient placement of solar panels.

Figure 3-8: PROPOSED ZONING MAP DESIGNATIONS

2021





Raceway 2.0 Solar Site 2

- a) Amendment to Willow Springs Specific Plan (SPA 35, Map 231) from map code designation 7.1/4.4 (Light Industrial, Comprehensive Plan Area) to 7.1 (Light Industrial) on approximately 42 acres and from map code designation 7.2/4.4 (Service Industrial, Comprehensive Planning Area) to 7.2 (Service Industrial) on approximately 48 acres;
- b) Change in zone classification (ZCC 155, Map 231) from the existing zone district E (2.5) RS FPS (Estate (2.5) Residential Suburban, Floodplain Secondary Combining) on approximately 40 acres and from E (2.5) RS MH FPS (Estate (2.5) Residential Suburban, Mobile Home Combining, Floodplain Secondary Combining) on approximately 50 acres to A FPS (Exclusive Agriculture, Floodplain Secondary Combining) for consistency with the underlying proposed Specific Plan Designation of 7.1 (Light Industrial) and 7.2 (Service Industrial);
- c) Conditional Use Permit (CUP 117, Map 231) to allow for the construction and operation of up to a 20 MW solar electrical generating facility, as well as related ancillary structures, on 90 acres; and
- d) Amendment to the Willow Springs Specific Plan circulation element (SPA 36, Map 231) to eliminate road reservations along section and mid-section lines in Section 32 of T.9N/R.13W, Zone Map 231 to allow for efficient placement of solar panels.

Raceway 2.0 Solar Site 3

- a) Amendment to Willow Springs Specific Plan (SPA 37, Map 231) from map code designation 7.1/4.4 (Light Industrial, Comprehensive Plan Area) to 7.1 (Light Industrial) on approximately 75 acres and from existing map code designation 7.2/4.4 (Service Industrial, Comprehensive Planning Area) to 7.2 (Service Industrial) on approximately 38 acres';
- b) Change in zone classification (ZCC 156, Map 231) from the existing E (2.5) RS FPS (Estate (2.5) Residential Suburban, Floodplain Secondary Combining) to A FPS (Exclusive Agriculture, Floodplain Secondary Combining) on approximately 510 acres for consistency with the underlying proposed Specific Plan Designation of 7.1 (Light Industrial) and 7.2 (Service Industrial;
- c) Conditional Use Permits (CUP 118, Map 231) to allow for the construction and operation of up to a 106 MW solar electrical generating facility, as well as ancillary structures, on 510 acres; and
- d) Amendment to the Willow Springs Specific Plan circulation element (SPA 38, Map 231) to eliminate road reservations along section and mid- section lines in Section 20 and 29 of T.9N/R.13W, Zone Map 231 to allow for efficient placement of solar panels.

Raceway 2.0 Solar Site 4

- a) Conditional Use Permit (CUP 119, Map 231) to allow for the construction and operation of up to a combined 70 MW solar electrical generating facility, as well as ancillary structures, on approximately 156 acres;
- b) Conditional Use Permit (CUP 4 Map 231-20) to allow for the construction and operation of up to a combined 70 MW solar electrical generating facility, as well as ancillary structures on approximately 154 acres;
- c) Amendment to the Willow Springs Specific Plan circulation element (SPA 39, Map 231) to eliminate road reservations along section and mid-section lines in Section 20 and 29 of T.9N/R.13W, Zone Map 231 to allow for efficient placement of solar panels;

- d) Amendment to the Willow Springs Specific Plan circulation element (SPA 3, Map 231- 20) to eliminate road reservations along section and mid-section lines in Section 20 and 29 of T.9N/R.13W, Zone Map 231-20 to allow for efficient placement of solar panels; and
- e) Cancellation of a Williamson Act Contract would be processed on APNs: 374-011-04 and 374-011-11 (formerly known as APNs: 257-020-11 and 257-020-04).

Raceway 2.0 Solar Site 5

- a) Amendment of Willow Springs Specific Plan Amendment (SPA 5, Map 231-21) from map code designation 5.3/4.4 (Residential, 10 Dwelling Units Per Acre/Comprehensive Plan Area) to 5.3 (Residential, 10 Dwelling Units Per Acre) on approximately 160 acres;
- b) Amendment of Willow Springs Specific Plan (SPA 5, Map 231-28) from map code designation 5.3/4.4/2.85 (Residential, 10 Dwelling Units Per Acre, Comprehensive Plan Area/Noise Management Area) to 5.3/2.85 (Residential, 10 Dwelling Units Per Acre/Noise Management Area) on approximately 80 acres;
- c) Change in zone classification (ZCC 3, Map 231-21) from E (2.5) RS FPS (Estate (2.5) Residential Suburban, Floodplain Secondary Combining) on approximately 160 acres for consistency with the underlying proposed Specific Plan Designation of 5.3 (Residential, 10 Dwelling Units Per Acre);
- d) Change in zone classification (ZCC 3, Map 231-28) from E (2.5) RS MH FPS (Estate (2.5) Residential Suburban, Mobilehome Combining, Floodplain Secondary Combining) to A FPS (Exclusive Agriculture, Floodplain Secondary Combining) on approximately 81 acres, for consistency with the underlying proposed Specific Plan Designation of 5.3 (Residential, 10 Dwelling Units Per Acre);
- e) Conditional Use Permits (CUP 3, Map 231-21) to allow for the construction and operation of up to a combined 60 MW solar electrical generating facility, as well as related ancillary activities, on approximately 160 acres;
- f) Conditional Use Permits (CUP 7, Map 231-28) to allow for the construction and operation of up to a combined 60 MW solar electrical generating facility, as well as related ancillary activities, on approximately 81 acres;
- g) Amendment to the Willow Springs Specific Plan circulation element (SPA 6, Map 231-21) to eliminate road reservations along section and mid-section lines in Section 21 of T.9N/R.13W, Zone Map 231-21 to allow for efficient placement of solar panels;
- h) Amendment to the Willow Springs Specific Plan circulation element (SPA 6, Map 231-28) to eliminate road reservations along section and mid-section lines in Section 21 of T.9N/R.13W, Zone Map 231-28 to allow for efficient placement of solar panels.

Raceway 2.0 Solar Site 6

- a) Amendment of Willow Springs Specific Plan Amendment (SPA 7, Map 231-21) from map code designation 5.3/4.4 (Residential, 10 Dwelling Units per Acre, Comprehensive Plan Area) to 5.3 Residential, 10 Dwelling Units per Acre) on 64 acres;
- b) Change in zone classification (ZCC 4, Map 231-21) from E (2.5) RS FPS (Estate (2.5) Residential Suburban, Floodplain Secondary Combining) on approximately 40 acres to A FPS (Exclusive Agriculture, Floodplain Secondary Combining) and from Open Space (OS) on approximately 40 acres to A FPS for consistency with the underlying proposed Specific Plan Designation of 5.3 (Residential, 10 Dwelling Units Per Acre) and 7.1 (Light Industrial);

c) Conditional Use Permit (CUP 4, Map 231-21) to allow for the construction and operation of up to a 20 MW solar electrical generating facility, as well as related ancillary structures, on 80 acres; and

Vacations of Public Access Easements

As shown in Table 3-1, *Project Assessor Parcel Numbers, Corresponding Map Codes, Zoning & Acreage*, the proposed solar facility consists of a combined 24 parcels. The proposed project would be developed as six, independent facilities on approximately 1,330 acres. The proposed project changes are depicted in **Figure 3-5**, *Proposed Willow Springs Specific Plan Designations*, **Figure 3-7**, *Proposed Zoning Map Designations*, and **Figure 3-6**, *Proposed Amendment to Willow Springs Specific Plan Circulation Element*.

The project proponent is requesting vacations of public access easements on the project site to allow optimum placement of solar panels. Detailed vacation requests are listed in **Table 3-7**, *Vacations of Existing Public Access Easements*, below.

Parcel No.	Document	Description	NOTES
374-440-01 374-440-02 374-440-03 374-440-04	Book 5622 Page 1729	A resolution by the Board of Supervisors County of Kern, State of California, restoring rights of ingress and egress between Tract 3301 and Parcel Map 6645, which are contiguous along Seventy-Fifth Street West, West of Rosamond.	
374-440-01 374-440-04 374-440-05 374-440-08	Book 5533 Page 929	Irrevocable Offer of Dedication for public ingress/egress	Map 6645
374-440-01 374-440-02 374-440-03 374-440-04	Book 5548 Page 1364	Irrevocable Offer of Dedication for public ingress/egress; drainage	Map 6645
374-250-04	Book 19 Page 105	Map of Survey depicting irrevocable offers of dedication per PM 1772 in Book 8, Page 140 of PMs. Irrevocable offer is over AVEK owned parcel.	
374-440-05 374-440-08	Book 30 Page 26	Parcel Map 6645; irrevocable offers of dedication; 1' non-access strip on West side	
374-011-19 374-011-22	Book 5541 Page 1464	Irrevocable Offer of Dedication for public ingress/egress	Map 6683
374-011-19 374-011-22	Book 29 Page 110	PM 6683 depicting irrevocable offers of dedication.	
374-200-38 374-200-41	Book 5533 Page 925	Irrevocable Offer of Dedication for public ingress/egress	Map 6647; Requires Other Access be given
374-200-38 374-200-41	Book 29 Page 109	PM 6647 depicting irrevocable offers of dedication	

 TABLE 3-7:
 VACATIONS OF EXISTING PUBLIC ACCESS EASEMENTS

Parcel No.	Document	Description	NOTES
374-200-42	Book 5533	Irrevocable Offer of Dedication for public ingress/egress	Map 6646
374-200-45	Page 933		
374-200-42	Book 29	PM 6646 depicting irrevocable offers of dedication	
374-200-45	Page 127		
374-200-42	Book 5548	Irrevocable Offer of Dedication for public ingress/egress	Map 6646
374-200-45	Page 1362		
374-210-08	Book 5231 Page 237	Irrevocable Offer of Dedication for public ingress/egress	Map 5412
374-210-08	Book 6055 Page 1667	Irrevocable Offer of Dedication for public ingress/egress	Map 8244
374-050-01	Book 475 Page 495	E 30' of Section 34	
374-200-29 374-200-30 374-200-54 374-200-57	Book 4639 Page 524	Offer to public in general; 30' road easement over E 30' of SW1/4 28,T9N,R13E	
	Book 4640 Page 405	Offer to public in general; S 30' of S1/2 NE1/4 SE1/4 SW1/4; N 30' of NE1/4 SE1/4 SE1/4 SW1/4	
	Book 4640 Page 406	Offer to public in general; N 30' of NE1/4 SE1/4 SE1/4 SW1/4; S 30' of S1/2 NE1/4 SE1/4 SW1/4	
	Book 4640 Page 407	Offer to public in general; S 30' of S1/2 NE1/4 SE1/4 SW1/4	
	Book 5124 Page 40	Public road and utility easements of record; S 30' of S1/2 NE1/4 SE1/4 SW1/4	same as 4640/405
	Book 5124 Page 48	Public road and utility easements of record; S 30' of S1/2 NE1/4 SE1/4 SW1/4	same as 4640/405
	Book 5124 Page 59	Public road and utility easements of record; S 30' of S1/2 NE1/4 SE1/4 SW1/4	same as 4640/40
	Book 6288 Page 904	Irrevocable Offer of Dedication for public ingress/egress	Requires other access be given
	Book 39 Page 11	PM 8855 depicting irrevocable offers of dedication	

 TABLE 3-7:
 VACATIONS OF EXISTING PUBLIC ACCESS EASEMENTS

3.7 Project Characteristics

The proposed project would consist of approximately 720,784 crystalline-silicon modules arranged in a grid-pattern over the project. The PV solar facility would consist of solar arrays mounted on either fixed tilt racking or single axis tracking structures (or a combination thereof) mounted to vertical posts. The proposed facility is intended to operate year-round, and would generate electricity during daylight hours when electricity demand is at its peak. Additionally, the proposed project would include the construction of one of four interconnection options to interconnect the proposed project to the existing SCE transmission system. Gen-tie line Option 1A and 1B, Option 2, Option 3, or Option 4 are described in more detail below.

The power generated on the project site would assist the State of California in complying with the Renewables Portfolio Standard under Senate Bill 350 (2015), which requires 50 percent of all electricity sold in the state shall be generated from renewable energy sources by December 31, 2030. Senate Bill 100 was approved in September 2018 and would increase the Renewables Portfolio Standard to a 100 percent goal by 2045. 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 project has an anticipated operational life of up to 35 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 it would seek an extension of its CUP. If any portion of the project site is decommissioned, it would be converted to other uses in accordance with the applicable land use regulations in effect at that time.

The combined project facilities would include the following components:

- Installation of up to a total combined 291-MW of solar PV modules made of crystalline-silicon material covered by glass, mounted on a galvanized metal fixed tilt racking or single axis tracking systems embedded into the ground;
- If fixed tilt technology is not used, solar tracking system consisting of drive motors, drive arms and hydraulic systems that allow for rotation of solar panels from east to west, tracking the suns position over the course of the day;
- Underground and/or above ground medium voltage collections systems throughout the project site;
- Medium voltage inverters and step-up transformers;
- Onsite solar substation(s) including circuit breakers, switches, remote terminal units, fiber optic line telecommunication equipment, and main step-up transformer(s);
- Onsite switchyard(s);
- Onsite access roads;
- Perimeter security fencing 6- to 8-feet high with barbed wire;
- Concrete pads sized and installed to accommodate the associated equipment (inverters, switchgear, transformers, etc.);
- Meteorological data collection systems and supervisory control and data acquisition (SCADA); and
- Several battery energy storage facilities located at each inverter and associated appurtenances or one centralized battery energy storage facility.

Solar PV Panels

The approximate 291 MW proposed project would utilize PV technology on tracker mounting supports. The proposed project would then have the option to transfer electricity directly into the grid or into energy storage system for distribution to the grid during peak energy hours. The major elements of the proposed project are described as follows.

Up to an estimated 720,784 individual crystalline-silicon panels would be installed onsite. The number of panels present on the six different sites under this scenario is detailed below:

- Raceway Solar 2.0 1: 48,336 panels;
- Raceway Solar 2.0 2: 46,056 panels;
- Raceway Solar 2.0 3: 285,209 panels
- Raceway Solar 2.0 4: 177,973 panels
- Raceway Solar 2.0 5: 123,462 panels
- Raceway Solar 2.0 6: 39,748 panels

The layout of the single-axis tracker solar panels would be aligned in rows in the north-south direction (or in an east-west direction if a fixed tilt racking system were used instead). The maximum height of the single-axis tracker solar panels would be up to 12-feet above grade, at the beginning and end of each day. A fixed tilt racking system would be less than 12-feet high. Each solar panel would be attached to embedded piers using a support structure. Module layout and spacing is typically optimized to balance energy production versus peak capacity, and depends on the sun angles and shading due to the surrounding horizon of the site. Individual arrays of modules would be combined to generate the total plant capacity.

Solar Trackers

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

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

Fixed Tilt Racking System

The solar panels would be in a fixed tilt position that allows for the most sunlight specific to the geography of the project, if the fixed tilt racking system is used. Fixed Tilt Racking System. The solar panels would

be in a fixed tilt position that allows for the most sunlight specific to the geography of the project, if the fixed tilt racking system is used.

Electrical Collector System and Inverters

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

The proposed project would use an unmanned field control system. The controls generally include a field supervisory controller in a central location and local microprocessor controllers connected to each tracker, if trackers are to be used. The field control system monitors solar insulation, wind velocity, and tracker performance and status, and communicates with all the local microprocessor controllers. When the appropriate conditions exist, the field supervisory controller initiates the trackers' daily tracking of the sun, and at the end of the day stows the trackers in the solar array.

The DC electricity produced by the solar panels is converted to three-phase alternating current by a series of inverters. Alternating current is the type of electricity usable by the electric utility and is the form required to connect to the transmission system. The inverter pad equipment includes a transformer that steps up the electricity in its new form to an output voltage of 34 kV or 230 kV. This electricity is then transmitted via the medium voltage collection system to the switching station.

Energy Storage System

Energy storage plays an increasingly important role in renewable energy and helps to create a more flexible and reliable grid system. Energy storage can smooth electricity prices through arbitrage or energy shifting, manage evening energy ramps, mitigate the risk of curtailment, provide black start capability, provide backup power, and more.

The proposed project would have either several Energy Storage Systems (ESS) at each site's inverters or ESS at a centralized location onsite. The ESS would be able to provide approximately 291 MWh of energy storage. Each ESS would occupy approximately 1 to 2 acres within the project boundaries and consist of batteries, inverters, switches, cooling equipment, and other appurtenant equipment placed in multiple prefabricated enclosures or containers near the onsite substation. The ESS would either be installed contemporaneously or after the installation of the PV facilities. The final locations are dependent on final design and may require construction of vaults or other supporting foundations. Each ESS would consist of self-contained battery storage modules placed in racks, converters, 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 ESSs use prefabricated metal containers, each container will be a 40-foot-long by 8-foot-wide battery container. The ESSs would also have a fire rating in conformance with County standards and specialized fire suppression systems installed for the battery rooms.

Generation-Tie Lines

The project's preferred and alternative generation tie (gen-tie) routes would interconnect to the existing SCE transmission system. The options of the proposed project are:

Option 1A: Previously approved collector substation (Big Sky North Substation) – 100th Street West via Avenue A.

Under this option, the proposed project would interconnect at a previously approved collector substation located at the approximate intersection of 100th Street West and Avenue G-12 (further north of Avenue H) in the City of Lancaster, Los Angeles County, via Avenue A and 100th Street West.

The proposed project would interconnect via an approximately 10 to 12-mile 34 kV and/or 230 kV gen-tie line originating at a DC collection system located at the southwestern portion of the project site. Electricity at the previously approved collector substation would ultimately be delivered to the existing Big Sky Substation (owned and operated by the applicant) located along West Avenue J and 100th Street West in the City of Lancaster.

Option 1B: Previously approved collector substation (Big Sky North Substation) – 100th Street West via 90th Street to Avenue A-8 to 95th Street to Avenue B.

Under this option, the proposed project would interconnect at a previously approved collector substation located at the approximate intersection of 100th Street West and Avenue G-12 (further north of Avenue H) in the City of Lancaster, Los Angeles County, via 90th Street heading south to Avenue A-8, then west to 95th Street, then south to Avenue B, and west to 100th Street West. The proposed project would interconnect via an approximately 10 to 12-mile 34 kV and/or 230 kV gen-tie line originating at a DC collection system located at the southwestern portion of the project Site. Electricity at the previously approved collector substation would ultimately be delivered to the existing Big Sky Substation (owned and operated by the applicant) located along West Avenue J and 100th Street West in the City of Lancaster.

Option 2: Previously approved collector substation (Big Sky North Substation) – 110th Street.

Under this option, the proposed project would interconnect at a previously approved collector substation located at the approximate intersection of 100th Street West and Avenue G-12 (further north of Avenue H) in the City of Lancaster, Los Angeles County, via Avenue A and 110th Street West.

The proposed project would interconnect via an approximately 10 to 12-mile 34 kV and/or 230 kV gen-tie line originating at a DC collection system located at the project Site. Electricity at the previously approved collector substation would ultimately be delivered to the Big Sky Substation (owned and operated by the applicant) located along West Avenue J and 100th Street West in the City of Lancaster.

Option 3: Previously approved collector substation (Big Sky North Substation) – 80th Street West.

Under this option, the proposed project would interconnect at a previously approved collector substation located at the approximate intersection of 100th Street West and Avenue G-12 (further north of Avenue H)

in the City of Lancaster, Los Angeles County, via Avenue A and 80th Street West. The proposed project would interconnect via an approximately 10 to 12-mile 34 kV and/or 230 kV gen-tie line originating at a DC collection system located at the southwestern portion of the Project Site. Electricity at the previously approved collector substation would ultimately be delivered to the Big Sky Substation (owned and operated by the applicant) located along West Avenue J and 100th Street West in the City of Lancaster.

Option 4: Los Angeles Department of Water and Power (LADWP) Proposed Substation.

Under this option, the proposed project would interconnect at a planned LADWP substation in Kern County, located northwest of the project site, along Rosamond Boulevard near the intersection of Rosamond Boulevard and 110th Street West. An approximate 3-mile 34 kV and/or 230 kV gen-tie line originating at the DC collection system located at the northwest portion of the project site, would run north along 90th Street West, west along Rosamond Boulevard, and interconnect at the planned LADWP substation. This LADWP proposed substation is currently in the design phase and is scheduled to be built and constructed by 2019 or 2020.

Operation and Maintenance Facilities

No Operations and Maintenance (O&M) facilities would be installed on any of the sites. All maintenance would be performed by personnel located offsite.

Data Collection System

The proposed project would be designed with a comprehensive Supervisory Control and Data Acquisition (SCADA) system for remote monitoring of facility operation and/or remote control of critical components. Within the site, the fiber optic or other cabling required for the monitoring system would be installed throughout the solar fields leading to a centrally located (or series of appropriately located) SCADA system cabinets. The telecommunications connections to the SCADA system cabinets are either wireless or hard wired.

The system would also include a meteorological (met) data collection system at each site. The met stations would have the following weather sensors: a pyranometer for measuring solar irradiance, a thermometer to measure air temperature, a barometric pressure sensor to measure atmospheric pressure, and two wind sensors to measure speed and direction. These sensors would be connected to a data logger to compile the data for transmission to the Data Collection Center.

There would be no telecommunication towers installed at any of the sites.

Site Access and Security

During construction and operation, the project would be accessed from various roadways. SR-58 intersects with SR-14 and runs north of the project site; however, SR-14, located east of the project site, would provide primary access as shown on Figure 3-2.

During project construction and operations, the primary access to each site would use the following streets:

- Raceway Solar 2.0 1: West Avenue A
- Raceway Solar 2.0 2: Gaskell Road
- Raceway Solar 2.0 3: 90th Street West

- Raceway Solar 2.0 4: Willow Avenue and/or 80th Street West
- Raceway Solar 2.0 5: 70th Street West
- Raceway Solar 2.0 6: Rosamond Boulevard

While existing roads would be utilized to the greatest extent possible, potential improvements to unpaved roads (such as evening out the road topography or compacting the dirt) may be required off site to serve as access roads from the existing road network to the project. As depicted the project's Site Plans Figures 3-9 through 3-14 new unpaved roads within the project site would be constructed. A 20-foot-wide minimum road is required around the perimeter of the solar arrays for the fire department and emergency vehicles. Additional internal maintenance roads would be located throughout the project area. Internal site circulation would include approximately 20-foot-wide access roads consisting of crushed stone and approximately 15- to 20-footwide O&M roads among the solar arrays consisting of compacted native soil. Spacing between each row would depend on final panel type, orientation, and Caltrans/County regulations. These site access roads would remain in place for ongoing operations and maintenance activities after construction is completed.

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

Security fencing would be installed in accordance with Kern County zoning requirements. Chain-link security fencing would be installed around the site perimeter, switchyard(s), substation(s), and other areas requiring controlled access to restrict public access during construction and operations. The security fence would be 6- to 8-feet tall, with two strings of barbed wire along the top. The fence posts would be set in concrete. Additional security may be provided using closed circuit video surveillance cameras and intrusion systems. Signs would be installed to achieve appropriate safety and security as expected in a solar power facility. The fencing would remain for the life of the project.

The project's lighting system would provide O&M personnel with illumination for both normal and emergency conditions. Lighting would be designed to provide the minimum illumination needed to achieve safety and security objectives. Lighting would be directed downward and shielded to focus illumination on the desired areas only and to avoid light spillage onto adjacent properties. Lighting would be no brighter than required to meet safety and security requirements, and lamp fixtures and lumens would be selected accordingly. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties in conformance with Kern County Ordinance (Chapter 19.81) – Outdoor Lighting-Dark Skies requirements.

Electrical Interconnection to Transmission Owner Infrastructure

The proposed project would connect with a 34 kV and/or 230 kV gen-tie line. One substation would be constructed under this project. Its tentative location is the southwest corner of the Raceway 2.0 Solar 1 site.

ALL CONTRACTOR

KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT RACEWAY SOLAR PROJECT





KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT PACEWAY SOI AR PROJECT



Figure 3-10: RACEWAY SOLAR 2 SITE PLAN



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT RACEWAY SOLAR PROJECT



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Figure 3-11: RACEWAY SOLAR 3 SITE PLAN



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT RACEWAY SOLAR PROJECT



Figure 3-12: RACEWAY SOLAR 4 SITE PLAN

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KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT RACEWAY SOLAR PROJECT



2021

Figure 3-13: RACEWAY SOLAR 5 SITE PLAN

HEN PLOTTED ON 24" X 36" SHEET

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KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT RACEWAY SOLAR PROJECT



3.7.1 Construction

The construction activities for the proposed project fall into three main categories: (1) site grading and earthwork; (2) solar array construction; and (3) electrical interconnection to transmission owner infrastructure. The entire construction process is estimated to take between 10 and 12 months, depending on workforce. The construction workforce would consist of laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel. Construction would primarily occur during daylight hours, Monday through Friday. Additional hours/days may be necessary to facilitate the schedule. For purposes of the environmental review in each environmental subject area throughout the EIR, a worst-case scenario (i.e., greatest environmental impact) was utilized to evaluate potential environmental impacts.

Schedule and Workforce

Construction would primarily occur during daylight hours, Monday through Friday, between 6:00 a.m. and 6:00 p.m., as required to meet the construction schedule. The project construction crews would have a staggered work day, with multiple shifts of workers coming onsite between the hours of 6:00 a.m. and 10:00 a.m. in the mornings, and leaving between 2:00 p.m. and 6:00 p.m. In compliance with Kern County Noise Ordinance (Municipal Ordinance Code 8.36.020) construction activities would not occur between the hours of 9:00 p.m. and 6:00 a.m. on weekdays and 9:00 p.m. to 8:00 a.m. on weekends for construction sites located within 1,000 feet of an occupied residential dwelling. Additional hours/days may be necessary to facilitate the schedule. Any construction work performed outside of the normal work schedule would be coordinated with the appropriate agencies and would conform to the Kern County Noise Ordinance (Chapter 8.36).

The onsite construction workforce has been conservatively estimated to peak at up to 800 individuals for short periods of time, which is typically a few weeks; however, the average daily workforce is expected to be approximately 500 to 600 construction, supervisory, support, and construction management personnel onsite during construction. It is anticipated that the construction workforce would commute to the site each day from local communities and report to the designated construction staging yards prior to the beginning of each workday.

During construction, dusk-to-dawn security lighting would be required for the temporary construction staging area, parking area, construction office trailer entries, and site access points. Lighting is not planned for typical construction activities because construction activities would occur primarily during daylight hours; however, if required, any lighting would be temporary, directed downward, and limited to that needed to ensure safety and security. Multiple portable toilets would be used during construction, and wastewater would be trucked offsite for disposal in accordance with all applicable regulations by a licensed sewage disposal company.

Site Grading and Earthwork

Beginning work on the project would involve preparing the land for installation of arrays, energy storage facility, related infrastructure, access driveways, and temporary construction staging areas. Site preparation would involve clearing and grubbing of the site of existing surface vegetation and debris that would unduly interfere with project construction or the health and safety of onsite personnel. Dust minimizing techniques would be employed, such as maintaining natural vegetation where possible, utilizing "mow-and-roll" vegetation clearance strategy, application of water, and application of non-toxic dust suppressants.

Conventional grading would be minimized to the maximum extent possible to reduce unnecessary soil movement that may result in dust. Where appropriate, earthworks scrapers, excavators, dozers, water trucks, paddlewheels, haul vehicles and graders may all be used to perform grading. Targeted land-leveling equipment, such as a smooth steel drum roller, would be used to even the surface of the ground and to compact the upper layer of soil to a value recommended by a geotechnical engineer for structural support. Access roads may be additionally compacted to 90 percent or greater, as required, to support construction and emergency vehicles. Certain access roads may also require the use of aggregate to meet emergency access requirements. Soil movement from grading would be balanced on the site, and it is anticipated that no import or export of soils would occur.

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

All applicable local, State, and federal requirements would be incorporated into the construction activities for the project site. Per the requirements of the State Construction General Permit, the construction contractor would be required to incorporate best management practices (BMPs) consistent with the County zoning ordinance and with guidelines provided in the California Storm Water Best Management Practice Handbooks: Construction into a Storm Water Pollution Prevention Plan (SWPPP) prepared for the project site. Prior to initial construction mobilization, pre-construction surveys would be performed and sediment and erosion controls would be installed in accordance with the approved SWPPP. Stabilized construction entrances and exits would be installed at driveways to reduce tracking of sediment onto adjacent public roadways. Site preparation would also be consistent with Kern County BMPs and Eastern Kern Air Pollution Control District rules for dust control. Noise generating construction activities would be limited to the construction hours noted above. All stationary equipment and machines with the potential to generate a significant increase in noise or vibration levels would be located away from noise receptors to the extent feasible. Noise generating construction activities would be limited to the construction hours noted above. All stationary equipment and machines with the potential to generate a significant increase in noise or vibration levels would be located away from noise receptors to the extent feasible. The contractor would conduct construction activities in such a manner that the maximum noise levels at the affected buildings would not exceed established noise levels.

Solar Array Assembly

Erection of the solar arrays would include support structures and associated electrical equipment. First, steel piles would be driven into the soil using pneumatic techniques, similar to a hydraulic rock hammer attachment on the boom of a rubber-tired backhoe excavator. If shallow bedrock, or other obstructions are encountered, the pile locations would be predrilled and then grouted in place with concrete. Once the piles have been installed, the horizontal array support structures would be installed. The final design of the horizontal array support structures may vary, depending on the final selection of the PV technology, as well as whether a fixed tilt or tracking system is selected. The arrays would consist of either a fixed tilt racking or a single axis tracking structures (or a combination thereof) system. For a single-axis tracking system, the trackers and their associated motors would be mounted to the horizontal cross-members and aligned in rows in the north-south direction. A fixed tilt racking system holds the PV modules in a fixed tilt position that allows for the most sunlight specific to the geography of the project and would be field assembled in an east-west direction, if the fixed tilt racking system is used. Once the support structures are installed, workers

would begin to install the solar modules. Solar array assembly and installation would require trenching machines and excavators, compactors, concrete trucks and pumpers, vibrators, forklifts, boom trucks, graders, pile drivers, drilling machines, and cranes.

Concrete would be required for the footings and pads for s for the medium voltage transformers, inverters, and communications buildings. Concrete may also be required for pile foundation support depending on the proposed mounting system chosen for installation and whether obstructions are encountered when trying to drive piles. Final concrete specifications would be determined during detailed design engineering. Concrete would be purchased from an offsite supplier and trucked onto the project sites. During this work, there would be multiple crews working on the site with vehicles, including special vehicles for transporting the modules and other equipment. As the solar arrays are installed, the solar switchyard would be constructed and the electrical collection and communication systems would be installed. Within the solar fields, the electrical and communication wiring would be installed in underground trenches, although some of the mid-voltage collection runs and communications may be on overhead lines. Collection trenches would likely be mechanically excavated, though in some cases targeted shallow trench blasting may be required as a construction technique due to near-surface bedrock.

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

Electrical Supply

The method of temporary power for construction is expected to be provided by mobile diesel-driven generator sets, batteries, by temporary electrical service from the local power provider, or a combination of all three methods.

Construction Water Use

During construction of the proposed project, water would be required for common construction related purposes, including but not limited to dust suppression, soil compaction, and grading. Dust-control water may be used for ingress and egress of onsite construction vehicle equipment traffic and for the construction of the solar equipment. Smaller quantities would be required for preparation of the concrete required for foundations and other minor uses. After the earthwork activities, water usage would be used for dust suppression and normal construction water requirements that are associated with construction of the building, internal access roads, revegetation and periodic cleaning of solar arrays. A sanitary water supply would not be required during construction, because restroom facilities would be provided as portable units to be serviced by licensed providers.

The overall construction water usage is anticipated to be approximately 500 acre-feet (AF) during the 10to 12-month construction period. During construction, the water used is anticipated to be trucked from an offsite water purveyor. Water demand during construction is expected to be the same if the project is constructed during a year with normal precipitation, a year with less-than-average precipitation, or a multiyear period of less-than-average precipitation.

Solid and Nonhazardous Waste

The project site would produce a small amount of solid waste from construction activities. This may include broken and rusted metal, defective or malfunctioning PV modules, electrical materials, empty containers, and other miscellaneous solid wastes, including the typical refuse generated by workers, particularly during construction activities. These wastes would be segregated for recycling. Non-recyclable wastes would be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill. The closest Class III municipal landfill is the Mojave Recycling and Sanitary Landfill (RSLF), which is located approximately 12 miles northeast of the project. The Mojave RSLF is an unlined, active public Class III sanitary landfill owned by the County of Kern and operated by the Kern County Public Works Department.

Hazardous Materials

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

Hazardous Waste

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

3.7.2 Operation and Maintenance

No Operations and Maintenance (O&M) facilities would be installed on any of the sites. All maintenance would be performed by personnel located offsite. Typical O&M activities that would occur offsite during operation include, but are not limited to, managing a group of prequalified maintenance and repair firms who can meet the O&M needs of the facility throughout its life; creating a responsive, optimized cleaning schedule; responding to plant emergencies and failures in a timely manner; maintaining an inventory of spare parts to ensure timely repairs and consistent plant output; systematically maintaining a log to effectively record and track all maintenance problems; and performing maintenance on the site as required to clear obstructive ground cover. As previously mentioned, the project would not include an onsite O&M building. Staff of two to four people would be required during panel washing and are expected to be hired from the local community. No permanent onsite staff are proposed but local staff

would be utilized for ongoing facility monitoring, equipment storage and repairs during the operational phase of the project.

Electrical Supply

Power for plant auxiliaries would be provided by the project's electrical generation or supplied by the local power provider. The proposed project would require power for the electrical enclosures, tracker motors, associated structures, and for plant lighting and security.

Operations Water Use

During operation and maintenance of the project, it is anticipated that water would be required for panel washing, equipment washing, sanitary and non-sanitary uses, and other miscellaneous water uses, such as landscaping. Water for panel washing is expected to be trucked and would be obtained from a local water purveyor (Antelope Valley East Kern Water Agency). During solar and energy storage project operations, solar panel washing is expected to occur one to four times per year and temporary general labor (up to 4 individuals) may assist in the panel cleaning. Water consumption is expected to be 4.4 AF of water per washing cycle, based on other similar operations. The annual water usage is expected to be up to approximately 19 acre-feet per year (AFY) of water per year. Although the project proponent only expects to wash the PV panels once per year, the panels may need to be washed more frequently (up to four times per year) based on site conditions. Conditions that may necessitate increased wash requirements include unusual weather occurrences, forest fires, local air pollutants, and other similar conditions. Therefore, the proposed project is proposing the use of up to 30 AF per year for the explicit use of washing panels. This amount is in addition to the water necessary for the operations, fire suppression, and site maintenance, which is a small amount of groundwater.

Solid and Nonhazardous Waste

The project would produce a small amount of waste associated with maintenance activities, which could include broken and rusted metal, defective or malfunctioning modules, electrical materials, empty containers, and other miscellaneous solid waste, including the typical refuse generated by workers. Most of these materials would be collected and delivered back to the manufacturer or to recyclers. Non- recyclable waste would be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill. The closest Class III municipal landfill is the Mojave Recycling and Sanitary Landfill (RSLF). Shipping materials, construction waste, and other general solid wastes would be separated for recycling where possible/available.

Hazardous Materials

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

Hazardous Waste

The proposed project would produce a small amount of hazardous waste associated with maintenance activities, which could include broken and rusted metal, defective or malfunctioning modules, electrical materials, and empty containers and other miscellaneous solid materials, including typical household refuse generated by workers. Workers would be trained to properly identify and handle all hazardous wastes. Most of these materials would be collected and delivered back to the manufacturer for recycling.

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

Security and Lighting

The proposed project would be fenced by a 6 to 8-foot-high chain link fence installed around the perimeter of the facility to help prevent access by the public. Fencing would be installed with wildlife friendly features. Locking gates would be installed at specified points of ingress and egress. Limiting access to the project site would be necessary both to ensure the safety of the public and to protect the equipment from potential theft and vandalism. Signs would be posted appropriately. Offsite security personnel may be dispatched during nighttime hours or be onsite depending on security risks and operating needs.

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

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

3.7.3 Decommissioning

The project has an anticipated operational life of up to 35 years, after which the project proponent may choose to update site technology and recommission, or to decommission the site and remove the systems and their components. All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, state, and County regulations. Following the expiration of a power purchase agreement for the proposed project, the project proponent may, at its discretion, choose to enter into subsequent power purchase agreements or to decommission and remove the system and its components. The project site could then be converted to other uses in accordance with the applicable land use regulations in effect at that time.

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

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

3.8 Entitlements Required

The anticipated approvals needed for the project include changes in zone classification and adoption of conditional use permits within the project boundaries. Construction and operation of the proposed solar energy facility may require additional State, local, and federal entitlements; as well as discretionary and ministerial actions and approvals listed below:

3.8.1 Kern County

- Consideration and certification of Final EIR
- Adoption of 15091 Findings of Fact and 15093 Statement of Overriding Considerations
- Approval of proposed Mitigation Measure Monitoring Program
- Approval by the Kern County Board of Supervisors for proposed changes in zone classification
- Approval by the Kern County Board of Supervisors for proposed conditional use permits for the project site
- Approval of vacation of public access easements
- Approval of Williamson Act Contract Cancellation
- Approval of Willow Springs Specific Plan Land Use Designation Amendments
- Approval of Willow Springs Specific Plan Circulation Element Amendments and Vacations (elimination of future road reservations)
- Cancellation of WALUC
- Approval of Fire Safety Plan
- Kern County grading and building permits
- Kern County encroachment permits
3.8.2 Other Responsible Agency Entitlements

- California Public Utilities Commission (CPUC) for approval of Section 851 Permit
- U.S. Fish and Wildlife Service (USFWS) Section 10 Incidental Take Permit and Habitat Conservation Plan (if required).
- United States Army Corps of Engineers Section 404 Permit (if required)
- California Department of Fish and Wildlife (CDFW), Section 1600 et seq. permits (Lake and Streambed Alteration Agreement) or Section 2081 Permit (State-listed endangered species (if required)
- Regional Water Quality Control Board (RWQCB) Lahontan Region Waste Discharge Requirements, National Pollutant Discharge Elimination System Construction General Permit, General Construction Stormwater Permit (Preparation of a SWPPP), and Section 401 certification (if required)
- California Department of Transportation Permit for Transport of Oversized Loads
- Eastern Kern County Air Pollution Control District Authority to Construct/Permit to Operate/Fugitive Dust Control Plan

3.9 Cumulative Projects

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

According to the CEQA Guidelines:

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

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

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

"The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the project's incremental effects are cumulatively considerable" (CCR, Title 14, Division 6, Chapter 3, Section 15064[h][5]). Cumulative impact discussions for each environmental topic area are provided at the end of each technical analysis presented in Chapter 4 of this EIR. As previously stated, and as set forth in the CEQA *Guidelines*, related projects consist of "closely related past, present, and reasonable foreseeable probable future projects that would likely result in similar impacts and are located in the same geographic area" (CCR, Title 14, Division 6, Chapter 3, Section 15355).

Unless otherwise noted in each chapter, the geographic scope for the cumulative impact analysis is the 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, and habitat value; its 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.

A list and description of past, present, and reasonably foreseeable projects near the project can be found in **Table 3-9**, *Cumulative Projects List*. **Figure 3-15**, *Cumulative Projects Map*, show the approximate location of the proposed solar projects in Kern County considered in the cumulative analysis.

TABLE 3-9:CUMULATIVE PROJECTS LIST

Project Name/ Case ID	Project Location	Project Description	Case Type	Request	Project Site APN	Acreage/ Square Feet
		KERN COUNTY PROJECTS – Figure 3-15				
Within 1-Mile of P	roject Site					
1. Don ILIC	9201 West Avenue A, Rosamond	Extension of Conditional Use Permit, Case # 106, Map 231, Notice of Decision 104-15	CUP	CUP, Map 231	374-450- 09	NA
2. Vanessa Langley	7337 Avenue A, Lancaster	Modification of Conditions for CUP 107, Map 231	CUP	CUP, Map 231	374-132- 306	2.19 acres
3. John and Jessica Jeffries	2429 Alpaca Avenue, Rosamond	Precise Development Plan and Zone Change, Map 231-15, Warehouse/Storage	PDP, ZCC	Map 231-15	252-190- 129	2.55 acres
4. Sundale Water Company	7337 Avenue A, Rosamond	CUP Modification to delete Condition of Approval 6(a)2 of CUP Permit # 107, Map # 231 (Approved Feb 9th, 2017; Resolution No. 15-17), Sundale Mutual Water Company	CUP	CUP 107, Map 231	374-132- 306	2.19 acres
5. Kurt Phillips	6643 Dogwood Avenue, Rosamond	CUP, Map 231 to allow the use of Cargo Containers on a Residential Lot.	CUP	CUP, Map 231	374-141- 117	2.48 acres
6. Joe facciano	unknown	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.	ZCC, PD,	ZCC, PD, Map 231-16	252-171- 095	2.53 acres
7. Tapia Bros., Inc.	unknown	Map 231, ZCC - E(2 1/2) RS MH FPS & OS to A	ZCC	ZCC, Map 231	374-020- 53	NA
Within 6-Miles of I	Within 6-Miles of Project Site					
8. Rose-Anne, LLC.	unknown	A precise development plan to allow a church, auditorium and associated athletic fields.	PDP	PDP	473-022- 259	26.43 acres
9. Golden Fields Solar VI, LLC, C/O Patrick Sullivan	Near Willow Avenue, Rosamond CA	Conditional Use Permit, Map 232, Rosamond 7 Solar Project	CUP, Map 232	CUP, Map 232	359-332- 10	NA

TABLE 3-9: CUMULATIVE PROJECTS LIST

Project Name/ Case ID	Project Location	Project Description	Case Type	Request	Project Site APN	Acreage/ Square Feet
10. Golden Fields Solar VI, LLC, C/O Patrick Sullivan	Near Willow Avenue, Rosamond CA	Zone Change, Map 232, Rosamond 7 Solar Project	ZCC	ZCC, Map 232	359-332- 10	NA
11. Golden Fields Solar VI, LLC, C/O Patrick Sullivan	Near Willow Avenue, Rosamond CA	General/Specific Plan Amendment, Map 232, Rosamond 7 Solar Project	GPA, SPA	GPA, SPA, Map 232	359-331- 16	NA
12. Lendlease Energy Development	unknown	EIR: Solar/Wind; Planner: R. Cates - 60 megawatt (MW) (AC) facility, or alternatively, could be developed as three independent, 20 MW facilities on approximately 160 acres.	NA	NA	346-022- 031	320.42 acres
13. First Solar, et al	unknown	EIR: Solar/Wind; Planner: R. Cates - GPA to change map code, zone change, CUP for solar energy and communications tower.	GPA, ZCC, CUP	GPA, ZCC, CUP	252-341- 482	NA
14. EDF Renewables on behalf of BigBeau Solar LLC	4551 170th Street West, Rosamond, CA	Development of 128 MW PV solar with energy storage on 2,557 acres, 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,	NA	NA	474-232- 352	2.5 acres
15. Russell Khouri	0 Rosamond Boulevard, Rosamond, CA	CUP 2, Map 231-13 for EOT - Apt Complex	CUP	CUP, Map 231-13	252-161- 492	2.51 acres
16. Westpark, LLC - Howard Field	unknown	Map 230 for GPA/ ZCC/ PD Hotel Development	GPA, ZCC	PGA,ZCC, PD	471-022- 079	460 acres
17. Yahya Alghaili Murshed	1379 Sierra Highway, Rosamond, CA	CUP, Map 230-28 for Recreational Vehicle Park Preliminary Review will be conducted by Rogelio	CUP	CUP, Map 230-08	473-050- 060	5.36 acres

TABLE 3-9:CUMULATIVE PROJECTS LIST

Project Name/ Case ID	Project Location	Project Description	Case Type	Request	Project Site APN	Acreage/ Square Feet
18. BHT Developers, LLC.	unknown	CUP, Map 230 for Auto Auction Facility	CUP	CUP, Map 230	473-023- 042	42.64 acres
19. Joe Facciano	unknown	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 square foot buildings for light industrial/storage use.	CUP, ZCC, PD	ZCC, PD, Map 231-16	252-171- 095	2.53 acres



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT RACEWAY SOLAR PROJECT



3-54

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 VisionScape and illustrates various views of the project site after buildout of the project. The visual simulations are shown in **Figures 4.1-2** through **4.1-6** in this section. 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:

- **Viewshed** defined as the surrounding geographic area from which the project is likely to be seen, based on topography, atmospheric conditions, land use patterns, and roadway orientations. "project viewshed" is used to describe the area surrounding a project site where a person standing on the ground or driving a vehicle can view the project site.
- Key Observation Point (KOP) one or a series of points on a travel route or at a sensitive use area, such as a residence, where the view of a project would be the most revealing.
- Scenic vista an area identified or known for high scenic quality. Scenic vistas may be designated by a federal, State, or local agency. Scenic vistas can also include an area that is designated, signed, and accessible to the public for the express purposes of viewing and sightseeing.
- Scenic highway any stretch of public roadway that is designated as a scenic corridor by a federal, State, or local agency.
- Sensitive receptors or sensitive viewpoints viewer responses to visual settings are inferred from a variety of factors, including distance and viewing angle, type of viewers, number of viewers, duration of view, and viewer activities. The viewer type and associated viewer sensitivity are distinguished among project viewers in recreational, residential, commercial, military, and industrial areas. Viewer activities can range from a circumstance that encourages a viewer to observe the surroundings more closely (such as recreational activities), to discouraging close observation (such as commuting in heavy traffic). Residential viewers typically have extended viewing periods and are generally considered to have high visual sensitivity. For this reason,

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

- Viewing distance zones the landscape is subdivided into three distance zones based on relative visibility from travel routes or observation points. The three zones are: foreground, middleground, and background. The foreground zone includes areas less than ¹/₄ mile away, the middleground zone includes areas ¹/₄ mile to 3 miles away, and the background zone includes areas beyond 3 miles (FHWA, 2015).
- **Visual sensitivity** the overall measure of an existing landscape's susceptibility to adverse visual changes. When viewing the same landscape, people may have different responses to that landscape and any proposed visual changes, based upon their values, familiarity, concern, or expectations for that landscape and its scenic quality. Because each person's attachment to and value for a particular landscape is unique, visual changes to that landscape inherently affect viewers differently. Nonetheless, generalizations can be made about viewer sensitivity to scenic quality and visual changes.

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

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

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

4.1.2 Environmental Setting

Regional Character

The project site is located within the western Antelope Valley, in the southeastern portion of Kern County. Raceway Solar Site 6 is located approximately 5.2 miles east of the unincorporated community of Rosamond and is within the western Mojave Desert. The project site is bounded by Rosamond Boulevard to the north, open space to the east and the west, and the Kern County/Los Angeles County boundary along West Avenue A to the south, adjacent to the southernmost portion of the project site.

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 planned/existing 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 a portion of the PCT is approximately 14 miles southwest of Raceway Solar Site 1 and approximately 16 miles northwest of the Raceway Solar Site 4. Visitors to this trail may be negatively affected by the visibility of the solar panels and other infrastructure proposed for the project site. Forest, parkland, and preserve areas in the vicinity of the project site include the Angeles National Forest located approximately 21 miles southwest; the Desert Pines Wildlife Sanctuary and the Arthur B. Ripley Desert Woodland State Park located approximately 13 miles to the southwest; and the Antelope Valley California Poppy Reserve located approximately 9 miles to the southwest.

There are several planned, existing, and permitted solar energy and transmission projects in the region where the project site is located. In total, there are over 30,000 acres of existing large-scale commercial solar projects in the Eastern Kern desert areas. Surrounding solar projects in the vicinity include:

- **The Antelope Valley Solar Project:** approximately 7 miles southwest of Raceway Solar Site 1, approved in 2010, and currently operational.
- **Catalina Renewable Energy Project:** approximately 5 miles northwest of Raceway Solar Site 4, approved in 2011, and currently operational.
- **Rosamond Solar Project:** approximately 2.6 miles northwest of Raceway Solar Site 3, approved in 2010, and currently operational.
- North Rosamond Solar Project: approximately 5 miles northwest of Raceway Solar Site 3, approved in 2014, and currently operational.
- Willow Springs Solar Project: approximately 3 miles west of Raceway Solar Site 3, approved in 2016. Phase 1 is operational, and Phase 2 is under construction.

Furthermore, the Avalon Wind Energy Project site is located north of the project site across Backus Road, and was approved by the Kern County Board of Supervisors in December 2011. This project includes wind towers that generate up to 128 megawatts (MW) of energy, which are currently operational. In addition to the list above, the following solar projects have also been approved within 6 miles of the project site: RE Rosamond One, RE Rosamond Two, Windhub Solar, and Valentine Solar.

Local Character

The nearest populated areas to the project site in Kern County are the unincorporated community of Mojave, the unincorporated community of Rosamond, and the City of Tehachapi, which are approximately 13 miles northeast, 5.2 miles east, and 25 miles northwest of the project site, respectively. Existing development in the area 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 planned/existing met towers.

The project site is generally bounded by Rosamond Boulevard to the north, open space to the east and the west, and the Los Angeles County boundary along West Avenue A to the south, adjacent to the southernmost portion of the project site. The project would be primarily accessed off of SR-58 and SR-14. The various project sites would be accessed from gates along Avenue A, Gaskell Road, 90th Street West, Willow Avenue and or 80th Street West, Gaskell Road and/or 80th Street West, and 70th Street West.

Elevations across the 1,330-acre project site range from approximately 2,300 feet above mean sea level to approximately 2,800 feet above mean sea level. As described in more detail in Section 4.4, *Biological Resources*, desert vegetation dominates the region. Vegetation on the project site consists of Mojave Saltbush Scrubland with the most common species being saltbush (*Atriplex polycarpa*); Russian thistle (*Salsola tragus*) and ripgut brome (*Bromus diandrus*) are also very common to the area. This 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. 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. One Joshua tree was observed in the project area. Prior to ground disturbing activities, a complete census survey to CDFW guidelines will be performed and all applicable western Joshua tree candidate species CDFW mitigation requirements will be met.

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 14 miles north of the project site, and SR-14 (portion north of SR-58), located approximately 4 miles east of the proposed project site (Caltrans, 2019a). Prominent views along SR-14 and SR-58 adding to the scenic elements in the landscape for motorists include panoramic views of the open Mojave Desert landscapes and surrounding mountains, including the Tehachapi Mountains, San Gabriel Mountains, and southeastern extent of the Sierra Nevada mountains. In addition to the State Scenic Highway Mapping System, the Kern County General Plan Circulation Element designates scenic routes and defines a scenic route as any freeway, highway, road, or other public right-of-way, which traverses an area of exceptional scenic quality and must be officially set as a Scenic Route by the Kern County Board of Supervisors or the State of California.

Lighting Environment

The project site does not currently contain any lighting, and none of the dirt roads bordering or traversing the project site include street lighting. Minimal offsite fixed lighting in the area immediately surrounding the project site includes lighting fixtures associated with nearby residences, which contain small lighting fixtures installed on building exteriors, and main driveways or gates. These sources of lighting 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 in the vicinity.

Solar Panel Glare Potential

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

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

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

4.1.3 Regulatory Setting

Federal

National Scenic Byways Program

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

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

The National Trails System Act of 1969 seeks to preserve scenic and natural qualities along trails. The National Trails System Act assigns management responsibility for trails to various federal resource agencies, depending on which agency holds jurisdiction over the land on which the trail is located in a given area. The PCT was created under the National Trails System Act to provide for outdoor recreation opportunities and the conservation of significant scenic, historic, natural, or cultural qualities (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 located approximately 14 miles southwest of Raceway Solar Site 1 and approximately 16 miles northwest of the Raceway Solar 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 14 miles north of the project site, and SR-14 (portion north of SR-58), located approximately 4 miles east of the proposed project site (Caltrans, 2019a).

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 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 toward the need for the County to further develop their Scenic Route program and measures to protect scenic resources, which are not applicable to the proposed project.

The Kern County General Plan acknowledges the three routes identified as part of the California Scenic Highways Master Plan that are designated "Eligible State Scenic Highway" within the County. Route 1, which begins north of Mojave and continues to the Inyo County Line, consists of State Route 14 and State 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. The Kern County General Plan contains goals, policies, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not

listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

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

1.10.7 Light and Glare

Policies

- Policy 47: Ensure that light and glare from discretionary new development projects are minimized in rural as well as urban areas.
- Policy 48: Encourage the use of low-glare lighting to minimize nighttime glare effects on neighboring properties.

Implementation Measures

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

Chapter 5: Energy Element

5.4.7 Transmission Lines

Goal

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

Policy

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

Willow Spring Specific Plan

The proposed project site 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). 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

Policies

Policy 1: Encourage the maintenance of visual aesthetics in all new construction.

Mitigation/Implementation Measures

- 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 prior to grading permit issuance.
- Measure 17: 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 19.81, Dark Skies Ordinance (Outdoor Lighting)

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

- Objective 1: Encourage a safe, secure, and less light-oriented night-time environment for residents, businesses and visitors.
- Objective 2: Promote a reduction in unnecessary light intensity and glare, and to reduce light spillover onto adjacent properties.
- Objective 3: Protect the ability to view the night sky by restricting unnecessary upward projections of light.
- Objective 4: Promote a reduction in the generation of greenhouse gases by reducing wasted electricity that can result from excessive or unwanted outdoor lighting.

Kern County Development Standards

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

4.1.4 Impacts and Mitigation Measures

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

Methodology

The 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) (BLM, 1978), the U.S. Forest Service (USFS, 1995), and other federal regulatory agencies. This method includes:

- Defining the project and its visual setting by assessing the project proponent's submitted project application materials, including plans and descriptions, and reviewing Google Earth Pro aerial photographs and street-level photography, Kern County Geographic Information System (GIS) topographic and land use data, and U.S. Geological Survey (USGS) topographic data;
- Conducting a field visit in June 2018 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 four Key Observation Points (KOPs) within vicinity from which to evaluate potential visual impacts resulting from implementation of the proposed project.
- Preparing visual simulations of post-development views from the KOPs.
- Assessing the project's impacts to sensitive views by applying the visual quality rating system to each of the visual simulations.
- Proposing methods to mitigate any potentially significant visual impacts identified.

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 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 scattered 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.

Five 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.

КОР	Location	Representative Sensitive Viewers
1	From the intersection of 90th Street W and W Avenue A looking northeast toward the project site.	Motorists on 90th Street W and W Avenue A and residents located in the vicinity of the project site.
2	From the intersection of 80th Street W and Roland Avenue looking west towards the project site.	Motorists on 80th Street West and residents located in the vicinity of the project site.
3	From the intersection of 90th Street West and Barbham Avenue looking southeast towards the project site.	Motorists on 90th Street West as they pass the project site.
4	From the intersection of 70th Street and Astoria Avenue looking southwest towards the project site.	Motorists on 70th Street and residents in the vicinity of the project site.
5	From the intersection of 80th Street West and Willow Avenue looking northwest towards the project site.	Motorists on 80th Street West and residents in the vicinity of the project site.

TABLE 4.1-1: KEY OBSERVATION POINTS

Simulation Preparation

Visual simulations of the project from the identified KOPs were prepared to provide a comparison of preand post-project conditions as well as context for qualitative description of the aesthetic changes that would result from the project. Photographs were taken during a site visit in June 2018 and simulations were prepared by VisionScape using the assumptions and methodologies listed below in **Table 4.1-2**, *Visual Simulation Methodology and Assumptions*, below.





Figure 4.1-1: KEY OBSERVATION POINT (KOP) LOCATIONS



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Photography from Key Observation Points	 Photos were taken on a clear sunny day in June 2018. Canon 5D digital camera with a 35 to 52 mm zoom
Visual simulation assumptions	 Solar modules would be up to 12 feet in height and separated by approximately 12 feet. Modules on single axis tracking system were used to show the worst-case visual impact. Storage enclosures (similar in size to a shipping container) located in the project sites. Energy Storage Systems would be approximately 1 to 2 acres within the project boundaries. On-site Meteorological Stations would be approximately 20-feet in height. Collection line structures installed in subsurface trenches, though in some areas of the site, part or all the collection system may be housed in above-grade raceways mounted on supports approximately 24 to 36 inches above ground level. Fencing is 6 to 8 feet in height (6 feet of chain link topped by 2 strings of barbed wire).
Methods	Following data gathering phase, the process begins with a determination of proposed camera locations and/or station points. Upon review and approval of camera locations VisionScape coordinates the engineered 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. GPS device and a "Full Frame" digital camera for documenting coordinates at requested station points.

 TABLE 4.1-2:
 VISUAL SIMULATION METHODOLOGY AND ASSUMPTIONS

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 are similar enough to evaluate project impacts to aesthetics.

Rating Visual Quality

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

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

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

Key Factors	Rating Criteria and Score		
Landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops, or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers.	Steep canyons, mesas, buttes, cinder cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional.	Low rolling hills, foothills, or flat valley bottoms; or few or no interesting landscape features.
	Score 5	Score 3	Score 1
Vegetation	A variety of vegetative types as expressed in interesting forms, textures, and patterns.	Some variety of vegetation, but only one or two major types.	Little or no variety or contrast in vegetation.
	Score 5	Score 3	Score 1

 TABLE 4.1-3:
 VISUAL QUALITY RATING SYSTEM

Key Factors	Rating Criteria and Score		
Water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape.	Flowing, or still, but not dominant in the landscape.	Absent, or present but not noticeable.
	Score 5	Score 3	Score 1
Color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields.	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element.	Subtle color variations, contrast, or interest; generally mute tones.
	Score 5	Score 3	Score 1
Influence of Adjacent Scenery	Adjacent scenery greatly enhances visual quality.	Adjacent scenery moderately enhances overall visual quality.	Adjacent scenery has little or no influence on overall visual quality.
	Score 5	Score 3	Score 1
Scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc.	Distinctive, though somewhat similar to others within the region.	Interesting within its setting but fairly common within the region.
	Score 5*	Score 3	Score 1
	Beare		
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.
Cultural Modifications	Modifications add favorably to visual variety while promoting visual harmony. Score 2	Modifications add little or no visual variety to the area, and introducing no discordant elements.	Modificationsaddvariety but areverydiscordantandpromotestrongdisharmony4
Cultural Modifications NOTES:	Modifications add favorably to visual variety while promoting visual harmony. Score 2	Modifications add little or no visual variety to the area, and introducing no discordant elements. Score	Modificationsaddvariety but areverydiscordantandpromotestrongdisharmony4

TABLE 4.1-3: VISUAL QUALITY RATING SYSTEM

* 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.

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 PCT is approximately 14 miles southwest of Raceway Solar Site 1 and approximately 16 miles northwest of the Raceway Solar Site in the foothills of the Tehachapi Mountains. The areas surrounding the project site have been heavily modified, with new solar panel facilities, including the Antelope Valley Solar Project, the Catalina Renewable Energy Project, the North Rosamond Solar Project, and the Willow Springs Solar Project, as discussed in Section 4.1.2, *Environmental Setting*, above. While implementation of the project would add new manmade elements to views from the PCT, the distance of the 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.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

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

The project would not be visible from any Officially Designated State or County Scenic Highway. The closest Eligible Scenic Highways are SR-58 (portion east of SR-14), located approximately 14 miles north of the project site, and SR-14 (portion north of SR-58), located approximately 4 miles east of the proposed project site (Caltrans, 2019a). Although both SR-14 north of Mojave and SR-58 east of Mojave are designated as Eligible (E) for State Scenic Highway status (Caltrans, 2019a), they have not yet been Officially Designated. Therefore, construction and operation of the proposed project would not change the

viewshed from any Officially Designated State or County Scenic Highway and impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.1-3: The project would, in nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage points) If the project is in an urbanized area, 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, scattered rural residences, producing and non-producing water wells, off-highway vehicle use, cattle ranching and maintenance facilities, mining, wind and solar energy, and planned/existing meteorological towers. As the project is located within a nonurbanized area, the analysis below will focus on whether development of the project would substantially change the existing visual character or quality of public views of the site and its surroundings.

Construction

Construction activities associated with the project would create temporary changes in views of the project site. Furthermore, construction activities would introduce a considerable amount of heavy equipment, including backhoes, compactors, tractors, and trucks, into the viewshed of all viewer groups. During construction, there would be multiple crews working on the site with various equipment and vehicles, including special vehicles for transporting the modules and other equipment. The influx of construction vehicles, equipment, and worker vehicles would create visible contrast within the rural and primarily undeveloped (with the exception of two residences and residential accessory structures) setting of the project site. However, vehicles, equipment, and construction activity would be temporary in nature (10 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.

Viewers are accustomed to seeing heavy machinery associated with the construction of other solar facilities in the area. In addition, the visual effects associated with the presence of construction vehicles, equipment, and workers in the project area landscape would be limited in duration and would be spatially limited at any given time to the active area of construction. Therefore, impacts to existing visual character or quality of the project site and surrounding area during construction of the project would be less than significant.

Operation

In order to determine whether the project would substantially degrade the existing visual quality of the project site, this analysis compares the existing visual setting with visual simulations of the post-

construction visual conditions. As described above, five KOPs were selected for visual simulation. These KOPs are representative of views that would be experienced from numerous sensitive receptor locations.

Visual simulations are provided in **Figures 4.1-2** through **4.1-6**. KOPs are described in **Table 4.1-1**, *Key Observation Points*, and **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 into much of the project site. Energy Storage Systems (ESS), collection lines, onsite substations (see Chapter 3, *Project Description*, of this Draft EIR, for substation details), storage yards, dirt or gravel access roads, and an 8-foot-high perimeter fence (6 feet of chain link with two rings of barbed wire on top). Each ESS would consist of self-contained battery storage modules placed in racks, converters, 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 ESSs use prefabricated metal containers, each container will be a 40-foot-long by 8-foot-wide battery container. The aforementioned project characteristics would be visible for an estimated lifespan of over 35 years, would be visible to residents, workers at nearby solar facilities, and travelers on surrounding roadways.

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 8 feet tall (6 feet of chain link with 2 rings of barbed wire on top). The battery containers and other equipment which would comprise the 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 lines are proposed to connect the project site to existing substations, at either to the substation located at the approximate intersection of 100th Street West and Avenue G-12, the Big Sky Substation, or the planned LADWP substation (see Chapter 3, *Project Description*, of this Draft EIR, for option details).

Solar modules would be made up of individual panels that would use either fixed-tilt or tracker technology. Each module would be up to 12 feet tall and would allow for sufficient clearance between the bottom and the ground for maintenance vehicles and panel access.

KOP 1. Figure 4.1-2, *KOP 1: Existing and Simulated Views from Avenue A and 90th Street West Looking Northeast Toward the Project Site*, shows views from the intersection of 90 Street W and W Avenue A. This KOP reflects views to the project site that would be experienced by motorists and area residents located in proximity to the project site. At KOP 1, the project site is adjacent to the intersection of 90 Street W and W Avenue A. The pre-development views from KOP 1 shows that the landscape is relatively flat with low shrubs, grass, a signalized paved road, utility poles and electrical lines visible in the foreground and development and brown shrubs and golden grasses in the middle ground. Telephone poles are visible along 90 Street W on the east side of the street, and on W Avenue A on the north side of the street. Tan hills rise from the otherwise flat terrain in the middle ground and low dark brown mountain range is visible in the distance. The post-development view from KOP 1 (see Figure 4.1-2) would include modifications (i.e., solar arrays) that would be located in the foreground and middle ground landscape. The solar panels and associated elements would be visible from KOP 1, and would contrast with the existing muted earth tones in the foreground and background. As discussed in **Table 4.1-4**, *Visual Quality Rating Analysis – KOP 1*,

the predevelopment score is 11, and the post-development score is 7. Since the difference in scores would be 4 points, visual impacts from KOP 1 are potentially significant.

KOP 2. Figure 4.1-3, *KOP 2: Existing and Simulated Views from Roland Avenue and 80th Street West Looking West towards the Project Site*, shows views from the intersection of Roland Avenue and 80th Street West looking west toward the project site. This KOP accurately reflects views that motorists travelling along 80th Street W would experience as they pass the project site as well as by area residents located in proximity to the project site. The pre-development views from KOP 2 depicts a paved road, utility pole, broad and flat terrain covered with mounded golden and brown shrubs and low green and golden grasses in the foreground across 80th Street W. A telephone pole is visible along 80th Street W on the south side of the street. Utility poles, sparse trees and development are visible in the in the middle ground and wind turbines and a low dark brown mountain range is visible in the distance. The post-development view from KOP 2 (see Figure 4.1-3) would include relatively small modifications (i.e., solar arrays) that would be located low in the middle ground landscape. As discussed in **Table 4.1-5**, *Visual Quality Rating Analysis – KOP 2*, the pre-development score is 12, and the post-development score is 5. Since the difference in scores would be 7 points, visual impacts from KOP 4 are potentially significant.

KOP 3. Figure 4.1-4, KOP 3: Existing and Simulated Views from 90th Street West and Barbham Avenue Looking Southeast Toward the Project Site, shows views from 90th Street West and Barbham Avenue looking southeast toward the project site. This KOP accurately reflects views that motorists travelling along 90th Street West would experience as they pass the project site (located approximately 0.3 miles away). The pre-development views from KOP 3 depicts a paved road, utility pole, broad and flat terrain covered with mounded grey and brown shrubs and low golden grasses in the foreground across 90th Street West. A telephone pole is visible along 90th Street West on the north side of the street. Flat terrain with brown shrubs and low golden grasses and development are visible in the middle ground and a low dark brown mountain range faintly visible in the distance. The post-development view from KOP 3 (see Figure 4.1-4) would not depict the solar arrays due to obstruction provided by the existing vegetation and development. Solar arrays would not interrupt the long view across the valley terrain to the south and would not create noticeable color contrast. Moreover, the introduction of numerous collection line structures would not be clearly visible and would not increase the volume of straight, thin, vertical features present in the view. 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 11. Since the difference in scores would be 1 point, there would be less than significant visual impacts experienced from KOP 3.



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FIGURE 4.1-2: KOP 1: EXISTING AND SIMULATED VIEWS FROM AVENUE A AND 90TH STREET WEST LOOKING NORTHEAST TOWARD 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	2	0	Potentially			
Explanation:	Relatively flat terrain covered with low-lying desert shrubs with limited mountainous terrain in the background.	The flat topography of the area would not be noticeably modified by project development.		Significant			
Detail:	Flat landforms dominate the landscape and mountains a arrays on the project site we distant hills and mountains to landforms resulting from	he foreground and middle ground of are elements of interest. The low he yould obstruct or substantially interr . There would be a potentially signifient in project operations.	of the visible eight of solar upt views of ficant impact				
Vegetation	3	3	0	No Impact			
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, but effects would be obscured by distance.					
Detail:	Both the pre- and post-de shrub vegetation covering middle ground due to proje distance. Contrast associa prominent, and as viewed vegetation would continue would occur.	evelopment views depict low, more the valley floor. Removal of vege ect development would not be notice ated with vegetation removal wo from KOP 1, low and mounded e to cover the valley. No impacts t	inded desert tation in the seable due to buld not be desert shrub to vegetation				
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:	<i>Detail:</i> Water features are not included in pre- or post-development views. No impacts to water features would occur.						
Color	2	0	2	Potentially			
Explanation:	Shades of brown, yellow, and green on the valley floor across the foreground and middle ground (associated with soil and vegetation). Grey associated with soil and distant mountains.	Dark grey/blue and metallic grey colors displayed by solar modules, ESS facilities, and metal fencing surrounding the site located across 90 Street West and Avenue A would contrast with the drab tones displayed by terrain and vegetation in the foreground and middle ground. Color contrast would change with project operation.		Significant			

Sensitive Receptor: Residents located near the project site.

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 middle ground. The solar a blues, dark and light gray easy to overlook. Backgro obstructed from view. Imp significant.					
Adjacent Scenery	2	1	1	Less than		
Explanation:	Mountains to the northwest enhance the view.	Mountains would remain visible and would not be substantially obstructed by project components.		Significant		
Detail:	The project would not mod adjacent scenery. Less-th scenery would result.	dify, substantially obstruct, or internan-significant impacts to views	rupt views of of adjacent			
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.	The middle ground would be modified by the introduction of solar arrays, ESS facilities, and fence. Solar arrays would be visible beyond fence located across 90 th Street West. The ESS facilities would be constructed perpendicular to 90 th Street West and Avenue A. The proximity of existing solar and wind development to the project site creates similarly modified views in the area.				
Detail:	Existing views offered from features are not particularly to accommodate the project to view scarcity.	m 90 Street West are typical of the y unique or unusual. Alteration of t t would not result in visually signifi	area. Visible he landscape icant impacts			

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	
Cultural Modifications <i>Explanation:</i>	0 Cultural modifications include paved roads, signage, electrical transmission lines, across both 90 th Street West and Avenue A.	-1 Project development would add low-profile and dark solar arrays, regularly spaced ESS facilities, and fence to the project area. Solar would be visible from this view. ESS line support structures and horizontal collection lines would have a visual impact.	1	Less than Significant	
Detail:	Paved roads, signage, and electrical transmission lines are visible across both 90 th Street West and Avenue A. The introduction of solar arrays would be evident. ESS line support structures and horizontal collection lines would have a visual impact. Therefore, the addition of cultural modifications to the middle ground of KOP 1 would be visible and would result in potential impacts.				
Totals:	11	7	4	Potentially Significant	

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



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FIGURE 4.1-3: KOP 2: EXISTING AND SIMULATED VIEWS FROM ROLAND AVENUE AND 80TH STREET WEST LOOKING WEST TOWARD THE PROJECT SITE

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

Sensitive Receptor: Motorists on Rosamond Boulevard as they pass the project site, located approximately 0.7 miles away. Pre-development and post-development conditions are depicted in Figure 4.1-3					
Rated Feature	Pre-development Score	Post-development Score	Difference in Scores	Impact Significance	
Landform	3	3	0	No Impact	
Explanation:	Broad and flat terrain in the foreground with tan hills in the middle ground and a tan fence located across 80 th Street West.	The flat topography of the area would not be noticeably modified by project development.			
Detail:	The pre- and post-developmen foreground, tan hills to the south views across Rosamond Boule this KOP. As such, Project dev in the view.	nt view is dominated by flat valley te heast in the middle ground and a tan fend vard. There would be no view of the p velopment would not noticeably modif	rrain in the ce obscuring project from y landforms		
Vegetation	3	1	2	Potentially	
Explanation:	Low and mounded desert shrub vegetation covers the foreground and middle ground located across 80 th Street West.	Vegetation removal would be obscured from view due to the solar modules and fence and the normal viewing angle to the project site available at KOP 2.		Significant	
Detail:	Removal of vegetation in the m be visible. Solar arrays installe from 80 th Street West. Result potentially significant impacts	iddle ground due to project developmen ed on the project site would be detecta- ting contrast would be noticeable, an to vegetation would occur.	nt would not able in view d therefore,		
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 water features would occur.	l in pre- or post-development views. No	o impacts to		
Color	2	0	2	Potentially	
Explanation:	Shades of yellow, green and brown are display by soil and vegetation, which dominate the foreground. A utility pole is located across 80 th Street West and low dark brown mountains rise from the valley. Development is white, black, and tan.	Dark grey/blue and metallic grey colors displayed by solar modules, ESS facilities, and metal fencing surrounding the site located across 80 th Street West and Roland Avenue would contrast with the drab tones displayed by terrain and vegetation in the foreground and middle ground. Color contrast would change with project operation.		Significant	

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

Sensitive Receptor: Motorists on Rosamond Boulevard as they pass the project site, located approximately 0.7 miles away					
	Pre-development and post-dev	elopment conditions are depicted in Fig	gure 4.1-3.		
Rated Feature	Pre-development Score	Post-development Score	Difference in Scores	Impact Significance	
Detail:	Muted earth tones of brown, gre ground. The solar arrays and colors to the middle ground tha would not be altered or substant color would be potentially sign	een and yellow dominate the foreground fence would introduce blues, dark and t would not be easy to overlook. Backgr tially obstructed from view. Impacts asso ificant.	l and middle d light gray round colors ociated with		
Adjacent Scenery	2	1	1	Less than Significant	
Explanation:	Views of the flat desert terrain are enhanced by hills and mountains to the south.	Hills and mountains would remain visible with the exception of lower mountain ranges in the distance, obscured by solar modules. Fencing would not block hills or mountains from view.			
Detail:	The project would not modify, s scenery. No impact to views of	substantially obstruct, or interrupt views adjacent scenery would result.	s of adjacent		
Scarcity	1	0	1	Less than	
Explanation:	The eastern extent of the broad view is limited by middle ground hills. There are no particularly unique or unusual aspects in the view, and similar views are present throughout the region. minimal	The middle ground would be modified by the introduction of solar arrays and fencing. Solar arrays would be visible beyond the vegetation and utility pole across 80 th Street West. However, the proximity of existing solar and wind development to the project site creates similarly modified views in the area.		Significant	
Detail:	The view from 80 th Street West landforms and vegetation are not resulting from project developme	t is typical of views available throughout particularly unique or unusual. Landscape nt would result in minimal impact to view	the area and modification scarcity.		
Cultural Modifications	0	-1	1	No Impact	
Explanation:	Cultural modifications include paved roads, electrical transmission lines, and existing development across Rosamond Boulevard.	Project development would add low- profile and dark solar arrays, and fence to the project area. Solar would be visible from this view. However, the proximity of existing solar and wind development to the project site creates similarly modified views in the area			
Detail:	Paved roads, signage, and elect West. The introduction of solar cultural modifications to the mir result in potential impacts.	rical transmission lines are visible acros arrays would be evident. Therefore, the iddle ground of KOP 2 would be visible	ss 80 th Street e addition of e and would		
Totals:	12	5	7	Potentially Significant	



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Proposed View

FIGURE 4.1-4: KOP 3: EXISTING AND SIMULATED VIEWS FROM 90TH STREET W AND BARBHAM AVENUE LOOKING SOUTHEAST TOWARD THE PROJECT SITE

Sensitive Receptor: Motorists on Rosamond Boulevard 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	3	3	0	No Impact			
Explanation:	Broad and flat terrain in the foreground with tan hills in the middle ground and a utility pole located across 90th Street West.	Project development would not visibly modify the area's topography as viewed from the KOP.					
Detail:	The pre- and post-development foreground, development and v obscuring views across 90th St from this KOP. As such, Pro- landforms in the view.	t view is dominated by flat valley te vegetation in the middle ground and a reet West. There would be no view or oject development would not noticea	errain in the utility pole f the project ably modify				
Vegetation	3	3	0	No Impact			
Explanation:	Low, mounded desert shrub vegetation covers the foreground; similar species present in the visible landscape.	Desert shrub vegetation would be removed from the solar sites in the middle ground, but effects would be obscured by distance.					
Detail:	Both the pre- and post-development views depict low, mounded desert shrub vegetation covering the valley floor. Removal of vegetation in the middle ground due to project development would not be noticeable due to distance. Contrast associated with vegetation removal would not be prominent, and as viewed from KOP 1, low and mounded desert shrub vegetation would continue to cover the valley. No impacts to vegetation would occur.						
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	Less than			
Explanation:	Shades of brown, yellow, and 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 low and thin black horizontal band in the middle ground. These colors would contrast with the muted earth tones in the foreground and middle ground.		significant			

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

Sensitive Receptor: Motorists on Rosamond Boulevard 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:	Muted earth tones of brown, gre ground. Slightly visible solar a black color to the middle gro colored, vertical lines of collec would be enhanced on a clearer would not be altered or substa with color would be less than s						
Adjacent Scenery	2	2	0	No Impact			
Explanation:	Mountains to the southeast enhance the view.	Mountains would remain visible and would not be substantially obstructed by project components.					
Detail:	The project would not modify, substantially obstruct, or interrupt views of adjacent scenery. Less-than-significant impacts to views of adjacent scenery would result.						
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 9 features are not particularly u accommodate the project would scarcity.						
Cultural Modifications	0	0	0	No Impact			
Explanation:	Cultural modifications include paved road, electrical transmission lines, and utility pole across 90 th Street West.	Project development would add low-profile and dark solar arrays, regularly spaced and vertical collection line support structures, and ESS facilities, and fencing to the project area. However, these additions would not be visible from this view.					
Detail:	Paved road, electrical transmiss Street West. The introduction of Therefore, the addition of cultu- would not be visible and would						
Totals:	12	11	1	Less than Significant			

TABLE 4.1-6: VISUAL QUALITY RATING ANALYSIS – KOP 3
KOP 4. Figure 4.1-5, *KOP 4: Existing and Simulated Views from Astoria Avenue and 70th Street Looking Southwest Toward the Project Site*, shows views from the intersection of Astoria Avenue and 70th Street looking southwest towards the project site (located just east of the Raceway Solar Site 5 and south of Solar Site 6). This KOP accurately reflects views to the project site that motorists travelling on Astoria Avenue and 70th Street and residents in the vicinity of the project site would experience. The pre-development views from KOP 4 depict relatively flat terrain with low shrubs and 70th Street visible in the foreground and sparser low shrubs, grass, power poles and electrical lines visible in the middle ground. No development is shown within this viewpoint. The background includes faint views of development and dark mountain ranges can be seen in the distance. The post-development view from KOP 4 (see Figure 4.1-5) would include relatively faint modifications (i.e., solar arrays) that would be located low in the middle ground landscape. The solar panels and associated elements which are faintly visible within the middle ground, would display dark grey/blue and metallic grey colors that would contrast with the characteristic drab color of desert terrain and vegetation. As discussed in **Table 4.1-7**, *Visual Quality Rating Analysis – KOP 4*, the pre-development score is 11, and the post-development score is 7. Since the difference in scores would be 4 points, visual impacts from KOP 4 are potentially significant.

KOP 5. Figure 4.1-6, *KOP 5: Existing and Simulated Views from 80th Street West and Willow Avenue Looking Northwest Toward the Project Site*, shows views from the intersection of 80th Street West and Willow Avenue looking northwest towards the project site (located southeast of the Raceway Solar Site 4). This KOP reflects views to the project site experienced by motorists on 80th Street West and by the residents in the vicinity of the project site. The pre-development views from KOP 5 depict relatively flat terrain with low shrubs, utility poles, utility wires and 80th Street West in the foreground and flat terrain in the middle ground. Tan hills rise from the otherwise flat terrain in the middle ground and low dark brown mountain range and wind turbines are visible in the distance. would include modifications (i.e., solar arrays) that would be located in the foreground and middle ground landscape. The solar panels and associated elements would be visible from KOP 5, and would contrast with the existing muted earth tones in the foreground and background. As discussed in **Table 4.1-8**, *Visual Quality Rating Analysis – KOP 5*, the pre-development score is 11, and the post-development score is 6. Since the difference would be 5 points, visual impacts from KOP 5 are potentially significant.

Factors Reducing Visual Impacts

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

- The 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 reduces viewer sensitivity and expectations for scenic landscapes.
- Solar panels, the primary feature of the project, would cover most of the land on the site and would generally be 12 feet in height or less. Therefore, solar panels would not block long-distance views and would be diminished when viewed from 0.5 miles or farther.
- 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.



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Proposed View

FIGURE 4.1-5: KOP 4: EXISTING AND SIMULATED VIEWS FROM ASTORIA AVENUE AND 70TH STREET LOOKING SOUTHWEST TOWARD THE PROJECT SITE

Sensitive Receptor: Motorists on Rosamond Boulevard and residents located near the project site. Pre-development and post-development conditions are depicted in Figure 4.1-4.					
Rated Feature	Pre-developmentPost-developmentConditionScore		Difference in Scores	Impact Significance	
Landform	3	3	0	No Impact	
Explanation:	Flat terrain in the foreground with hills and dark mountain ranges in the background. Tan hills in the middle-ground to the north and larger, darker hills in the background to the west.				
Detail:	Flat landforms occupy the foreg and larger hill silhouettes occup collection line structures, and o middle-ground, but would not b alter or modify existing landform	y background landscape to the west. So other components would be faintly vi be prominent. The project would not so ms in the view.	to the north Solar arrays, isible in the substantially		
Vegetation	3	2	1	Less than	
Explanation:	Low and mounded desert shrubs cover the foreground and middle ground terrain. The development of solar modules and other components would replace existing desert shrubs in the middle ground; however, removal of vegetation is not visible from this viewpoint.			Significant	
Detail:	The visual effects of vegetation removal in the middle ground would appear minor as viewed from this KOP arrays on the project site. Therefore, impacts to views of vegetation would be less than significant.				
Water	0	0	0	No Impact	
Explanation:	No water is visible on site or in the surrounding area.	Project development would not introduce water to or remove water from the visible landscape.			
Detail:	Water features are not included water features would occur.	in pre- or post-development views. No	o impacts to		
Color	2	1	1	Less than	
Explanation:	Foreground and middle- ground vegetation and terrain display shades of yellow, green, and brown. The hills and mountain ranges in the background are hazy dark grey/blue.	Dark grey/blue and metallic grey colors displayed by solar modules and steel support poles would be introduced to the project site, but occupy portions of the middle ground and are only faintly visible from this viewpoint.		Significant	
Detail:	The foreground and middle grou brown. Solar modules and suppor ground would display dark grey with the characteristic drab color contrast would be weak due to p	and are dominated by shades of yellow ort poles, which are faintly visible withi /blue and metallic grey colors that we or of desert terrain and vegetation. As roject site distance from KOP 4.	y, green, and n the middle ould contrast a such, color		

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

Sensitive Receptor: Motorists on Rosamond Boulevard 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	Pre-development ConditionPost-development ScoreDifference in Scores		Impact Significance	
Adjacent Scenery	2 2		0	No Impact	
Explanation:	Views are moderately enhanced by conical hills and low dark mountains in the background.	Hills and mountains would remain visible. Solar arrays, fencing, collection line components, ESS facilities and other project components, which are faintly visible from this viewpoint, would not block hills or mountains from view.			
Detail:	Visibility of hills and mountains impacts would occur.	s would not be altered by project devel	lopment. No		
Scarcity	2	1	1	Less than	
Explanation:	There are no particularly unique or unusual aspects in the view. Conical hills add interest to the scene but are visible throughout the local area.	Views would be slightly modified by industrial development in the middle ground.		Significant	
Detail:	Views of conical hills are availa and project development would views to hilly terrain in the loca be less than significant.				
Cultural Modifications	-1	-2	1	Less than Significant	
Explanation:	Cultural modifications include utility poles and wires as well as paved and dirt roads.	Solar arrays and associated structures would be introduced to the middle ground, but would be faintly visible from KOP 4.			
Detail:	Cultural modifications include u roads. The project would introdu the middle ground. Solar arrays, components would attract attenti project components are faintly vi with cultural modifications would				
Totals:	11	7	4	Potentially Significant	

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



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Proposed View

FIGURE 4.1-6: KOP 5: EXISTING AND SIMULATED VIEWS FROM 80TH STREET WEST AND WILLOW AVENUE LOOKING NORTHWEST TOWARD THE PROJECT SITE

Sensitive Receptor: Motorists on Rosamond Boulevard and Residents Located Near the Project Site Pre-development and post-development conditions are depicted in Figure 4.1-6.					
Rated Feature	Pre-developmentPost-developmentDifferentConditionScorein Score		Difference in Scores	Impact Significance	
Landform	3	3	0	No Impact	
Explanation:	Flat terrain in the foreground Project development would not with hills in the middle-ground. Tan hills in the middle-ground to the north and larger, darker hills in the background to the west.				
Detail:	Flat landforms occupy the foreglandscape to the north and larger h the west. Solar arrays, collection h visible in the foreground and mi topography. The project would landforms in the view.	ground. Tan hills occupy the mi nill silhouettes occupy background ine structures, and other componen ddle ground, but would not modi not substantially alter or mod	ddle-ground landscape to nts would be fy the areas ify existing		
Vegetation	3	2	1	Less than	
Explanation:	Low and mounded desert shrubs cover the foreground and middle ground terrain.	The development of solar modules and other components would replace existing desert shrubs in the middle ground. Foreground desert shrubs as viewed from this KOP would not be affected.		Significant	
Detail:	The visual effects of vegetation removal in the middle ground would appear minor as viewed from this KOP. Therefore, impacts to views of vegetation would be less than significant.				
Water	0	0	0	No Impact	
Explanation:	No water is visible on site or in the surrounding area.	Project development would not introduce water to or remove water from the visible landscape.			
Detail:	Water features are not included in water features would occur.	pre- or post-development views. N	o impacts to		
Color	2	0	2	Potentially	
Explanation:	Foreground and middle-ground vegetation and terrain display shades of yellow, green, and brown. The hills in the middle- ground are tan while the hills in the background are hazy dark grey/blue. Linear disturbance associated with local roads development adds light tan and gray tones to the view.	Dark grey/blue and metallic grey colors displayed by solar modules and metal fencing surrounding the site located across 70 Street would contrast with the drab tones displayed by terrain and vegetation in the foreground and middle ground. Color contrast would change with project operation.		Significant	

TABLE 4.1-8: VISUAL QUALITY RATING ANALYSIS - KOP 5

Sensitive Receptor: Motorists on Rosamond Boulevard and Residents Located Near the Project Site Pre-development and post-development conditions are depicted in Figure 4.1-6.					
Rated Feature	Pre-development ConditionPost-development ScoreDifferent in Score		Difference in Scores	Impact Significance	
Detail:	The foreground and middle ground brown. Solar modules and support would display dark grey/blue and a characteristic drab color of desert would be potentially significant du				
Adjacent Scenery	2	2	0	No Impact	
Explanation:	Views are moderately enhanced large hills in the background to the west and tan hills in the middle ground to the south.	Hills would remain visible. Solar arrays, fencing, collection line components, and other project components, which are faintly visible from this viewpoint, would not block hills from view.			
Detail:	Visibility of hills would not be alto occur.	ered by project development. No in	pacts would		
Scarcity	2	1	1	Less than	
Explanation:	Tan hills add interest to the scene but are visible throughout the local area.	Views would be slightly modified by industrial development in the middle ground, but would not affect long views of hills.		Significant	
Detail:	Views of hills are available in other locations and are not unique to KOP 5, and project development would not substantially affect the availability of long views to hilly terrain in the local area. Therefore, impacts to view scarcity would be less than significant.				
Cultural Modifications	-1	-2	1	Less than Significant	
Explanation:	Cultural modifications include fencing, wind turbines, utility poles and wires, as well as paved and dirt roads.	Solar arrays and associated structures would be introduced to the middle ground, and would be visible from KOP 5.			
Detail:	Cultural modifications include fer well as paved and dirt roads. The ancillary components to the mi components would attract attention project components would be clea between existing utility poles in the adding further discord to the envir modifications would be less than si	and wires, as elopment and other project ontrast. These ild be placed background, with cultural			
Totals:	11	6	5	Potentially Significant	

TABLE 4.1-8: VISUAL QUALITY RATING ANALYSIS – KOP 5

Summary

As shown in **Tables 4.1-4** through **4.1-8**, implementation of the project would result in potentially significant visual impacts to the existing visual quality or character of the site and surrounding area. As shown in the visual simulations, the visual change associated with project development would be somewhat muted when viewed from a distance of greater than 0.5 miles. With distance, the effects associated with removal of vegetation from the project site would be masked by dense groupings of solar arrays. Similarly, thousands of solar arrays viewed from distance would begin to appear similar to other dark tones associated with distant terrain in the landscape. However, visual change would be evident from Rosamond Boulevard. Even with distance and diminished visibility, the visual change associated with the introduction of approximately 1,330 acres of solar development on currently undeveloped desert terrain would likely attract attention. Further, the introduction of thousands of solar panels, the ESS facilities, and the collection lines would increase the footprint of solar and electrical transmission development in the area. Solar and other renewable energy developments are generally concentrated to the west of SR-14, and the project would introduce additional manufactured elements where they do not currently dominate the landscape, resulting in significant aesthetic impacts.

Mitigation Measures MM 4.1-1 through MM 4.1-4 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.

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 a residence or parcels zoned for residential use, including E (Estate Residential), R-1 (Low-Density Residential), R-2 (Medium-Density Residential), R-3 (High-Density Residential), or PL (Platted Lands) zoning unless the adjacent property is owned by the project proponent (to be verified by the Kern County Planning and Natural Resources Department) or a public or private agency that has submitted correspondence to the Kern County Planning and Natural Resources Department requesting this requirement to be waived. Should the project proponent sell the adjacent property, slat fencing or similar view-screening materials shall be installed prior to the sale.
- **MM 4.1-3:** 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 threeyear period following restoration activities that occur post-construction and postdecommissioning. 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

Impacts would be significant and unavoidable.

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

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

Construction

Lighting

According to the County's Noise Ordinance, construction is allowed during the hours of 6:00 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 will be installed for security and maintenance needs at the main access entrances, ESS facilities, substations (as necessary), and major equipment enclosures. The ESS facilities 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.

Cumulative Setting, Impacts, and Mitigation Measures

As shown in **Table 3-9**, *Cumulative Project List*, there are 19 projects in the area including several utilityscale 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 35-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.

Mitigation Measures

Implement Mitigation Measures MM 4.1-1 through MM 4.1-7.

Level of Significance after Mitigation

Cumulative impacts would be significant and unavoidable.

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4.2.1 Introduction

This section of the EIR describes the affected environment and regulatory settings for agriculture and forest resources for the project. It also describes the impacts on agricultural and forest resources that would result from the implementation of the project, and includes mitigation measures that would reduce these impacts, where applicable. This section is based, in part, on information provided in the Kern County Agricultural Crop Report (2018) prepared by the Department of Agriculture and Measurement Standards and the *2020 Farmland Conversion Memorandum* prepared by ICF (2020), located in Appendix B of this EIR.

4.2.2 Environmental Setting

Regional Setting

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

Kern County is a growing population and like many agricultural based jurisdictions, must balance urbanization and the loss of farmland. As shown in **Table 4.2-1**, *Agricultural Land Use Designation Conversions in 2018*, approved amendments re-designated 132.18 acres of agriculturally designated lands for non-agricultural uses. As discussed in Chapter 11.0 Agricultural Land Conversion, of the Kern County General Plans and Housing Element Annual Progress Report (January 1, 2018 to December 31, 2018), amendments resulted in a total net conversion of 132.18 acres within unincorporated Kern County. (Note: These various farmland designations are defined in Section 4.2.3, *Regulatory Setting*, below).

Project/Applicant	Case Number	Document	From Map Code	To Map Code	Acreage Converted
Afinar, Inc. by Bernard Salgado	GPA 5, Map 143-41	KCGP	8.1/2.3	5.7/2.3	-21.18
Highway 58, LLC by EPD Solutions	SPA 2, Map 30	Lost Hills Specific Plan	4.1 (Agriculture)	4.1 (Industrial)	-112
			Total Acreage Co	onverted (net)	-132.18
SOURCE: Kern County Gene 2018), 2019.	ral Plans and Housing	g Element Annual I	Progress Report (Janua	ry 1, 2018 to Dec	ember 31,

TARI F 4 2.1.	ACRICHTURAL LAND USE DESIGNATION CONVERSIONS IN 2018
I ADLE 4.4-1.	AGRICULTURAL LAND USE DESIGNATION CONVERSIONS IN 2010

According to Kern Economic Development Corporation (KEDC), it is estimated that the total population of Kern County will reach approximately 1,240,496 individuals in 2040 (KEDC, 2019), growing from today's population of approximately 917,553 (DOF, 2020). The anticipated growth in population will most likely decrease the amount of agricultural land in Kern County even further. However, it is important to note, the conversion of agricultural land is affected by numerous factors other than population growth and urban development. Actual production is dependent on commodity prices, water prices and supply, labor, the proximity of processing and distribution facilities, and pest management. Factors such as weather, trade agreements, and labor disputes can also affect decisions regarding what crops are grown and which lands go in and out of production. Most conversion of Prime or Farmland of Statewide Importance agricultural lands is occurring within the planned development footprint of Metropolitan Bakersfield. Very little conversion of the most productive agricultural lands has occurred in outlying areas of the County.

Local Setting

Project Site Designation

The project site is located within both the administrative boundaries of the Kern County General Plan and the Willow Springs Specific Plan. As previously stated in Chapter 3, *Project Description*, the project site is primarily designated for industrial and residential use by the aforementioned plans, see **Figure 3-3**, *Existing Willow Springs Specific Plan Map Designations* and **Figure 3-4**, *Existing Kern County Zoning Classifications*. Additionally, the project is zoned agricultural, estate residential or residential suburban combining as specified in **Table 3-6**, *Project Site and Surrounding Land Uses* of Chapter 3, *Project Description*.

Although the entire project site is located within the boundaries of Agricultural Preserve No. 24, which is prerequisite to placement under a Williamson Act contract, the entire project site is vacant, undeveloped, and does not support agricultural uses, past or present. Available Kern County Department of Agriculture farming data indicate that all parcels have been under cultivation from 1998 to 2018, or 10 years (ICF, 2020). As depicted in **Figure 4.2-1**, *Farmland Mapping and Monitoring Program Designations*, the project site is not designated as Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. However, areas designated as "Grazing Land" and "Prime Farmland" within the project area are located within Raceway 2.0 Solar sites 1, 2, and 3 and Raceway 2.0 Solar Site 4 is currently zoned for agricultural use. However, Kern Department of Agriculture's GIS farming records indicate there has been no agricultural crop production on the Raceway 2.0 Solar Site 4 parcel from 1997 to the present (ICF, 2020). The California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP) 2018 Important Farmland Map, designates other proposed project sites as "Grazing Land" and/or "Vacant or Disturbed Land", "Rural Residential Land" and/or "Nonagricultural or Natural Vegetation." (DOC, 2018).

According to available data, the parcels that comprise Raceway Solar 4 of the proposed project are under a Williamson Act Land Use contract. Raceway Solar 4 is comprised of two parcels (APN 374-011-04 and 374-011-11) within the A (Exclusive Agriculture) zone district.





FIGURE 4.2-1: FARMLAND MAPPING AND MONITORING PROGRAM DESIGNATIONS

4.2.3 Regulatory Setting

Federal

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

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

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

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

State

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

The DOC applies the NRCS soil classifications to identify agricultural lands. These agricultural designations are used in planning for the present and future of California's agricultural land resources. The DOC uses a minimum mapping unit of 10 acres; parcels that are smaller than 10 acres are absorbed into the surrounding classifications. The project site is not designated as "Nonagricultural and Natural Vegetation"; "Prime Farmland"; "Farmland of Statewide Importance"; or "Unique Farmland". The DOC FMMP designates the project site as "Grazing Land", "Vacant or Disturbed Land", and/or "Rural Residential Land." (DOC, 2018).

The list below describes the categories mapped by the DOC (DOC, 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-term agricultural production. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

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

California Land Conservation Act (Williamson Act)

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act (California Government Code Section 51200-51297.4), is applicable to specific parcels within the State of California. The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space uses in return for reduced property tax assessments. Private land within locally designated agricultural preserve areas is eligible for enrollment under a Williamson Act contract. The Williamson Act program is administered by the DOC, in conjunction with local governments that administer the individual contract arrangements with landowners. Participation in the Williamson Act program is dependent on County adoption and implementation of the program and is voluntary for landowners (DOC, 2020a).

Under the Williamson Act, a landowner commits the parcel to a 10-year period, during which time no conversion out of agricultural use is permitted. In return, the land is taxed at a rate based on the actual use (i.e., agricultural production), as opposed to its unrestricted market value. Each year the contract automatically renews unless a notice of nonrenewal or cancellation is filed. However, the application to cancel must be consistent with the criteria of the affected county or city. Nonrenewal or contract cancellation does not change a property's zoning. Participation in the Williamson Act program, which is voluntary for landowners, is dependent on a county's willingness to adopt and implement the program. The

Williamson Act states that a board or council will, by resolution, adopt rules governing the administration of agricultural preserves. The rules of each agricultural preserve specify the allowed uses. Generally, any commercial agricultural use would be permitted within any agricultural preserve. In addition, local governments may identify compatible uses permitted under a permit (DOC, 2020a).

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

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

A Williamson Act Contract cancellation is an option under limited circumstances and conditions set forth in Government Code Section 51280 et seq. In such cases, landowners may petition a board/council for Williamson Act Contract cancellation. The board/council may grant tentative cancellation only if it makes required statutory findings (Government Code Section 51282(a)). If the required findings are met, the landowner is required to pay a cancellation fee equal to 12.5 percent of the cancellation valuation (unrestricted fair market value) of the property (Government Code Section 51283(b)) (DOC, 2020b).

California Government Code Section 51282

California Government Code Section 51282 outlines the permitted reasoning for cancellation of Williamson Contracts below, under (a), (b), and (c).

- (a) The landowner may petition the board or council for cancellation of any contract as to all or any part of the subject land. The board or council may grant tentative approval for cancellation of a contract only if it makes one of the following findings:
 - (1) That the cancellation is consistent with the purposes of this chapter.
 - (2) That cancellation is in the public interest.
- (b) For purposes of paragraph (1) of subdivision (a) cancellation of a contract shall be consistent with the purposes of this chapter only if the board or council makes all of the following findings:
 - (1) That the cancellation is for land on which a notice of nonrenewal has been served pursuant to Section 51245.
 - (2) That cancellation is not likely to result in the removal of adjacent lands from agricultural use.

- (3) That cancellation is for an alternative use which is consistent with the applicable provisions of the city or county general plan.
- (4) That cancellation will not result in discontinuous patterns of urban development.
- (5) That there is no proximate non-contracted land which is both available and suitable for the use to which it is proposed the contracted land be put, or, that development of the contracted land would provide more contiguous patterns of urban development than development of proximate non-contracted land.
- (c) For purposes of paragraph (2) of subdivision (a) cancellation of a contract shall be in the public interest only if the council or board makes the following findings: (1) that other public concerns substantially outweigh the objectives of this chapter; and (2) that there is no proximate non-contracted land which is both available and suitable for the use to which it is proposed the contracted land be put, or that development of the contracted land would provide more contiguous patterns of urban development than development of proximate non-contracted land.

As used in this subdivision "proximate, non-contracted land" means land not restricted by contract pursuant to this chapter, which is sufficiently close to land which is so restricted that it can serve as a practical alternative for the use which is proposed for the restricted land.

As used in this subdivision "suitable" for the proposed use means that the salient features of the proposed use can be served by land not restricted by contract pursuant to this chapter. Such non-restricted land may be a single parcel or may be a combination of contiguous or discontinuous parcels.

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 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.

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 3: Ensure the development of resource areas minimize effects on neighboring resource lands.
- Goal 5: Conserve prime agriculture lands from premature conversion.
- Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.
- Policies
- Policy 1: Appropriate resource uses of all types will be encouraged as desirable and consistent interim uses in undeveloped portions of the County regardless of general plan designation.
- Policy 5: Areas of low intensity agriculture use (Map Code 8.2 (Resource Reserve), Map Code 8.3 (Extensive Agriculture), Map Code 8.5 (Resource Management)) should be of an economically viable size in order to participate in the State Williamson Act Program/Farmland Security Zone Contract.
- 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.
- Policy 13: Any property in an Agriculture Preserve proposing to be subject to a Williamson Act Contract or Farmland Security Zone Contract must have a Resource 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.

Implementation Measure

- Measure B: Areas designated as Resource Reserve (Map Code 8.2), Extensive Agriculture (Map Code 8.3), Resource Management (Map Code 8.5) that are under Williamson Act Contracts or Farmland Security Zone Contracts will have a minimum parcel size of 80 acres until such time as a contract is expired or is cancelled, at which time the minimum parcel size will become 20 acres.
- 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.
- Measure G: Property placed under the Williamson Act/Farmland Security Zone Contract must be in a Resource designation.

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, *Environmental Setting*, above, the Kern County Zoning Ordinance designates the majority of the project site for agricultural, estate residential or residential suburban combining, with the reaming portions of the site within the Willow Springs Specific Plan boundary identified as residential and light industrial.

Willow Springs Specific Plan

The entire project site (approximately 1,330 acres) occurs within the jurisdictional boundaries of 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).		

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 Contract. The proposed solar project is subject to these rules, as it is on contracted land, and would be required by Kern County to petition for an early cancellation of the contract.

4.2.4 Impacts and Mitigation Measures

Methodology

The project's potential impacts on agriculture and forestry resources have been evaluated on a qualitative basis by reviewing the *Kern County Agricultural Crop Report* (2018), the 2016 DOC Important Farmland Map and the 2020 Farmland Conversion Memorandum prepared by ICF (2020). 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 forestry resources if it would:

- a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use;
- b. Conflict with existing zoning for agricultural use or Williamson Act Contract;
- c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined in Public Resources Code Section 4526) or timberland zoned Timberland Production (as defined by Government Code Section 51104 (g).
- d. Result in the loss of forestland or conversion of forest land to non-forest use.
- e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use; or
- f. Result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code.

Kern County determined in the NOP/IS that the following environmental issue areas would result in no impacts, and therefore, are scoped out of this EIR. Please refer to Appendix A of this EIR for a copy of the NOP/IS and additional information regarding these issue areas:

- 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.

As detailed in the IS/NOP, there is no land in the vicinity of the proposed project site that is zoned as forest land, timberland, or lands zoned for timberland production. Thus, there would be no impacts related to loss of forest land or timberland, or the conversion of forest land to non-forest use. Therefore, no further analysis of these impacts is warranted in this EIR.

Project Impacts

Impact 4.2-1: The project would Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.

Approximately 247 acres of the project site are designated as "Prime Farmland," there are no portions of the project site currently designated as "Farmland of Statewide Importance" or "Unique Farmland" (ICF, 2020). The proposed project would convert this area to nonagricultural use. However, the project site has not been actively farmed for more than 10 years (ICF, 2020). Additionally, the 247 acres of the project site that are designated as "Prime Farmland" represent 0.03 percent of the 885,957 acres of harvested agricultural land in Kern County.

As shown in Figure 4.2-1, there are areas designated as "Grazing Land" and "Prime Farmland" within the Raceway 2.0 Solar sites 1, 2, and 3 that would be converted to non-agricultural use as a result of the project. As previously discussed under Section 4.2.2, *Environmental Setting*, above the project site is undeveloped and is currently primarily disturbed land used for dirt roads and sparse residential dwellings; farming has not occurred on the project site within the past 10 years. The DOC's FMMP 2018 Important Farmland Map, designates the rest of the project site as "Grazing Land", "Vacant or Disturbed Land", "Rural Residential Land" and/or "Nonagricultural or Natural Vegetation." Surrounding properties are designated as either: (a) "Vacant or Disturbed Land"; (b) Rural Residential"; (c) "Nonagricultural and Natural Vegetation"; (d) "Prime Farmland"; or (e) "Semi-agricultural and Rural Commercial Land" (DOC, 2018).

In addition, the superior court has determined that the Antelope Valley groundwater basin is in a state of overdraft. The court established 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. Partially as a result of the increasing scarcity and price of water and the need to reduce regional water use as part of the adjudication, agricultural production has declined in the Antelope Valley, and continues to decline as agricultural land is converted to less water intensive land uses, including renewable energy projects. The project would contribute to that trend by developing a less water intensive use than agriculture on the project sites, thereby offsetting demand for additional water. Accordingly, the project site does not have long-term viability for farmland use.

Since the lands designated as "Prime Farmland" have not been used for irrigated agriculture for the past 10 years, these parcels would not meet the criteria for "Prime Farmland", "Farmland of Statewide Importance", or "Unique Farmland" and would not be categorized as "Prime Farmland" in forthcoming maps of Important Farmland.

The Kern County Board of Supervisors approved a Pathway for Processing Conversion of Agricultural Land to Solar PV Use in the Central Valley (Pathway Process). If land is designated as Prime, Farmland of Statewide Importance, or Unique Farmland by the DOC, a project shall be subject to additional assessment

to determine if a significant impact to farmland would occur. The analysis should include water availability, soils, and surrounding land use. The project contains approximately 247 acres of land designated as "Prime Farmland" in the FMMP 2018 Important Farmland Map (DOC, 2018). These parcels are adjacent to native desert habitat, proposed and constructed solar facilities, and other abandoned agriculture.

In accordance with FMMP mapping qualifications and the Pathway Process, the project parcels designated as Prime Farmland in 2018 would not be considered Important Farmland in future mapping exercises or be considered productive farmland by the County. Water limitations and the lack of regular or recent agricultural activity on the parcels indicate that regardless of future project development, these parcels would not contribute to the agricultural economy or be deemed important farmland to the State. Therefore, the project would have a less than significant direct impact to the loss of farmland.

The conversion of designated "Prime Farmland", "Farmland of Statewide Importance", and "Unique Farmland" to non-agricultural use would be limited to the project site area for three reasons: (1) the project would not introduce a non-agricultural use that is sensitive to or incompatible with agricultural operations that would occur nearby; (2) at the end of its operating life, infrastructure associated with the solar facility would be removed, which would allow the project site to return to agricultural use subject to future water availability; and (3) the project includes a zone change to A (Exclusive Agriculture) so that the entire project site would be zoned for agriculture, which would encourage future agricultural uses on the property subject to future water availability, rather than non-agricultural or residential uses. Therefore, the project would only result in direct conversion impacts.

The project would be consistent with the goals, policies, implementation measures, and action programs of the Kern County General Plan (Goals 2, 3, and 5; Policies 7, 9, and 12) and the Willow Springs Specific Plan (Goals 1, 2, and 3 and Policy 1) that promotes the preservation and use of available natural resources. Even though agricultural uses would not occur with the proposed project, should the solar facility cease operations, the Exclusive Agriculture (A) zoning and the County's standard mitigation measure requiring a Decommissioning Plan and financial assurances would promote the conversion of the site back to agricultural uses.

Although implementation of the project would convert these areas of Prime Farmland, it would only result in loss of a small portion (less than 1 percent) of the harvested agricultural land within Kern County and as mentioned above, the project site has not been used for irrigated agriculture for the past 10 years; thus, parcels would not meet the criteria for "Prime Farmland", "Farmland of Statewide Importance", or "Unique Farmland." Disturbance to the designated farmland related to development of the project would be less than significant. Therefore, impacts related to converting designated farmland to nonagricultural use would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.2-2: The project would conflict with existing zoning for agricultural use or Williamson Act Contract.

As shown in Figure 1-9, parts of the project site are located within the A (Exclusive Agriculture) Zone District. Pursuant to Sections 19.12.020 and 19.12.030 of Kern County Zoning Ordinance, construction and operation of solar facilities on areas zoned A (Exclusive Agriculture) require approval of a CUP. The Kern County General Plan encourages the development of alternative sources of energy, such as solar energy, while protecting the environment. (See Section 4.11, *Land Use and Planning*, of this EIR, for additional goals and policies that promote solar energy development). Solar facilities are considered to be a compatible use and are permitted, with the approval of a CUP, on properties zoned for exclusive agricultural use, in accordance with Section 19.12.030 of the Kern County Zoning Ordinance. Therefore, with approval of a CUP, development of the proposed solar facility would be compatible with applicable land use policies and regulations and impacts would be less-than-significant related to conflicts with existing zoning for agricultural use.

As discussed in more detail under 4.2.3, *Regulatory Setting*, above, the principal purpose of the Williamson Act is to preserve agricultural lands from conversion to nonagricultural or incompatible uses. A commercial solar facility is not listed as a compatible use in the Williamson Act Standard Uniform Rules, as adopted by the Kern County Board of Supervisors; therefore, the project would not be consistent with the existing contract. However, the project proponent has petitioned for cancellation of the Williamson Act Contract, pursuant to California Government Code Section 51282(a)(1), which pertains to cancellation of a Williamson Act in the public interest. Cancellation of a Williamson Act Contract is an option under the limited circumstances and conditions as set forth in Government Code Section 51280 et seq. In such cases, landowners may petition the Kern County Board of Supervisors may grant a tentative cancellation only if it makes the required statutory findings (Government Code Section 51282(a)).

To determine whether the cancellation is in the public interest, the Kern County Board of Supervisors must find that (1) other public concerns substantially outweigh the objectives of the Williamson Act and (2) there is no proximate non-contracted land that is both available and suitable for the use or that development of the contracted land would provide more contiguous patterns of urban development (Government Code Section 51282(c)).

The public benefit of the project is related to energy supply, energy security, global climate change, and employment (i.e., an estimated peak of 800 construction jobs and one to two semi-permanent jobs) as well as economic benefits within Kern County. Additionally, the project would help the State of California achieve its goal of obtaining 50 percent of all electricity sold in the state from renewable resources by December 31, 2026, 60 percent by December 31, 2030, and 100 percent by 2045. Furthermore, the project would generate renewable electrical power using solar PV panels, store solar energy in battery energy storage facilities and connect to the electrical grid with minimum potential for air emissions and other environmental impacts and land use conflicts. Therefore, the benefits from cancellation of the Williamson Act Contract would substantially outweigh the objectives of the Williamson Act, and the finding set forth in Government Code Section 51282(c)(1) would be applicable.

The cancellation petition would be submitted to the DOC for review and concurrence regarding whether both of the aforementioned findings could be made by the Kern County Board of Supervisors. The Kern County Board of Supervisors would consider the project proponent's petition for cancellation of the Williamson Act

Contract concurrent with the consideration of the necessary land use approvals, and review all information and data provided to determine if the two findings can be made and the cancellation can be granted.

As the project site is currently subject to a Williamson Act Contract, which is in non-renewal status and set to expire, development of the project prior to expiration would conflict with the existing contract. However, the analysis above supports justification for cancellation of the contract based on the required public benefit findings. Should the Kern County Board of Supervisors determine that cancellation of the contract is in the public benefit (per Section 51282(a)), no conflict with Williamson Act contracted land would occur. With payment of the cancellation fee, as required by the Government Code, the Williamson Act Contract cancellation process would be complete and impacts associated with Williamson Act lands would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.2-3: 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 discussed, although there are approximately 247 acres of the project site that are designated as "Grazing Land" and "Prime Farmland" within Raceway 2.0 Solar sites 1, 2, and 3, the percentage only constitutes a small percentage (0.03 percent) of the harvested agricultural land within Kern County. The proposed project would convert this area to nonagricultural use. However, the project site has not been actively farmed for more than 10 years (ICF, 2020). Development associated with the project would only occur within the project boundaries and, although the proposed project may cause changes to the existing environment, there is no evidence that the proposed project would affect agricultural land in the vicinity during operational activities. The development of a solar power and battery storage facility would not require additional restrictions and limitations on pesticides, fungicides, or herbicides for surrounding agricultural land uses. In addition, the proposed project would not place additional restrictions on noise, burning, or dust generation on surrounding operations. No other changes would occur that would result in the conversion of farmland to a non-agricultural use. Construction of the proposed project would not result in substantial long-term changes in air quality, interfere with irrigation, or affect agricultural production on adjacent land.

Operation and maintenance activities associated with PV solar power plants and battery energy storage facilities are minimal compared with those of conventional fossil-fuel power plants. The PV modules, which would be non-reflective, would convert sunlight directly into electricity; therefore, they would consume no fossil fuels and emit no air pollutants during operations. Furthermore, development of the project would not result in any significant environmental impacts on adjacent properties as a result of the release of fuels, solvents, pesticides, or herbicides. Potential impacts from construction and operation activities that may result from the release of fuels, solvents, pesticides, or herbicides through the development of a hazardous materials business plan, as required by Mitigation Measure MM 4.9-1, and through regulation of the use of

herbicides, as required by Mitigation Measure 4.9-3. Therefore, the proposed project would not include activities that would restrict or impair agricultural production on adjacent or nearby land. Because the activities proposed on the sites are not anticipated to affect existing environmental conditions outside of the project boundary, the proposed project is not expected to result in the conversion of farmland on adjacent or nearby properties to non-farmland uses. Additionally, with implementation of Mitigation Measure MM 4.9-1 and MM 4.9-3, impacts would be less than significant.

As discussed above under subsection, *Thresholds of Significance*, the project is not situated on forest land and would not convert forest land to non-forest uses. There is no land in the vicinity of the project that is designated as forest land, timberland, or lands zoned for timberland production. Due to a lack of forest land on the site, the project does not involve any changes to the existing environment that, due to their location or nature, could result in impacts resulting in the loss of forest land or conversion of forest land to nonforest use. Therefore, there are no anticipated impacts related to the rezoning of forest land or conversion of forest land to a non-forest use and therefore would be no impact.

Mitigation Measures

Implementation of Mitigation Measures MM 4.9-1 and MM 4.9-3 would be required (see Section 4.9, *Hazards and Hazardous Materials*, for full mitigation measure text).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-1 and MM 4.9-3, impacts would be less than significant.

Impact 4.2-4: The project would result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code.

As stated above, the project would result in the cancellation of a Williamson Act Contract, in non-renewal status, on two parcels. As described above, although the project site includes land designated as "Prime Farmland," agricultural production has not taken place on the project site in the last 10 years. As discussed in more detail under 4.2.3, *Regulatory Setting*, above, the principal purpose of the Williamson Act is to preserve agricultural and open space lands from conversion to nonagricultural or incompatible uses. A commercial solar facility is not listed as a compatible use in the Williamson Act Standard Uniform Rules, as adopted by the Kern County Board of Supervisors; therefore, the project would not be consistent with the existing contract. The existing Williamson Act Contract on the project site parcels are set to expire. The project proponent has petitioned for cancellation of the Williamson Act Contract, pursuant to California Government Code Section 51282(a)(1), which pertains to cancellation of a Williamson Act in the public interest. Cancellation of a Williamson Act Contract is an option under the limited circumstances and conditions as set forth in Government Code Section 51280 et seq. In such cases, landowners may petition the Kern County Board of Supervisors for cancellation only if it makes the required statutory findings (Government Code Section 51282(a)).

As analyzed further under Impact 4.2-2, the benefits from cancellation of the Williamson Act Contract would substantially outweigh the objectives of the Williamson Act, and the finding set forth in Government

Code Section 51282(c)(1) would be applicable. Upon approval of the CUP No.119, Map 231, CUP No. 4, Map 231-20, SPA 39, Map 231, SPA 3, Map 231-20 and Williamson Act Land Use Contract Cancellation 19-02, construction of the project would not conflict with the Williamson Act Contract that the project site is currently subject to. The cancellation petition would be submitted to the DOC for review and concurrence regarding whether both of the aforementioned findings could be made by the Kern County Board of Supervisors. The Kern County Board of Supervisors would consider the project proponent's petition for cancellation of the Williamson Act Contract concurrent with the consideration of the necessary land use approvals, and review all information and data provided to determine if the two findings can be made and the cancellation can be granted.

As the project site is currently subject to a Williamson Act Contract, development of the project prior to expiration would conflict with the contract, which, as noted above, was made to restrict the project site to agricultural and compatible uses. Therefore, the proposed project would require the cancellation of an open space contract made pursuant to the California Lands Conservation Act of 1965 for a parcel over 100 acres. No feasible mitigation is available to reduce impacts related to the cancellation of Williamson Act Contracts, therefore, impacts related to the cancellation of an open space contract would be significant and unavoidable.

The project site is not subject to a Farmland Security Zone Contract and, therefore, no impacts related to cancellation of a Farmland Security Zone contract are anticipated.

Mitigation Measures

No feasible mitigation is available.

Level of Significance

As there is no feasible mitigation available to reduce impacts related to the cancellation of a Williamson Act Contract, impacts would be significant and unavoidable.

Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for cumulative agricultural and forest impacts is considered the Western Antelope Valley. This geographic scope is selected because of its relatively uniform terrain, soil conditions, climate, and habitat value; its 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 3-9**, *Cumulative Project List*, there are 19 projects in the area including several utility-scale solar and wind energy production facilities.

As previously discussed, the proposed project would convert approximately 247 acres of Prime Farmland to non-agricultural uses. While development of the cumulative projects could result in conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), the proposed project's contribution to the conversion of agricultural land to non-agricultural uses would be cumulatively considerable. The project's incremental effect is cumulatively considerable when viewed in connection with the effects of other closely related past projects, the effects of other current projects and the effects of probable future projects and thus cumulative impacts would be significant and unavoidable. As explained above under Impact 4.2-4, no feasible mitigation is available to reduce impacts related to the cancellation of Williamson Act Contracts.

While the project would conflict with a Williamson Act Contract if construction were to occur prior to expiration of the existing contract, with approval of a CUP pursuant to Section 19.12.030 of the Kern County Zoning Ordinance, and if the Kern County Board of Supervisors determines that cancellation of the contract is in the public interest, there will be no conflict with the existing agricultural zoning or Williamson Act–contracted land. Cumulative projects would not be developed until the existing Williamson Act Contracts expire and similarly would not result in any conflicts with existing agricultural zoning or adjacent Williamson Act-contracted land. Cumulative impacts would be less than significant. As discussed above, the project site is not zoned for forest land, timberland, or timberland production. As such, the project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland or timberland zoned Timberland Production, nor would the project result in the loss of forestland or conversion of forest land to non-forest use. Cumulative projects in the vicinity of the project site are also not located on land zoned for forest land, timberland production. No cumulative impacts would occur.

As analyzed above, operation of the solar facility on the project site would not preclude the conversion of surrounding areas to agricultural uses. Further, the project site could be used for agricultural uses following project decommissioning. Therefore, the project would not 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. While development of cumulative projects could result in conversion of Farmland to nonagricultural uses, the project's contribution would not be cumulatively considerable. Cumulative impacts would be less than significant.

As it relates to the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code, the Williamson Act Contract for the project site was made to restrict the project site to agricultural and compatible uses on approximately 315 acres (i.e., Raceway 2.0 Solar Site 4). In addition, as described above, the project is seeking approval of a CUP and Williamson Act Land Use Contract Cancellation, which would tentatively cancel the Williamson Act Contract that the project site is currently subject to. Therefore, based on the above, the projects, which are subject to Williamson Act Contracts in non-renewal status, would not be developed until the existing Williamson Act Contracts expire and similarly would not result in any conflicts related to cancellation of an open space contract. The project's incremental effect is not cumulatively considerable when viewed in connection with the effects of other closely related past projects, the effects of other current projects and the effects of probable future projects and thus cumulative impacts would be less than significant.

Mitigation Measures

No feasible mitigation is available.

Level of Significance

As there is no feasible mitigation available to reduce impacts related to the cancellation of a Williamson Act Contract, cumulative impacts would be significant and unavoidable.

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 project's air quality and greenhouse gas technical memorandum, *Raceway 2.0 Solar Project: Air Quality and Greenhouse Gas Technical Memorandum* (Ecology and Environment, Inc., 2020), located in Appendix C-1 of this EIR and incorporated by reference herein. 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 1999).

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 on approximately 1,330 acres of undeveloped, privately owned land located in the western extent of the Mojave Desert near Mojave, California and is under the jurisdiction of EKAPCD in the Mojave Desert Air Basin (MDAB). 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. Generally, the MDAB's eastern portion is sparsely populated; however, the southern portion just north of the mountains has a fairly large population located in several cities such as Lancaster, Hesperia, etc. Terrain in the MDAB consists of flat areas with buttes located throughout.

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 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 above mean sea level [amsl]), the passes of which form the main channels for these air masses.

During the summer, the MDAB is generally influenced by a Pacific subtropical high-pressure cell that sits off the coast to the west, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist and unstable air masses from the south. The average daily maximum and minimum summer temperatures (i.e., July) in the Project area are 98.3 degrees Fahrenheit (°F) and 67.4 °F, respectively. The average daily maximum and minimum winter temperatures (i.e., January) are 58.8 °F and 30.7 °F, respectively. Average annual precipitation is 6.59 inches. These averages are taken from the General William J. Fox airfield, approximately 8 miles south of the Project area (WRCC 2017). The MDAB averages between 3 and 7 inches of precipitation per year (from 16 to 30 days with at least 0.01 inch of precipitation). The MDAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, which indicates at least three months have maximum average temperatures over 100.4°F.

The project sites are zoned for residential development and Raceway Solar 4 is zoned for agriculture but is not currently under cultivation. Development in the area surrounding the project site includes rural residences, agriculture, and renewable energy (solar and wind) facilities. The project is in the Mojave Basin and Range ecoregion and the United States Geological Survey (USGS) Little Buttes and Rosamond 7.5-minute topographical quadrangles.

The foothills of the Tehachapi Range occur approximately 13 miles west of the project. The project and surrounding land are mostly flat and exhibit little topographic variation. Land administered by the Bureau of Land Management (BLM) is located approximately 2 miles north of the project.

The proposed project is located entirely within the Federal Emergency Management Agency (FEMA) designated Zone "A." Zone A is the 100-year floodplain or 1 percent annual chance of flood. There are drainage routes near several of the project sites and gen-tie routes. All 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 Conservation/Division of Oil, Gas and Geothermal Resources (DOGGR), wells are not identified on the project site, and the project is not within the jurisdictional boundaries of an oilfield (California Department of Conservation, 2017).

Sensitive Receptors

Sensitive receptors are land uses or people considered to be more sensitive than others to air pollutants. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. Residences, schools, hospitals, convalescent homes, and parks are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with associated greater exposure to ambient air quality. Recreational

uses are also considered sensitive due to greater exposure to ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system.

The proposed project would be served by the Kern County Sheriff's Office for law enforcement and public safety. The closest sheriff station is the Green Empire Substation, located approximately 4.5 miles east of the project. The Kern County Fire Department (KCFD) provides fire protection and emergency medical and rescue services for the project area. KCFD Station 15 is located approximately 3.5 miles east of the project. The closest school is Tropico Middle School, located approximately 1.6 miles northeast of the project. The nearest hospital is the Palmdale Regional Medical Center, located approximately 19 miles to the southeast, of the project in Palmdale.

The nearest airports to the proposed project are the Rosamond Skypark located 3 miles to the northeast, the Mojave Air and Space Port located 14.5 miles to northeast. Private airstrips include the Lloyd's Landing airport, located approximately 3.5 miles north and the Little Buttes Antique Airfield, located approximately 2.5 miles south of the project in Los Angeles County.

The California Department of Conservation (CDC) Farmland Mapping and Monitoring Program (FMMP), designates the project sites as vacant, disturbed, prime, grazing, and/or rural residential lands (California Department of Conservation, 2016). Surrounding properties are designated as either: (a) vacant or disturbed, (b) rural residential, or (c) nonagricultural and natural vegetation. Parcels within Raceway Solar 4 are subject to a Williamson Act Land Use contract. Although Raceway Solar 4 is zoned for agricultural use, available crop data indicates none of the subject land has been under cultivation between 2010 through 2016.

The proposed project is located within unincorporated Kern County and within the jurisdiction of the Willow Spring Specific Plan. The project has land use designations of 7.1 (Light Industrial), 5.3 (Residential, Maximum 10 units/net acre), 5.3/2.85 (Residential, Maximum 10 units/net acre/Noise Management Area), 5.5 (Residential, Maximum 1 units/net acre), 5.6/2.8 (Residential, Maximum 2.5 gross acres/unit/Military Flight Operations), 5.6/2.85 (Residential, Maximum 2.5 gross acres/unit/Noise Management Area) and is within the A (Exclusive Agriculture) and E (2.5) (Estate, 2.5 acre minimum) zone districts. The existing land uses of the project and its surroundings are generally undeveloped, including sparse residential dwellings, dirt roads and fallow or active agricultural operations. The entire project is also subject to the provisions of the Kern County Zoning Ordinance. The project proposes to eliminate future road reservations from the General Plan Circulation Element to allow for efficient placement of solar panels.

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 (USEPA) has identified criteria pollutants and has established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (PM) (specifically PM₁₀ and PM_{2.5}), and lead. 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, USEPA has set "primary" and "secondary" ambient standards for each of the criteria pollutants. Primary thresholds were set to protect human health, particularly sensitive receptors, such as children, the elderly, and individuals suffering from chronic lung conditions, such as asthma and emphysema. Secondary standards were set to protect the natural environment and prevent further deterioration of animals, crops, vegetation, and buildings.

Regional and Local Standards

NAAQS establish the level for an air pollutant above which detrimental effects to public health or welfare may result. NAAQS are defined as the maximum acceptable concentrations that, depending on the pollutant, may not be equaled or exceeded more than once per year or in some cases as a percentile of observations. California has generally adopted more stringent ambient air quality standards for the criteria air pollutants (i.e., California Ambient Air Quality Standards [CAAQS]). California has also established CAAQS for sulfates, hydrogen sulfide, and vinyl chloride; however, air emissions of these pollutants are not expected to occur under the project and, thus, these pollutants are not addressed further in this EIR.

Table 4.3-1, *National and State Criteria Pollutant Standards and Eastern Kern Air Pollution Control District Attainment Status*, presents both sets of ambient air quality standards (i.e., national and state) as well as attainment status for each of these standards within the EKAPCD jurisdiction. If a pollutant concentration in an area is lower than the established standard, the area is classified as being in "attainment" for that pollutant. If the pollutant concentration meets or exceeds the standard (depending on the specific standard for the individual pollutants), the area is classified as a "nonattainment" area. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated "unclassified."

As shown in **Table 4.3-1**, in the southern portion of the EKAPCD, where the project is located, is currently classified as nonattainment for the California 1-hour and 8-hour ozone standards and PM₁₀ standards, and as nonattainment/marginal for the national 8-hour ozone, and as attainment and/or unclassified for the California and national standards of all of the other criteria pollutants (Appendix C-1 of the EIR).

		California Sta	National Standards		
Pollutant	Averaging Time	Concentration	Attainment Status	Primary	Attainment Status
Ozone (O ₃)	1-hour	0.09 ppm	Non-	_	Attainment
	8-hour	0.070 ppm	Attainment	0.070 ppm	Nonattainment/ Marginal
Particulate Matter (PM ₁₀)	AAM	$20 \ \mu\text{g/m}^3$	Nonattainment	—	Unclassified
	24-hour	50 µg/m ³		150 μg/m ³	-

TABLE 4.3-1: NATIONAL AND STATE CRITERIA POLLUTANT STANDARDS AND EKAPCD ATTAINMENT STATUS
		California Standards		National Standards	
Pollutant	Averaging Time	Concentration	Attainment Status	Primary	Attainment Status
Fine	AAM	12 µg/m ³	Unclassified	$12.0\ \mu\text{g/m}^3$	Unclassified/
Particulate Matter (PM _{2.5})	24-hour	No Standard		35 µg/m ³	Attainment
Carbon	1-hour	20 ppm	Unclassified	35 ppm	Unclassified/
Monoxide (CO)	8-hour	9.0 ppm		9 ppm	Attainment
Nitrogen	AAM	0.030 ppm	Attainment	0.053 ppm	Unclassified/ Attainment
Dioxide (NO ₂)	1-hour	0.18 ppm		0.100 ppm	
Sulfur Dioxide	AAM	—	Attainment	0.030 ppm	Unclassified
(SO ₂)	24-hour	0.04 ppm		0.14 ppm	
	3-hour	—		_	
	1-hour	0.25 ppm		0.075 ppm	
Lead	30-day Average	1.5 μg/m ³	Attainment		Unclassified/
	Calendar Quarter	-		1.5 μg/m ³	Attainment
	Rolling 3- Month Average	—		$0.15 \ \mu g/m^3$	
Sulfates	24-hour	$25 \ \mu g/m^3$	Attainment	No	
Hydrogen Sulfide	1-hour	0.03 ppm (42 μg/m ³)	Unclassified	Federal Standards	
Vinyl Chloride	24-hour	0.01 ppm (42 μg/m ³)	Unclassified		
Visibility- Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/kilometer-visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70%.	Unclassified		

TABLE 4.3-1: NATIONAL AND STATE CRITERIA POLLUTANT STANDARDS AND EKAPCD ATTAINMENT STATUS

AAM = annual arithmetic mean; ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter

SOURCES: Appendix C-1 of the EIR

Local Air Quality

To assess local air quality impacts, the significance thresholds are based on the State carbon monoxide (CO) standards, shown previously in Table 4.3-1, which are 20 parts per million (ppm) for 1-hour CO concentration levels and 9 ppm for 8-hour CO concentration levels. If CO concentration levels with the

project would be less than the standards, then there would be no significant impact on local air quality. If future CO concentrations with the project would be above the standards, then the increase due to the project would determine if the impact would be significant or less than significant. A project would have a significant impact on local air quality, if the project would result in an increase of 1 ppm or more for the 1-hour averaging time or 0.45 ppm or more for the 8-hour averaging time.

Ambient Air Monitoring

CARB has established and maintains a network of sampling stations (called the State and Local Air Monitoring Stations [SLAMS] network) that work in conjunction with local air pollution control districts and air quality management districts to monitor ambient pollutant levels. The SLAMS network in Kern County consists of eight stations that monitor various pollutant concentrations. The locations of these stations were chosen to meet monitoring objectives, which, for the SLAMS network, call for stations that monitor the highest pollutant concentrations, representative concentrations in areas of high population density, the impact of major pollution emissions sources, and general background concentration levels.

EKAPCD is responsible for monitoring air quality in the Kern County portion of the MDAB to determine whether pollutant concentrations meet state and national air quality standards. Three ambient air quality monitoring stations in the EKAPCD measure the ambient concentrations of the major criteria pollutants of concern in the EKAPCD (i.e., ozone, PM₁₀, and PM_{2.5},). These pollutants are monitored in Mojave, Ridgecrest and Canebrake; the Mojave station is the closest monitoring site to the Project for ozone, PM₁₀, and PM_{2.5}. Background ambient concentrations of pollutants are determined by pollutant emissions in a given area, and wind patterns and meteorological conditions for that area. As a result, background concentrations are best estimated by using monitors in the same area and subject to the same wind patterns. The nearest station that measures NO₂ and CO is in Lancaster (approximately 10.5 miles to the southeast of the Project area). The nearest station that measures SO₂ is in Victorville (approximately 60 miles to the southeast of the Project area). Data for the Project area are shown in **Table 4.3-2**, *Air Quality Data Summary* (2016–2019).

Criteria Air Pollutants

The following is a general description of the physical and health effects from the governmentally regulated air pollutants shown in Table 4.3-1, *National and State Criteria Pollutant Standards and EKAPCD Attainment Status*.

Ozone (O₃)

Ozone occurs in two layers of the atmosphere, the troposphere and the stratosphere. The layer surrounding the earth's surface is the troposphere, where "bad" ozone acts as an air pollutant that damages human health, vegetation, and many common materials. It is a key ingredient of urban smog. The troposphere extends to a level about 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric or "good" ozone layer extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays (UV-B).

	Monitoring Year			
Pollutant	2016	2017	2018	2019
Ozone (O ₃) ^a (ppm)				
Maximum concentration (1-hour average)	0.104	0.097	0.111	0.085
Maximum concentration (8-hour average)	0.093	0.085	0.094	0.077
Fourth-highest concentration (8-hour average)	0.084	0.080	0.091	0.074
Nitrogen Dioxide (NO ₂) ^b (ppm)				
Maximum concentration (1-hour average)	49	47	48	50
Annual Average	8.02	7.79	8.66	8.17
Suspended Particulate Matter (PM _{2.5}) ^a $(\mu g/m^3)$				
Maximum concentration (24-hour)	25.7	26.9	39	19.8
98 th Percentile concentration (24-hour)	21	17	26	14
Annual Average	7.4	5.5	7.1	6.5
Suspended Particulate Matter (PM ₁₀) ^a (µg/m ³)				
Maximum concentration (24-hour) (national/state)	138	92	92	248
Annual Average	26.2	25.3	26.7	23.7
Carbon Monoxide (CO) (ppm)				
Maximum concentration (1-hour average)	2.6	1.3	1.2	1.4
Maximum concentration (8-hour average)	1.5	0.9	1.0	0.9
Sulfur Dioxide (SO ₂) ^c (ppm)				
Maximum concentration (1-hour)	5.7	28.3	9.9	4.3
Maximum concentration (24-hour)	2.2	1.9	2.7	3.4

TABLE 4.3-2:AIR QUALITY DATA SUMMARY (2016–2019)

 $ppm = parts per million by volume, \mu g/m^3 = micrograms per cubic meter, NA=Not Available$

^a Based on ambient concentrations obtained from the Mojave Monitoring Station. Ozone 1-hr reported as maximum concentrations. Ozone 8-hr reported as the maximum concentration (corresponding to the CAAQS) and the fourth-highest concentration (corresponding to the NAAQS). PM_{2.5} 24-hr reported as the maximum concentration (corresponding to the CAAQS) and the 98th Percentile concentration (corresponding to the NAAQS).

^b Based on ambient concentrations obtained from the Lancaster Monitoring Station.

^c Based on ambient concentrations obtained from the Victorville Monitoring Station.

SOURCE: USEPA, Monitor Values Report, 2016-2019, https://www.epa.gov/outdoor-air-quality-data/monitor-values-report; CARB, iADAM: Air Quality Data Statistics, Top 4 Summary, https://www.arb.ca.gov/adam/.

"Bad" ozone is what is known as a photochemical pollutant, which needs the combination of reactive organic gas (ROG) and oxides of nitrogen (NO_X), in the presence of sunlight to form. ROG and NO_X are emitted from various sources throughout Kern County. Significant ozone formation generally requires an adequate amount of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. To reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors.

Ozone is a regional air pollutant, which is generated over a large area and transported and spread by the wind. As the primary constituent of smog, ozone is the most complex, difficult to control, and pervasive of the criteria pollutants. Unlike other pollutants, it is not emitted directly into the air by specific sources but is created by sunlight acting on other air pollutants (the precursors), specifically NO_X and ROG. Sources of precursor gases number in the thousands and include common sources such as consumer products, gasoline vapors, chemical solvents, and combustion byproducts of various fuels. Originating from gas stations, motor vehicles, large industrial facilities, and small businesses such as bakeries and dry cleaners, the ozone-forming chemical reactions often take place in another location, catalyzed by sunlight and heat. Thus, high ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

Health Effects

While ozone in the upper atmosphere protects the earth from UV-B, high concentrations of ground-level ozone can adversely affect the human respiratory system. Many respiratory ailments, as well as cardiovascular diseases, are aggravated by exposure to high ozone levels.

Ozone is a powerful oxidant—it can be compared to household bleach, which can kill living cells (such as germs or human skin cells) upon contact. Ozone can damage the respiratory tract, causing inflammation and irritation, and it can induce symptoms such as coughing, chest tightness, shortness of breath, and worsening of asthmatic symptoms. Ozone in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. 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 the ozone health effects discussion above). High levels of hydrocarbons in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. There are no separate federal or California ambient air quality standards for ROG. Carcinogenic forms of ROG are considered toxic air contaminants (TACs). An example is benzene, which is a carcinogen. The health effects of individual ROGs are described under the "Toxic Air Contaminants" heading below.

Carbon Monoxide (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 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 (NOx)

Oxides of nitrogen (NO_X) are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone and react in the atmosphere to form acid rain. NO_X is emitted from 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 (NO₂), with the vast majority (95 percent) of the NO_X emissions being comprised of NO. NO is converted to NO₂ 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 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] 2016).

Sulfur Dioxide (SO₂)

Sulfates are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to sulfur dioxide (SO₂) during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO₂ to sulfates takes place comparatively rapidly and completely in urban areas of California because of regional meteorological features.

 SO_2 is a colorless, irritating gas with a "rotten egg" smell that is formed primarily by the combustion of sulfur-containing fossil fuels. Historically, SO_2 was a pollutant of concern in Kern County, but with the successful implementation of regulations, levels have been reduced significantly.

Health Effects

High concentrations of SO₂ can result in temporary breathing impairment for asthmatic children and adults who are active outdoors. Health effects from exposure to emissions of SO₂ include aggravation of lung diseases, especially bronchitis, and constricting of breathing passages, especially in asthmatics and people involved in moderate to heavy exercise. Short-term exposures of individuals to elevated SO₂ levels during moderate activity may result in health effects including breathing difficulties that can be accompanied by symptoms such as wheezing, chest tightness, or shortness of breath. Other health effects that have been associated with longer-term exposures to high concentrations of SO₂, in conjunction with high levels of particulate matter, include aggravation of existing cardiovascular disease, respiratory illness, and alterations in the lungs' defenses. SO₂ also is a major precursor to particulate matter that is 2.5 microns or less (PM_{2.5}), which is a significant health concern and a main contributor to poor visibility (see also the discussion of health effects of particulate matter).

 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).

SO₂ tends to have more toxic effects when acidic pollutants, liquid or solid aerosols, and particulates are also present. Effects are more pronounced among "mouth breathers," e.g., people who are exercising or who have head colds. These effects include:

- Health problems, such as episodes of bronchitis requiring hospitalization associated with lower-level acid concentrations;
- Self-reported respiratory conditions, such as chronic cough and difficult breathing, associated with acid aerosol concentrations (individuals with asthma are especially susceptible to these effects. The elderly and those with chronic respiratory conditions may also be affected at lower concentrations than the general population);
- Increased respiratory tract infections associated with longer term, lower level exposures to SO₂ and acid aerosols; and
- Subjective symptoms, such as headaches and nausea, in the absence of pathological abnormalities due to long-term exposure.

 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 (PM₁₀ 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 (PM₁₀) and 2.5 microns or less in diameter (PM_{2.5}). Thus, PM_{2.5} is a subset of PM₁₀. PM₁₀ 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 man-made 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 (Dockery and Pope 2006).

Another study shows that individuals with existing cardiac disease can be in a potentially life-threatening situation when exposed to high levels of fine air pollution. Fine particles can penetrate the lungs and cause the heart to beat irregularly, or can cause inflammation, which could lead to a heart attack (Peters et al. 2001).

Attaining the California particulate matter standards would annually prevent about 6,500 premature deaths, or 3 percent of all deaths. These premature deaths shorten lives by an average of 14 years. This is roughly equivalent to the same number of deaths (4,200 to 7,400) linked to secondhand smoke in 2000. In comparison, motor vehicle crashes caused 3,200 deaths, and 2,000 deaths resulted from homicide. Attaining the California particulate matter and ozone standards would annually prevent 4,000 hospital admissions for respiratory disease, 3,000 hospital admissions for cardiovascular disease, and 2,000 asthma-related emergency room visits. Exposure to diesel particulate matter causes about 250 excess cancer cases per year in California (County of Kern 2006).

Sulfates

Sulfates (SO_4^{2-}) are particulate product that comes from the combustion of sulfur-containing fossil fuels. When sulfur monoxide or SO₂ is exposed to oxygen, it precipitates out into sulfates $(SO_3 \text{ or } SO_4)$.

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, SO₂ tends to have an even more toxic effect. In addition to particulates, SO₃ and SO₄ are also precursors to acid rain. SO_x and NO_x are the leading precursors to acid rain. Acid rain can lead to corrosion of man-made structures and cause acidification of water bodies. Sulfates are particularly effective in degrading visibility and, because they are usually acidic, can harm ecosystems and damage materials and property (CARB 2009).

Lead

Lead is a metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, so it essentially persists forever. Historically, lead was used to increase the octane rating in automobile fuel. However, because gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels and that use has been mostly phased out, the ambient concentrations of lead have dropped dramatically. EKAPCD no longer monitors ambient levels of atmospheric lead in the MDAB.

Health Effects

Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. It accumulates in the blood, bones, and soft tissues and can adversely affect the kidneys, liver, nervous system, and other organs. Excessive exposure to lead may cause neurological impairments such as seizures, mental retardation, and behavioral disorders. Even at low doses, lead exposure is associated with damage to the nervous systems of fetuses and young children, resulting in learning deficits and lowered IQ. Recent studies also show that lead may be a factor in high blood pressure and subsequent heart disease. Lead can also be deposited on the leaves of plants, presenting a hazard to grazing animals and humans through ingestion (EPA, 2012b).

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 (H₂S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. H₂S in the atmosphere would likely oxidize into SO₂ that can lead to acid rain. At low concentrations H₂S, which has a characteristic "rotten egg" smell, may cause irritation to the eyes, mucous membranes and respiratory system, dizziness and headaches. In high concentrations (800 ppm can cause death) hydrogen sulfide is extremely hazardous, especially in enclosed spaces. Occupational Safety and Health Administrations (OSHA) has the primary responsibility for regulating workplace exposure to H₂S.

Health Effects

Exposure to low concentrations of 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 cooccurring 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

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.

Diesel Particulate Matter

Diesel particulate matter (DPM) is emitted from both mobile and stationary sources. In California, on-road diesel-fueled engines contribute approximately 24 percent of the statewide total, with an additional 71 percent attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units. Stationary sources contribute about 5 percent of total DPM.

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 – ALA 2001).

Airborne Fungus (Valley Fever)

Coccidioidomycosis, commonly referred to as San Joaquin Valley Fever or Valley Fever, is one of the most studied and oldest known fungal infections. Valley Fever most commonly affects people who live in hot dry areas with alkaline soil and varies with the season. This disease, which affects both humans and animals, is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis* (CI). CI spores are found in the top few inches of soil and the existence of the fungus in most soil areas is temporary. The cocci fungus lives as a saprophyte in dry, alkaline soil. When weather and moisture conditions are favorable, the fungus "blooms" and forms many tiny spores that lie dormant in the soil until they are stirred up by wind, vehicles, excavation, or other ground-moving activities and become airborne. Agricultural workers, construction workers, and other people who work outdoors and who are exposed to wind and dust are more likely to contract Valley Fever. After the fungal spores have settled in the lungs, they change into a multicellular structure called a spherule. Fungal growth in the lungs occurs as the spherule grows and bursts, releasing endospores, which then develop into more spherules.

Approximately 60 percent of Valley Fever cases are mild and display flu-like symptoms or no symptoms at all. Of those who are exposed and seek medical treatment, the most common symptoms include fatigue, cough, loss of appetite, rash, headache, and joint aches. In some cases, painful red bumps may develop on the skin. One important fact to mention is that these symptoms are not unique to Valley Fever and may be caused by other illnesses as well. Identifying and confirming this disease require specific laboratory tests such as: (1) microscopic identification of the fungal spherules in infected tissue, sputum or body fluid sample; (2) growing a culture of *CI* from a tissue specimen, sputum, or body fluid; (3) detection of antibodies (serological tests specifically for Valley Fever) against the fungus in blood serum or other body fluids; and (4) administering the Valley Fever Skin Test (called coccidioidin or spherulin), which indicate prior exposure to the fungus (Valley Fever Center for Excellence 2019a). It should be noted that the incident rate for Valley Fever in Kern County within the MDAB is less than the incident rate in Kern County within the San Joaquin Valley Air Basin, where the highest incidence rate within California occurs.

Valley Fever is not contagious and, therefore, cannot be passed on from person to person. Most of those who are infected would recover without treatment within six months and would have a life-long immunity to the fungal spores. In severe cases, especially in those patients with rapid and extensive primary illness, those who are at risk for dissemination of disease, and those who have disseminated disease, antifungal drug therapy is used. The type of medication used and the duration of drug therapy are determined by the severity of disease and response to the therapy. The medications used include ketoconazole, itraconazole and fluconazole in chronic, mild-to-moderate disease, and amphotericin B, given intravenously or inserted into the spinal fluid, for rapidly progressive disease. Although these treatments are often helpful, evidence of disease may persist and years of treatment may be required (Valley Fever Center for Excellence 2019a).

Table 4.3-3, *Range of Valley Fever Cases*, presents the range of Valley Fever cases based on research conducted by the Valley Fever Center for Excellence.

Infection Classification	Percent of Total Diagnosed Cases		
Unapparent infections	60 percent		
Mild to moderate infections	30 percent		
Infections resulting in complications	5–10 percent		
Fatal infections	<1 percent		
SOURCE: Valley Fever Center for Excellence	e 2019b.		

 TABLE 4.3-3:
 RANGE OF COMPLICATIONS OF VALLEY FEVER CASES

Asbestos

Asbestos is a term used for several types of naturally-occurring fibrous minerals found in many parts of California. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States. In addition, naturally occurring asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties associated with the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. According to information provided by the California Department of Conservation, Division of Mines and Geology, the project 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, 2020a). According to the CDC, COVID-19 is believed to spread between people who are in close contact with one another (within about 6 feet) through respiratory droplets produced when an infected person coughs, sneezes, or talks (CDC, 2020b). COVID-19 research and causality is still in the beginning stages. A nationwide study by Harvard University found a linkage between long term exposures 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 (EPA)

The principal air quality regulatory mechanism on the federal level is the CAA and in particular, the 1990 amendments to the CAA, and the NAAQS that it establishes. These standards identify levels of air quality for "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants include ozone, CO, NO₂ (which is a form of NO_x), SO₂ (which is a form of SO_x), PM₁₀, PM_{2.5}, and lead. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against visual impairment and damage to animals, crops, vegetation, and buildings. The CAA requires periodic review of the science upon which the standards are based, as well as the standards themselves.

USEPA also has regulatory and enforcement jurisdiction over emission sources beyond state waters (outer continental shelf), and those that are under the exclusive authority of the federal government, such as aircraft, locomotives, and interstate trucking. USEPA's primary role at the state level is to oversee the state air quality programs. USEPA sets federal vehicle and stationary source emission standards and oversees approval of all State Implementation Plans (SIP), as well as providing research and guidance in air pollution programs. The SIP is a state-level document that identifies all air pollution control programs within California that are designed to meet the NAAQS.

The sections of the CAA that are most applicable to the proposed project include Title I (Air Pollution Prevention and Control), Title II (Emission Standards for Mobile Sources), and Title V (Permits).

Title I of the CAA requires establishment of NAAQS, air quality designations, and attainment plan requirements for nonattainment areas. Each state is required to submit a state implementation plan to the EPA for areas in nonattainment for NAAQS. The state implementation plan, which is reviewed and approved by the EPA, must demonstrate how state and local regulatory agencies will institute rules, regulations, and/or other programs to achieve attainment of NAAQS.

Title II of the CAA contains a number of provisions regarding mobile sources, including requirements for reformulated gasoline, new tailpipe emission standards for cars and trucks, standards for heavy-duty vehicles, and a program for cleaner fleet vehicles.

Title V of the CAA requires an operating permit program for larger industrial and commercial sources that release pollutants into the air. Operating permits include information on which pollutants are being released,

how much may be released, and what steps the source's owner or operator is required to take to reduce the pollutants. Permits must include plans to measure and report the air pollutants emitted.

State

California Air Resources Board (CARB)

CARB, a department of the California Environmental Protection Agency (Cal/EPA), oversees air quality planning and control throughout California by administering the SIP. Its primary responsibility lies in ensuring implementation of the 1989 amendments to the CCAA, responding to the federal CAA requirements and regulating emissions from motor vehicles sold in California. CARB also sets fuel specifications to further reduce vehicular emissions.

The amendments to the CCAA establish the CAAQS, and a legal mandate to achieve these standards by the earliest practical date. These standards apply to the same criteria pollutants as the federal CAA, and also include sulfates, visibility reducing particulates, hydrogen sulfide and vinyl chloride (there are currently no NAAQS for these latter pollutants). They are also generally more stringent than the national standards in most cases, although recently promulgated NAAQS for 1-hour NO₂ and SO₂ can in some instances be more stringent than the respective CAAQS.

CARB is also responsible for regulations pertaining to TACs. The Air Toxics "Hot Spots" Information and Assessment Act (Assembly Bill [AB] 2588, 1987, Connelly) was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. AB 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release into their local air basin. Each ACPD and air quality management districts (AQMDs) in the state ranks the data into high, intermediate and low priority categories. When considering the ranking, the potency, toxicity, quantity, volume and proximity of the facility to receptors are given consideration by an air district.

CARB also has on- and off-road engine emission-reduction programs that would indirectly affect the project's emissions through the phasing in of cleaner on- and off-road engines. Through the CCAA, CARB administers the Off-Road Mobile Sources Emission Reduction Program to reduce emissions from off-road equipment. This program establishes tiered standards for compression ignition engines used in off-road diesel equipment throughout California. CARB also implements control measures to reduce diesel PM emissions as well as NOX from in-use (existing) off-road sources. Tier 1 standards went into effect in California in 1996, and they required unregulated construction equipment of model year 2000 and later to achieve NOX, VOC, CO, and PM₁₀ exhaust standards. For later model years subject to Tier 2 (2003 and later) and Tier 3 (2007 and later), the standards are increasingly stringent. Owners and operators of in-use (existing) off-road diesel equipment and vehicles were required to report and meet fleet emissions targets in 2010. 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.

Sulfur Content in Fuel

Pursuant to Title 13, Section 2281 of the California Code of California Regulations (CCR), the sulfur content of vehicular diesel fuel sold or supplied in California must not exceed 15 ppm by weight. As stipulated in 17 CCR 93114, non-vehicular diesel fuel is subject to the sulfur limits specified in Title 13, Section 2281 of the CCR

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 NOx 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 2017). While not assumed in the analysis below, the legislature is likely to increase the existing RPS requirements; more specifically, Senate Bill 100 [2017] proposes to require 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 facilities that exceed recommended Office of Environmental Health Hazards Assessment (OEHHA) levels to reduce risks to acceptable levels. Typically, during construction and operation diesel trucks and/or equipment generate diesel emissions. Diesel exhaust is composed of particulate matter and gases that contain potentially cancer-causing substances. DPM emissions include over 40 substances listed by the EPA as hazardous air pollutants, and/or

by CARB as TACs. CARB adopted a comprehensive diesel risk reduction plan in 2000 with a goal of reducing DPM emissions associated with health risk by 85 percent by 2020.

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 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 PM₁₀ and PM_{2.5} emissions.
- Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, State, and local standards.

Implementation Measures

- Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.
- Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to:
 - 1. Minimizing idling time.
 - 2. Electrical overnight plug-ins.
- Measure H: Discretionary projects may use one or more of the following to reduce air quality effects:
 - 1. Pave dirt roads within the development.
 - 2. Pave outside storage areas.
 - 3. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans.
 - 4. Use of alternative fuel fleet vehicles or hybrid vehicles.
 - 5. Use of emission control devices on diesel equipment.
 - 6. Develop residential neighborhoods without fireplaces or with the use of Environmental Protection Agency certified, low emission natural gas fireplaces.
 - 7. Provide bicycle lockers and shower facilities on site
 - 8. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86).
 - 9. The use and development of park and ride facilities in outlying areas.
 - 10. Other strategies that may be recommended by the local Air Pollution Control Districts.
- Measure J: The County should include PM_{10} control measures as conditions of approval for subdivision maps, site plans, and grading permits.

Chapter 5. Energy Element

Solar Energy Development

Policies

- Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.
- Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

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

Goal

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.

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 Zoning Ordinance

The project site is also subject to the provisions of the Kern County Zoning Ordinance. The Kern County Zoning Ordinance designates portions of the project site as being within zones A (Exclusive Agriculture), E (2.5), and OS (Open Space). According to the Kern County Zoning Ordinance Section 19.12.030 G, solar energy electrical generators when not accessory to a permitted or conditionally permitted use are permitted within the A Zone District subject to approval of a CUP.

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 that stabilize the earth.
- Use of dust suppression measures during road surface preparation activities, including grading and compaction.
- Final road surfaces must be stabilized to achieve a measurable threshold friction velocity (TFV the wind speed at which erosion starts) equal to or greater than 100 centimeters per second.
- If ground is cleared, plant roots must be left in place where possible.
- Expanded onsite watering processes.
- Installation of wind barrier fencing or screening.
- Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved (i.e., without asphalt) surface at the construction site.
- All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least 2 feet of freeboard.
- Sending mailings to residents within 1,000 feet of a project site.

Kern County is also carefully monitoring all solar construction activities to ensure that all mitigation measures are followed and are adequate to minimize dust-related health concerns.

Eastern Kern Air Pollution Control District

EKAPCD has primary responsibility for regulating stationary sources of air pollution situated within its jurisdictional boundaries. To this end, 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. 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 project does not involve traditional stationary sources, 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 EKAPCD is requiring a Fugitive Dust Emissions Monitoring Plan through which that each facility install upwind and downwind particulate matter air monitoring. The monitoring will be used to demonstrate compliance with the District Rules and Regulations.

Rule 210.1

Rule 210.1 establishes stationary source offset levels for new and modified stationary sources of air pollutants. Under this rule, 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 NO₂) 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 PM₁₀ monitoring for any large operation that causes downwind PM₁₀ 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).

Revisions to EKAPCD Rule 402 were adopted on March 12, 2015. In accordance with these adopted amendments to Rule 402, solar projects would be required to obtain an Authority to Construct Permit and would be required to prepare a Fugitive Dust Air Monitoring Plan, as well as a Fugitive Dust Control Plan.

Rule 404.1

Rule 404.1 pertains to Particulate Matter Concentrations – Desert Basin and states:

- A person shall not discharge into the atmosphere from any single source operation, in service on the date this Rule is adopted, particulate matter in excess of 0.2 grains per cubic foot of gas at standard conditions.
- A person shall not discharge into the atmosphere from any single source operation, the construction or modification of which commenced after the adoption of this Rule, particulate matter in excess of 0.1 grains per cubic foot of gas at standard conditions.

Rule 419

Rule 419 states that a person shall not discharge from any source whatsoever such quantities of contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or that endanger the comfort, repose, health, or safety of such persons or the public or that cause or have a natural tendency to cause injury or damage to business or property.

Rule 423

Rule 423 adopts the EPA's National Emissions Standards for Hazardous Air Pollutants by reference, which grants EKAPCD the ability to ensure that all sources of hazardous air pollution would comply with applicable standards, criteria, and requirements set forth in Title 40, Chapter 1, parts 61 and 63, of the Code of Federal Regulations that are in effect as of October 10, 2017.

2017 Ozone Attainment Plan

In 2008, USEPA adopted a more stringent 8-hour ozone NAAQS of 0.075 ppm. Although EKAPCD attained the 1997 8-hour ozone NAAQS, and the Indian Wells Valley planning area met the new (2008) ozone NAAQS, the EKAPCD's Design Value was higher than 0.075 ppm. In 2012, a portion of the EKAPCD was classified "marginal" nonattainment pursuant to the 2008, 8-hour Ozone NAAQS Air

Quality Designations. However, EKAPCD failed to meet the 0.075 ppm standard by the applicable attainment date and was reclassified as "moderate" nonattainment, effective June 3, 2016. As a result, EKAPCD was required to submit a SIP revision for the nonattainment area by January 1, 2017, which showed compliance with statutory and regulatory conditions applicable to the "moderate" designation (EKAPCD 2017).

EKAPCD, in partnership with CARB, conducted photochemical modeling along with supplemental analyses to determine whether the EKAPCD could attain the 2008 ozone NAAQS by the "moderate" nonattainment deadline. Modeling indicated EKAPCD would not meet the 0.075 ppm standard by the moderate deadline but could attain it by 2020, which is the attainment date for "serious" nonattainment areas. Pursuant to Section 181(b)(3) of the CAA "Voluntary Reclassification," EKAPCD requested CARB formally submit a request to USEPA asking for voluntary reclassification of EKAPCD from "moderate" to "serious" nonattainment for the 2008, 8-hour ozone NAAQS, and revise the attainment date to December 31, 2020 (EKAPCD 2017). USEPA reclassified EKAPCD (except for the Indian Wells Valley planning area) as "serious" nonattainment on August 6, 2018 (USEPA 2018).

The 2017 Ozone Attainment Plan was adopted by EKAPCD on July 27, 2017, which addresses all required elements, emissions reductions, and control measures necessary to demonstrate attainment with the 2008 8-hour ozone NAAQS by 2020. CARB approved the 2017 Ozone Attainment Plan as a revision to the SIP and submitted it to USEPA on October 25, 2017 (CARB 2017). USEPA has not yet approved the plan.

Air Quality Conformity Determination for Transportation Plans and Programs

The CAA amendments of 1990 require a finding to be made stating that any project, program, or plan subject to approval by a metropolitan planning organization conforms to air plans for attainment of air quality standards. Kern Council of Governments (COG) is designated the Regional Transportation Planning Agency and Metropolitan Planning Organization for Kern County. In that capacity, Kern COG models air quality projections on population projections in conjunction with current general plan designations and estimated vehicle miles as well as the current Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the federal transportation plan for Kern County. These results are compared to pollutant budgets for each basin approved by USEPA in the 1999 base year. Kern County is contained within two air basins: San Joaquin Valley Air Basin and the MDAB. Each air basin has its own plans and pollutant budgets. Kern COG makes conformity findings for each air basin.

On August 16, 2018, Kern County COG adopted the 2019 Federal Transportation Improvement Program (FTIP) and 2018 RTP/SCS. KCOG prepared an ozone air quality conformity analysis to analyze Kern County's federally approved 2019 FTIP and the 2018 RTP/SCS. The conformity findings conclude that the 2019 FTIP and 2018 RTP/SCS result in emissions that are less than the emission budgets of baseline emissions for CO, VOC, NO_X, and PM₁₀ (Kern COG 2018).

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 project's air quality and greenhouse gas technical memorandum, *Raceway 2.0 Solar Project: Air Quality and Greenhouse Gas Technical Memorandum* (Ecology and Environment, Inc., 2020), located in Appendix C-1 of this EIR, were 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. Refer to Appendix C for details on equipment fleet, hours of operation, and other assumptions used.

Construction

Construction of the project would generate emissions of ROG, NO_X, CO, SO_X, PM₁₀, and PM_{2.5} that could result in short-term air quality effects during the construction period. Emissions would originate from off-road equipment exhaust, employee and haul truck vehicle exhaust (on-road vehicles), fugitive dust from site grading and earth movement.

According to the 2018 Final Air Quality and Greenhouse Gas Report for the Raceway Solar Project, construction of the project is anticipated to occur over an approximately 10 to 12-month period beginning in June 2019 and ending in June 2020. Construction emissions were estimated based on a total land area of 1,854 acres. As most of the project area is located on flat terrain, the modeling assumptions considered a

site preparation and grading area of 93 acres for estimating equipment and fugitive dust emissions. Emissions from interconnection lines are anticipated to be minimal as the project would utilize existing electric infrastructure to the extent possible and connect to a previously approved substation. Long-term operational emissions were estimated assuming a first full operational year in 2021 and would consist of vehicle and equipment operations associated with washing of solar panels.

The 2020 Raceway 2.0 Solar Project: Air Quality and Greenhouse Gas Technical Memorandum updated the construction phasing, but did not remodel the air quality and GHG emissions. Site grading and earthwork is anticipated to begin during the fourth quarter of 2021, with operations beginning in the third or fourth quarter of 2022. While the proposed project area reduced by approximately 30 percent to 1,330 acres between the 2018 Final Air Quality and Greenhouse Gas Report and the 2020 Raceway 2.0 Solar Project: Air Quality and Greenhouse Gas Technical Memorandum, the modeling assumptions used in 2018 was deemed conservative and are reported in this section. The air quality and GHG emissions are calculated using CalEEMod version 2016.3.2, which is applicable since November 9, 2017. Emission sources include construction off-road equipment, haul-truck trips, on-road worker trips, vehicle travel on paved and unpaved roads, and fugitive dust during three main phases (site preparation, grading, and solar array installation). No demolition, paving or architectural coating activities are anticipated during construction.

The new proposed project would use the same listed equipment and vehicle types and trips used in the 2018 modeling assumptions, as well as the same equipment usage and schedule durations. Construction emissions for the proposed project (years 2021–2022) are anticipated to be lower than those presented in the 2018 Report since combustion engine emission factors for off-road equipment and vehicles would be higher for years 2019 and 2020 compared to future years. In addition, fugitive dust emissions from site preparation and grading over 93 acres would still be considered a reasonable and conservative assumption, even though the total project area would be 30 percent smaller than the original project. The majority of the PM_{10} emissions in each construction year are fugitive dust produced by worker commuting, vendor deliveries, and trucks hauling project components to the site. The majority of miles traveled for these vehicles will be outside the project boundary on public, paved roads. For modeling purposes, it was assumed that the percentage of construction and commuter travel on paved roads will be 75%, and 25% on unpaved roads to account for use of some unpaved roads in the project area. For worker commute trips during the solar array installation phase, the percentage travel on paved roads used was 95% to reflect that the majority of travel for these workers to the site will be on paved roads with minimal travel on-site. Emissions from installation of gen-tie lines to local substations are anticipated to be minimal.

The Project would utilize existing electric infrastructure (poles) to the extent possible to install additional electric cable. The project would tie into a previously approved substation.

Operation

Operation of the project would generate emissions of ROG, NO_X , CO, SO_X , PM_{10} , and $PM_{2.5}$ that could result in long-term impacts on ambient air quality. Long-term operational emissions associated with the Project were also calculated using CalEEMod version 2016.3.2. The first full operational year, as modeled in the 2018 Report, would be 2021. Per the 2020 update, the first full operational year would be 2023. The Project would operate unattended, and no emergency use diesel electric generator is planned. The largest operational emissions are anticipated to occur during panel washing, with emissions from water truck engines and engines powering the panel washing equipment. Emission estimates included vehicle/equipment operations associated with the washing of solar panels. Other categories of operation emissions in CalEEMod such as painting, use of consumer products, indoor water use rate, and solid waste generation were assumed to be zero.

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 shorter in duration than construction and take four to eight months to complete, instead of 12- to 24 months for construction. Therefore, decommissioning is assumed to be one-third of 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 PM₁₀ 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. Dispersion modeling assumptions and results are provided in Appendix D, *Raceway 2.0 Solar Project: Health Risk Assessment Technical Memorandum* of this EIR.

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 μ g/m³.

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 PM₁₀ and PM_{2.5} resulting from construction in comparison to applicable ambient air quality standards and thresholds; therefore, an ambient air quality analysis (AAQA) was performed for the project during construction using AERMOD.¹ The purpose of the ambient air quality analysis 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 C-1 of this Draft EIR.

CO Hotspots

Heavy traffic congestion can contribute to high levels of CO. Individuals exposed to these CO "hot-spots" may have a greater likelihood of developing adverse health effects. The potential for the proposed project to result in localized CO impacts at intersections resulting from addition of its traffic volumes is assessed based on Kern County's suggested criteria, which recommends performing a localized CO impact analysis for intersections operating at or below level of service (LOS) E.

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 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.

Valley Fever Exposure

While there are no specific thresholds for the evaluation of potential Valley Fever exposure, the potential for Valley Fever exposure as a result of the project is evaluated based on the anticipated earth-moving activities, and considers applicant-proposed measures and compliance with Rule 8021, Section 6.3, which requires development and implementation of a dust control plan to help control the release of the *Coccidioides immitis* fungus during construction activities.

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.

¹ Since operational activities would be minimal, consisting of minor daily trip increases and maintenance activities, ambient air quality modeling was not performed.

Thresholds of Significance

Kern County

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 have a significant adverse effect on air quality if it would:

- a. Conflict with or obstruct implementation of the applicable air quality plan;
- b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard. Specifically, if implementation of the project would exceed any of the following adopted thresholds:
 - i. Eastern Kern Air Pollution Control District:
 - a. Operational and Area Sources:
 - 25 tons per year (137 lb per day) for ROG
 - 25 tons per year (137 lb per day) for NO_X
 - 15 tons per year for PM₁₀
 - 27 tons per year for SO_X
 - b. Stationary Sources determined by District Rules:
 - 25 tons per year
- c. Expose sensitive receptors to substantial pollutant concentrations:
- d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

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 five percent reduction in nonattainment emissions per year. The Attainment Plans prepared for the EKAPCD complies with this requirement. CARB reviewers approve or amend the document and forward the plan to EPA for final review and approval within the SIP.

Required Evaluation Guidelines

CEQA *Guidelines* and the CAA (Sections 176 and 316) contain specific references regarding the need to evaluate consistencies between the project and the applicable AQMP for the projects. To accomplish this, CARB has developed a three-step approach to determine project conformity with the applicable AQMP:

- 1. Determination that an AQMP is being implemented in the area where the project is being proposed. EKAPCD's most recently adopted air quality management plan is its Ozone Air Quality Attainment Plan (AQAP) that is approved by CARB and EPA.
- 2. *The project must be consistent with the growth assumptions of the applicable AQMP.* The project, as solar facility, would not introduce land uses that would generate vehicle trips or promote growth in the project area beyond what is projected in the Kern County General Plan.
- 3. *The project must contain in its design all reasonably available and feasible air quality control measures.* The project incorporates various policy and rule-required implementation measures that would reduce related emissions.

Because implementation of the project would not result in additional growth beyond what was anticipated by the Kern County General Plan and incorporated into the AQAP, conclusions may be drawn from the following criteria:

- The findings of the analysis conducted using Traffic Analysis Zones (TAZ) show that sufficient employment increase is planned for the project area.
- The primary source of emissions from the project would be from vehicles that are licensed through the state and whose emissions are already incorporated into CARB's emissions inventory.

Construction

The EKAPCD has adopted attainment plans that outline the long-term strategies designed to achieve compliance with NAAQS and CAAQS. The regional emission inventory includes emissions from a variety of sources, such as stationary point sources, area sources, on-road vehicles, and off-road equipment. Construction emissions from the Project would be temporary, would represent a small fraction of the regional emission inventory, and unmitigated emissions would be less than the significance thresholds except for fugitive dust PM₁₀, as shown in **Table 4.3-6**, *Unmitigated Annual Construction Emissions*, which is provided under Impact 4.3-3.

For pollutants emitted below significance thresholds, construction emissions would not conflict with or obstruct applicable air quality plans. The project would comply with all applicable EKAPCD rules and regulations, such as EKAPCD Rule 401 (Visible Emissions) and EKAPCD Rule 402 (Fugitive Dust). The project would not conflict with or propose to change existing land uses or result in population growth.

Operation

The project would be consistent with the existing land use designations in the current Kern County General Plan and Willow Springs Specific Plan and would not introduce a land use that would induce population or

housing growth that could result in a substantial increase in vehicle miles traveled and associated criteria pollutant emissions. When compared against the current zoning of the project site that would allow for the development of agricultural and residential, the solar facility would result in less operational emissions from mobile and area sources that would be generated. The only source of operational emissions associated with the project would be those generated from mobile sources traveling to and from the project area to perform routine maintenance and occasional panel washing. As no onsite maintenance and operations staff or O&M building are proposed, long-term emissions from the project would consist of sporadic vehicular emissions from employees, which would be minimal and would not result in a substantial increase in emissions. As shown in **Table 4.3-8**, *Annual Operational Emissions*, which is provided under Impact 4.3-3, the project's daily and annual operational emissions would be below EKAPCD's significance thresholds.

Furthermore, the solar power generation system of the project would also function to reduce the air pollutant emissions within the MDAB to the extent that the power generated is used to offset power production from fossil fueled power plants within (or contributory to) the MDAB. This power production is not projected within the existing air quality plans, and so the project would further aid in reducing air pollutant emissions and increase the potential for attainment of the Ozone Attainment Plan. Therefore, the project would not conflict with the EKAPCD's Ozone Attainment Plan. As project operational emissions would also not exceed the EKAPCD's significance thresholds, implementation of the project would not obstruct implementation of an air quality plan during operation. Therefore, operational impacts would be less than significant.

Decommissioning

As documented in the 2018 Report, unmitigated construction emissions in 2019 and 2020 are calculated well below the EKAPCD thresholds for each pollutant except for fugitive dust PM_{10} . Emissions of fugitive dust PM_{10} would be below significance thresholds with implementation of mitigation measures as described for the construction phase. These emissions calculations represent a conservative scenario as the updated project acreage would be reduced by approximately 30 percent. These conclusions are also applicable for decommissioning emissions. Decommissioning activities are generally similar to, and often smaller in scope than, construction. Therefore, assuming that decommissioning emissions would be similar to construction emissions represents a conservative assumption. With decommissioning emissions projected to be below EKAPCD significance thresholds, decommissioning of the Project would not conflict with or obstruct implementation of an applicable air quality plan, and the Project's decommissioning impact would also be less than significant.

At such time as the facility is decommissioned, equipment operation and site restoration activities would result in impacts to air quality. Given the fact that much of the construction equipment necessary to construct the project would also be required to decommission the site, it is reasonable to assume that decommissioning activities would be similar in nature to activities associated with construction of the project. As shown in **Table 4.3-6**, *Decommissioning Emissions*, the unmitigated decommissioning emissions would be below the EKAPCD thresholds and would be further reduced by implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2, which are included as a requirement of this proposed project. Therefore, operation of the project would not obstruct implementation of an air quality plan and impacts would be less than significant.

Mitigation Measures

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.

Mitigation Measures

- **MM 4.3-1:** Implement Diesel Emission Reduction Measures during Construction, Operation and Decommissioning. To control NO_X 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 water 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. 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.
 - c. 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.
 - d. 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, 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.
 - e. The amount of the disturbed area (e.g., grading, excavation) shall be reduced and/or phased where possible.
 - f. 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.
 - g. 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.
 - h. 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.

- i. All active and inactive disturbed surface areas shall be stabilized, where feasible.
- j. Equipment and vehicle access to disturbed areas shall be limited to only those vehicles necessary to complete the construction activities.
- k. Where applicable, permanent dust control measures shall be implemented as soon as possible following completion of any soil-disturbing activities.
- 1. 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.
- m. Water shall be applied prior to and during the demolition of onsite structures sufficient to minimize wind-blown dust.
- n. 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.
- o. 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.
- p. 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.
- q. Haul trucks and off-road equipment leaving the site shall be washed with water or highpressure air, and/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.
- r. 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.
- s. 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.
- t. 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.
- u. 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.
- v. 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.

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. Sensitive receptors (residences) surround the Project location and could be exposed to criteria air pollutants and TACs produced by diesel-fueled vehicles and equipment operated during construction. The main TAC that would be released during construction would be diesel PM from construction equipment and heavy-duty vehicles traveling to construction areas. Minor amounts of other TACs would be emitted from such sources as gasoline powered worker vehicles and construction equipment.

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 and operation phases of the project. Diesel-powered construction equipment as well as diesel-powered vehicles would emit DPM that could potentially expose nearby sensitive receptors to pollutant concentrations. Once operational, the project would require traveling to and from the project area to perform routine maintenance and occasional panel washing. While diesel-powered pressure washers and off-highway trucks would be used during panel washing, DPM emissions would be minimal due to the short duration of these operations. A health risk assessment was performed for diesel PM associated with the Project in 2018. The analysis was updated with a technical memorandum in 2020. For further modeling details, see Appendix D (*Raceway 2.0 Solar Project: Health Risk Assessment Technical Memorandum*, Ecology & Environment, Inc., 2020). The 2020 analysis reduced the overall footprint by 30 percent, modified the total number of area sources, and distances to sensitive receptors. As a result, DPM emissions

would be expected to be equal or less than those reported in the 2018 Health Risk Assessment for both construction and operation. Both the 2018 Health Risk Assessment and 2020 memo concluded that maximum cancer risk and chronic hazard index values from construction and operation of the project would be less than threshold values.²

Based on the above, the project's associated health risk impacts would be considered less than significant during construction and operation of the project. Therefore, impacts would be less than significant under this criterion.

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 O₃ is not possible because there is no feasible or established scientific method to perform such analysis. This conclusion is supported by both the SJVAPCD and the 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

² The maximum cancer risk is 3.76 x 10⁻⁷, which is well below the threshold of 10 in a million (10⁻⁵). The maximum chronic hazard index is 8.47x10⁻³, which is well below the threshold of 1.0. See Table 8, *Dispersion Factors, Cancer Risk and Noncancer Hazard Estimates for Sensitive Receptor Locations near the Raceway Solar Project*, of the Health Risk Assessment in Appendix D for the full list of health risk impacts to all 55 sensitive receptors.

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 O₃ or particulate matter formed in a particular area is especially important to understand in considering potential health effects because it is the concentration, not the tonnage, that causes health effects (SJVAPCD, 2015). The SJVAPCD explained that even if a model were developed that could accurately assess local increases in concentrations of pollutants like 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-2 of this EIR.

Ambient Air Quality Analysis

An ambient air quality analysis was performed to determine if the proposed project has the potential to impact ambient air quality through a violation of the ambient air quality standards or a substantial contribution to an existing or projected air quality standard with respect to NO₂, PM₁₀, and PM_{2.5}. The air dispersion modeling for the project construction emissions compared to the NAAQS and CAAQS was performed using the U.S. EPA AERMOD dispersion model as detailed in the *Air Quality/Greenhouse Gas Assessment* (Appendix C-1).

Table 4.3-10, *Comparison of Project Emissions with Kern County and Air Basin Emissions*, compares the results of the particulate matter dispersion modeling to the NAAQS and CAAQS for PM₁₀, PM_{2.5}, and NO₂. As depicted, the highest modeled emissions for the project, which assumes both solar facilities being constructed at the same time, combined with the background emissions included would be below the NAAQS and CAAQS. It should be noted that based on the dispersion modeling results, the PM₁₀, PM_{2.5}, O₂ ambient concentrations would disperse rapidly from the construction site. Furthermore, pollutant emissions would be distributed over the construction period, would not be concentrated in any one area, and would be reduced with Mitigation Measures MM 4.3-1 and MM 4.3-2.

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 such as 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, 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 EKAPCD is designated as attainment area for O₃ (one hour), PM₁₀ and PM_{2.5} and nonattainment for O₃ (eight hours) under the NAAQS, and nonattainment for O₃ (eight hour) and PM₁₀ and unclassified for PM_{2.5} under the CAAQS. 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. Therefore, the project's construction emissions do not necessarily indicate that the project would cause or contribute to the exposure of sensitive receptors to ground-level concentrations in excess of health-protective levels.

As discussed earlier and shown in Table 4.3-1, National and State Criteria Pollutant Standards and Eastern Kern Air Pollution Control District Attainment Status, the MDAB is currently in State and Federal nonattainment status for ozone and PM₁₀. 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, PM₁₀, 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 healthbased 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. Furthermore, as shown in Table 4.3-10, Comparison of Project Emissions with Kern County and Air Basin Emissions, the project's construction NO_X to NO₂ emissions would not contribute to an exceedance of the NAAQS or the CAAQS in the vicinity. As such, it can be reasonable inferred that the project's NO_x 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 NO_X, PM_{10} , and $PM_{2.5}$ emissions from project implementation could occur. The project proposes the construction and operation of a large-scale utility solar project that would require dust-

generating construction activities such as pile-driving, mowing, and grading, over a large area. Due to the open nature of the project site, blowing dust could occur and result in the dispersal of criteria air pollutants such as PM_{2.5} and potentially contribute to the transmission of respiratory diseases like COVID-19. While COVID-19 is thought to spread mainly through close contact from person-to-person, the CDC is still learning how the virus spreads and the severity of the illness it causes (CDC, 2020b). COVID-19 research and causality is still in the beginning stages. A nationwide study by Harvard University found a linkage between long term exposure to PM_{2.5} as air pollution and statistically significant increased risk of COVID-19 death in the United States (Harvard, 2020). While, construction dust suppression measures would be implemented in Mitigation Measure MM 4.3-2, exposure to dust during construction could still occur which could increase the health susceptibility and increase the severity of the disease. 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 4.3-3 would be required to reduce the project's regional and localized health effects associated with criteria air pollutants and COVID-19; however, the exact reduction from implementation of these mitigation measures cannot be quantified given existing scientific constraints.

CO Hotspots

A CO "hotspot" can occur when vehicles are idling at highly congested intersections. CO hotspots can adversely affect nearby sensitive receptors. The Kern County Planning Department's, Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports (2006) states that CO hotspots must be analyzed when one of the following conditions occur: (a) a project increases traffic at an intersection or roadway that operates at 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 project would have trip generation associated with construction worker vehicles and vendor trucks. As construction is only expected to last 10 to 12 months, it would be considered temporary and would not result in a long-term source of CO emissions. In addition, the project would create minimal emission sources during operation. Therefore, the project would not have CO hotspots–related impacts, and would not contribute a significant level of CO such that localized air quality and human health would be substantially degraded. Impacts would be less than significant.

Visibility Impacts

As discussed above under Methodology, Kern County has established criteria to determine if a project would potentially result in a visibility impact; however, the EKAPCD has not established guidance to address visibility in CEQA documents. Per the Kern County guidelines, a visibility analysis is not required since the project is not a large industrial stationary source project or a mining project, and it would not have long-term operational components that could generate dust or emissions plumes related to visibility. Compliance with EKAPCD Rule 402, including implementation of a dust control plan, and mitigation of construction emissions for the project, including watering three times daily during construction, limiting the off-road travel speed limit to 15 miles per hour, and a dust suppressant/stabilizer on unpaved roads to reduce fugitive dust by 70%, would reduce air quality effects from construction-related PM₁₀ emissions to a less-than significant level. Therefore, the project's potential to expose sensitive receptors to substantial

pollutant concentrations associated with potential visibility impacts would be less than significant and no mitigation is required.

Valley Fever

The project has the potential to generate fugitive dust and suspend Valley Fever spores with the dust that could then reach nearby sensitive receptors. It is possible that onsite workers could be exposed to valley fever as fugitive dust is generated during construction. As such, the risk of exposure and contraction of Valley Fever as a result of the project would be increased from the existing conditions, and the mitigation of construction emissions would be required to minimize the exposure to Valley Fever during construction and impacts would be reduced to less-than-significant levels.

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 in an area likely to contain ultramafic rock or naturally occurring asbestos (California Department of Conservation 2000). Therefore, impacts associated with exposure of construction workers and nearby sensitive receptors to asbestos would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.3-1, MM 4.3-2, and:

- **MM 4.3-3: 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 4.3-4:** 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 4.3-5:** 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 Valley Fever

With implementation of Mitigation Measures MM 4.3-1 through MM 4.3-2, impacts would be less than significant.

Valley Fever

With implementation of Mitigation Measures MM 4.3-2 through MM 4.3-5, impacts would be less than significant.

Impact 4.3-3 Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The project is located in a sparsely developed area, and would not have any permanent stationary sources or equipment located on site that would generate objectionable odors or other emissions. However, during construction activities short-term, temporary odors from vehicle exhausts and other construction equipment would occur. However, the Project would be located next to roads associated with the same potential fuel combustion odor. In addition, equipment operation would be distributed throughout the total project area and not be concentrated in any specific area for a lengthy period of time. These odors are not expected to affect a substantial number of people because the site is located in sparsely populated areas and any odors or emissions would be temporary and would disperse rapidly. Therefore, impacts related to other emissions adversely affecting a substantial number of people would be less than significant.

Therefore, the Project would not create an odor that would be distinguishable from existing odors. Construction and operation of the Project would have a less than significant impact under this criterion.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

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 onemile 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. A search of the Kern County Planning Department Renewable Energy Projects list was done for projects proposed within a 1-mile and a 6-mile radius of the original project area; no projects were found that would have concurrent construction in the year 2018. A total of 11 operational projects were found within a 6-mile radius and two projects within a 1-mile radius (Table 12, Cumulative Operational Emissions of the 2018 Report). Concurrent long-term emissions were found below EKAPCD significance thresholds, minimizing the potential for cumulative effects. In the 2020 update, a new search of the Renewable Energy Projects list for year 2019 showed additional projects with anticipated construction in Kern County in year 2020; however, none of these projects would be located within a 1-mile or 6-mile radius from the proposed project area. Since both shortterm and long-term cumulative emissions are not expected to exceed significance thresholds, it is not anticipated that there would be a significant cumulative impact to regional air quality. 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.

Construction

Construction of the project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance) and off- site sources (i.e., onroad haul trucks, vendor trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions.

Criteria air pollutant emissions associated with temporary construction activity were quantified using a combination of emission factors and methodologies from CalEEMod, version 2016.3.2. Construction schedule assumptions, including phase type, duration, and sequencing, were based on information provided by the project applicant and is intended to represent a reasonable scenario based on the best information available. The 2020 update noted a reduction in project area, but did not remodel air quality emissions from the 2018 Report as those calculations were considered conservative. Default values provided in CalEEMod were used where detailed project information was not available. Details of the emission calculations are provided in Appendix C-1 of this EIR.

Table 4.3-6 presents the annual construction emissions generated during construction of the project. As shown therein, construction of the project would generate annual emissions of ROG, NO_x , and SO_x that are below the applicable EKAPCD significance thresholds before mitigation. Project construction would generate an annual maximum of 63 tons of PM_{10} emissions prior to mitigation, which would exceed the annual emissions thresholds set by EKAPCD. Therefore, impacts would be potentially significant before mitigation.

	Pollutant (tons/year)							
Emissions Source	ROG	NOx	СО	SOx	PM ₁₀	PM ₁₀ Exhaust	PM2.5	PM _{2.5} Exhaust
Construction 2019	1.8	15.7	11.9	0.03	62.8	0.8	7.4	0.7
Construction 2020	1.0	7.5	7.3	0.02	48.2	0.4	5.2	0.4
EKAPCD Threshold	25	25		27	15			
Is Threshold Exceeded?	No	No		No	Yes	_		

TABLE 4.3-6:	UNMITIGATED ANNUAL	CONSTRUCTION EMISSIONS
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SOURCE: Table 8, Maximum Annual and Daily Unmitigated and Mitigated Construction and Operation Emissions Compared to Significance Thresholds – Criteria Pollutants, Appendix C-1 of this EIR

As discussed previously, the project would implement mitigation for construction emissions. These mitigation measures consist of watering three times daily (control efficiency of 61%), applying a soil stabilizer material or soil weighting agent to unpaved main access roads for delivery in the project area

(control efficiency of 70% assumed), and implementing a 15-mph speed limit for off-road vehicles. As a result of these measures, mitigated PM_{10} emissions are projected to be less than the 15 tpy PM_{10} threshold in both years of construction. No additional mitigation measures are needed. Mitigated emissions are illustrated in **Table 4.3-7**, *Mitigated Annual Construction Emissions*, provided below. Therefore, the project would result in a less than significant impact with regard to criteria air pollutant emissions. However, given the total number of development proposals within the region, even with the implementation of Mitigation Measures MM 4.3-1 through MM 4.3-5, cumulative temporary construction impacts are considered significant and unavoidable.

	Pollutant (tons/year)							
Emissions Source	ROG	NOx	CO	SOx	PM ₁₀	PM ₁₀ Exhaust	PM _{2.5}	PM _{2.5} Exhaust
Construction 2019	1.8	15.7	11.9	0.03	13.4	0.8	2.3	0.7
Construction 2020	1.0	7.5	7.3	0.02	9.6	0.4	1.4	0.4
EKAPCD Threshold	25	25	_	27	15		_	
Is Threshold Exceeded?	No	No		No	No	_		—

TABLE 4.3-7:	MITIGATED ANNUAL CONSTRUCTION EMISSIONS
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SOURCE: Table 8, Maximum Annual and Daily Unmitigated and Mitigated Construction and Operation Emissions Compared to Significance Thresholds – Criteria Pollutants, Appendix C-1 of this EIR

Operation

The project involves development of a 291 MW PV solar energy facility that would utilize PV technology on tracker mounting supports. The proposed project would then have the option to transfer electricity directly into the grid or into energy storage system for distribution to the grid during peak energy hours. Operation of the project would generate criteria air pollutants. As with construction, pollutant emissions associated with long-term operations were quantified using emission factors and methodologies from CalEEMod. **Table 4.3-8** provides the annual operational emissions of the project. As illustrated therein, the project would not exceed the EKAPCD operational threshold for any criteria air pollutant. Impacts during operation of the project would be less than significant.

Eastern Kern County is currently in nonattainment for the O_3 CAAQS and NAAQS, and the PM₁₀ CAAQS (see **Table 4.3-1**). Certain individuals residing in areas that do not meet the CAAQS or NAAQS could be exposed to pollutant concentrations that cause or aggregative acute and/or chronic health conditions (e.g., asthmas, lost work days, premature mortality).

While implementation of the project would contribute to existing and future air pollution, project-generated operational emissions represent approximately 1.31 percent of Kern County's NO_X emissions in 2020 and 0.29 percent of Mojave Desert Air Basin's NOx emissions in 2020 (Table 13, Comparison of Raceway Solar Project Emissions with Air Basin Emissions, Appendix C-1 of this EIR). Given the small size of this contribution, the specific magnitude and locations of any potential changes in regional O₃ formation, and associated health consequences, from these additional emissions cannot be quantified with any level of certainty due to the dynamic and complex nature of regional pollutant formation and distribution (e.g., meteorology, emissions sources, sunlight exposure). Similar limitations exist for precisely modeling project-level health consequences

of directly emitted NO_X. However, it is known that public health will continue to be affected in Eastern Kern County so long as the region does not attain the CAAQS or NAAQS.

	Pollutant (tons/year)							
Emissions Source	ROG	NOx	со	SOx	PM ₁₀	PM ₁₀ Exhaust	PM2.5	PM2.5 Exhaust
Annual Unmitigated Operations – 2021 and Future Years	0.05	0.45	0.3	0.001	0.02	0.02	0.02	0.02
EKAPCD Threshold	25	25		27	15	_	_	
Is Threshold Exceeded?	No	No		No	No	—	_	
					(pounds	/day)		
Daily Unmitigated Operations – 2021 and Future Years (indirect- motor vehicles)	3.4	23	24	0.06	0.87	0.87	0.81	0.81
EKAPCD Threshold	137	137					_	
Is Threshold Exceeded?	No	No				_		

TABLE 4.3-8: UNMITIGATED ANNUAL OPERATIONAL EMISSIONS

SOURCE: Table 8, Maximum Annual and Daily Unmitigated and Mitigated Construction and Operation Emissions Compared to Significance Thresholds – Criteria Pollutants, Appendix C-1 of this EIR

Cumulative Analysis

The project is located within the Kern County portion of the MDAB, which is an area that is designated as non-attainment for federal and State ozone standards as well as State PM_{10} standards, and is under the jurisdiction of the EKAPCD. The EKAPCD's approach for assessing cumulative impacts is based on the forecasts of attainment and ambient air quality standards in accordance with requirements of the federal and State clean air acts.

Localized Impacts

As previously discussed, there are 11 projects within a 6-mile radius of the project site that the project applicant has identified as having the potential to contribute to cumulative effects. Two of these are also within the 1-mile radius of the project site. In the 2018 Report, no projects were found that would have concurrent construction in the year 2018. The 2020 update conducted a new search and found no additional projects with anticipated construction in Kern County in the year 2020 within the 6-mile radius of the proposed project. Therefore, there are no cumulative construction impacts to consider.

Cumulative operational emissions associated with the operation of these projects is included in **4.3-9**, *Cumulative Operational Emissions*. As shown in Table 4.3-9, the combined cumulative operational emissions from the project and other potential related projects located within 1-mile and 6-mile from the project site would not exceed EKAPCD's significance thresholds. Therefore, there would be a less than significant cumulative impact to air quality associated with long-term operation.

Consistency with Existing Air Quality Plans

Short-term and long-term cumulative operational emissions are not expected to result in a significant cumulative impact to regional air quality. Operation of the Project would not cause a long-term increase in population, employment, or vehicle miles traveled within the region. The project would not conflict with EKAPCD's Ozone Air Quality Management Plan as the project is not expected to exceed thresholds for any nonattainment pollutant. Therefore, the project's incremental contribution to cumulative air quality impacts related to operation would not be cumulatively considerable and would not compromise existing air quality plans. Cumulative impacts would be less than significant.

	Criteri	a Pollut	tant En	nissions	s (tons p	er year)
Project	ROG	NOx	СО	SOx	PM ₁₀	PM _{2.5}
Project	0.05	0.45	0.3	0.00	0.02	0.02
Projects within a 1-Mile Radius						
SLP Solar 12 MW			Not A	vailable	•	
Gettysburg Solar 20 MW			Not A	vailable	•	
Projects within a 6-Mile Radius						
Antelope Valley Solar	0.97	0.01	0.08	0	0.01	0
Project (650 MW total)						
Rosamond Solar Array 150 MW	0.1	0.09	0.93	0	0.01	0.01
Rosamond Solar by SGS Antelope Valley 120 MW	1.2	0.1	0.2	0.1	0.1	0.1
RE Rosamond 1 20 MW	0.12	0.01	0.01	0	0	0
RE Rosamond 2 20 MW	0.12	0.01	0.01	0	0	0
Champagne Road 40 MW Solar PV	0.25	0.03	0.02	0	0	0
Willow Springs Solar Array 150 MW	0.08	0.35	0.65	0	0.02	0.01
Lancaster 5 MW Solar PV			Not A	vailable	•	
Great Lakes Solar PV 5 MW	Not Available					
Total Cumulative Plus Project Emissions	2.97	1.14	2.98	0.10	0.16	0.14
EKAPCD Threshold	25	25		27	15	
Is Threshold Exceeded?	No	No		No	No	
SOURCE: Table 12, Cumulative Operational Emissions	, Appendi	x C-1 of	this EIR			

TABLE 4.3-9: CUMULATIVE OPERATIONAL EMISSIONS

The power produced by the project would serve to reduce air pollutant emissions within the MDAB, to the extent that the power is used to offset power production from fossil fueled power plants within (or contributory to) the MDAB, and also by providing power to allow the displacement of fossil-fueled engines (such as agricultural pumps) with electrical power units. This power production is not projected within the existing air quality plans; thus, the solar facilities would further aid in reducing air pollutant emissions and increase the potential for attainment of the 1993 Ozone Attainment Plan.

California Air Resources Board (CARB) 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 regional emissions in the years 2015 and 2020 for both Kern County and Mojave Desert Air Basin (**Table 4.3-10** Comparison of Project Emissions with Air Basin Emissions). Since both short-term and long-term operational cumulative emissions are not expected to exceed significance thresholds, it is not anticipated that there would be a significant cumulative regional air quality impact. Long-term adverse air quality impacts associated with the operation of the Project are not anticipated to occur. In addition, the power produced by the project could serve to reduce air pollutant emissions within the MDAB to the extent that the power is used to offset power production from fossil fueled power plants within (or contributory to) the MDAB, and also by providing power to allow the displacement of fossil-fueled engines (such as agricultural pumps) with electrical power units. Thus, the project's incremental contribution to the MDAB Emissions Inventory would not be cumulatively considerable. Cumulative impacts would be less than significant.

	Pollutant (tons/year)					
Emissions Source	ROG	NOx	СО	SOx	PM ₁₀	PM2.5
Project	0.05	0.45	0.3	0.00	0.02	0.02
Kern County Portion of the MDAB (2015)	10.0	35.3	52.3	3.0	15.9	6.6
Kern County Portion of the MDAB (2020)	9.6	34.3	49.0	3.3	16.1	6.7
MDAB (2015)	64.9	166.4	269.8	8.2	135.1	36.2
MDAB (2020)	66.1	156.3	240.5	8.8	146.9	38.2
Project % Of Kern County (2020)	0.5%	1.31%	0.6%	0.00%	0.12%	0.30%
Project % Of MDAB (2020)	0.08%	0.29%	0.12%	0.00%	0.01%	0.05%
SOURCE: Table 13, Comparison of Raceway Solar	Project Emissio	ons with Air	Basin Emis	ssions, Appe	endix C-1 of	this EIR

 TABLE 4.3-10:
 COMPARISON OF PROJECT EMISSIONS WITH KERN COUNTY AND AIR BASIN EMISSIONS

Cumulative Impacts Summary

The discussion provided evaluates localized impacts, including projects located within a 1- and 6- mile radius; evaluates consistency with existing air quality plans; and compares project emissions to CARB emission projections for the region, consistent with the criterion provided in Kern County's Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports.

Mitigated emissions are summarized in **Table 4.3-7**. With implementation of the fugitive dust control measures, construction-generated emissions of PM_{10} would be reduced to a maximum annual 13.4 tons/year, which is below the applicable EKAPCD significance threshold of 15 tons/year. As the thresholds were developed by EKAPCD in consideration of achieving attainment statuses under the NAAQS and CAAQS, the project would have a less than significant cumulative impact for air quality within Kern County and the MDAB.

Mitigation Measures

Implement Mitigation Measures MM 4.3-1 through MM 4.3-5.

Level of Significance after Mitigation

Despite implementation of Mitigation Measures MM 4.3-1 through MM 4.3-5, construction emissions generated by the project and related projects could cumulatively combine and result in a temporary significant and unavoidable cumulative impact. Cumulative operational impacts would be less than significant.

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.

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, 2019a), the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants (CNPS, 2019), National Wetlands Inventory database (USFWS, 2019a), and the U.S. Fish and Wildlife Service (USFWS) Threatened and Endangered Species Database and Critical Habitat Portal (USFWS, 2019b). The CDFW Special Animals List (CDFW, 2019b) was also reviewed to identify other special-status species with potential to occur in the vicinity of the project site based on the habitats that exist. Other sources of information reviewed include the most recent and available United States Geological Survey (USGS) 7.5-minute quadrangle topographic maps (USGS, 2019), soil survey maps (NRCS, 2019), climatic data (Western Regional Climate Center [WRCC], 2019) and other nearby renewable energy projects in Kern County: Solar Star 1 and 2 Projects (AECOM, 2010), Rosamond Solar Project (Ironwood Consulting, 2011a), and Willow Springs Project (Ironwood Consulting, 2011b).

The analysis presented in this section is also based on the 2018 biological resources report (BRR) (E&E, 2018a), the Preliminary Jurisdictional Waters and Wetland Delineation Report (E&E, 2018b), the 2020 Technical Memorandum to the BRR reviewing an updated project footprint, and the Preliminary Jurisdictional Waters and Wetland Delineation Report (E&E, 2020) prepared for this project. Additionally, SWCA conducted species specific surveys for burrowing owl (*Athene cunicularia*) and rare plants in 2020 (SWCA, 2020a; SWCA 2020b). The BRR and SWCA 2020 memos included a discussion of surveys conducted for biological resources including CDFW protocol surveys for burrowing owl, focused surveys for rare plants, and a general biological resource assessment for the project site. The property area, full methodologies, site conditions, and results of all field surveys are detailed in Appendix E of this EIR.

4.4.2 Environmental Setting

Regional Setting

The project site is located in south-eastern Kern County and north-eastern Los Angeles County approximately 14 miles south of State Route (SR) 58 and approximately 4 miles east of the Antelope Valley Freeway (SR-14). The project site is approximately 5 miles west of the community of Rosamond. All solar arrays are within Kern County and are generally bound by Avenue A to the south, Rosamond Boulevard to

the north, 90th Street West to the west, and 70th Street West to the east. There are five potential routes for interconnections to nearby substations, all but one would across the county line into Los Angeles County. The five proposed gen-tie lines are generally bound by Avenue J to the south, Rosamond Boulevard to the north, 110th Street West to the west, and 80th Street West to the east.

The project site is located within the Mojave Desert, a region that occurs between the southern, lowelevation, hot Sonoran Desert and the northern, high-elevation, relatively cool Great Basin. The Mojave Desert covers more than 40,000 square miles in California, Arizona, Nevada, and Utah.

Climate

The climate within the Mojave Desert region is characterized by hot summer temperatures and low annual precipitation of less than 5 inches. Daily temperature swings of 40° Fahrenheit (F) can occur, with lows in the winter below or near freezing temperatures. Precipitation extremes are also common, with variations of 80 percent in annual precipitation (WRCC, 2019). Summer thunderstorms can drop more precipitation on a site in one event than the mean yearly precipitation for that location. High winds can occur, with peak wind velocities above 50 mph not being uncommon and winds of 100 mph occurring yearly (BLM, 2005).

Vegetation

Vegetation in the Mojave Desert region where this project is located is influenced by arid climatic conditions, topography, desert soils, and past land uses. Vegetation in the region includes a predominance of plant morphological adaptations to extreme aridity (e.g., waxy or resinous leaf cuticles, drought deciduous or succulent plants, woolly leaf pubescence, deep tap root systems) and saline-alkali soils (e.g., salt excretion, active transport systems). Vegetation structure is characterized by short-statured and widely spaced shrubs, and arborescent shrubs resulting from a competition for soil water resources (Twisselman, 1995; Hickman, 1993).

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; Chartier and Rostagno, 2006). 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 (*Cnemidophorus tigris*), desert spiny lizard (*Sceloporus magister*), gopher snake (*Pituophis melanoleucus*),

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*) and bat species include the California myotis (*Myotis californicus*).

Sensitive Natural Communities

Sensitive natural communities are designated by 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. 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.

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 Antelope Valley is 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 in the South Lahontan Hydrologic Region within the Antelope Valley Hydrologic Unit, which represents about 17 percent of the land (26,732 square miles) area in California (California Department of Water Resources, 2004). The South Lahontan Hydrologic Region 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 under-ground. Along with the arid climate, this accounts for the presence of many dry lakebeds or playas in the region.

The Antelope Valley Watershed is 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 (Antelope Valley Watershed; HUC 10 #s 1809020609 through 1809020624) function as an isolated intrastate watershed system and are non-jurisdictional waters of the United States (USACE, 2013).

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. The CEQA *Guidelines* require that project proponents disclose impacts on wildlife corridors and mitigate for significant impacts. 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.

Local Setting

The project site is situated on the gentle south facing slopes below the Tehachapi Mountains. The elevation of the project site is approximately 2,400 feet above mean sea level (amsl). Soils generally consist of well drained sandy loams and loamy sands with negligible to moderate runoff rates. The project site is dominated by fallow fields. Existing developments in the vicinity of the project site include renewable energy facilities, including Solar Star 1 and 2, Del Mar Sola Project, rural access roads, paved roads, fallow and active agriculture, desert scrub, and rural residences.

Plant Communities

A total of 108 plant species were identified on the project site during the biological surveys conducted in 2017, 2019, and 2020. Eight vegetation communities and land cover types occur within the project site as detailed in **Table 4.4-1**, *Vegetation Community and Land Cover Types on the Project Site*. The mapped vegetation communities and land cover types were defined using nomenclature from the 2013 California Vegetation Map in Support of the DRECP (Menke et al, 2013). A complete list of plant species identified on the project site during site surveys is provided in **Table 4.4-2**, *Plant Species Observed*. A description of the vegetation communities and land cover types are provided below the table.

Vegetation Community or Land Cover Type	Project Footprint	Gen-tie Routes	Total
Agriculture	878.56	686.65	1,565.21
Alkaline Mixed Scrub	50.91	334.60	385.51
Annual Grasses and Forbs	367.50	1,921.60	2,289.1
Creosote Bush Scrub	0.00	1.93	1.93
Joshua Tree Woodland	0.00	2.01	2.01
Rabbitbrush Scrub	0.38	570.63	571.01
Saltbush Scrub	0.19	10.43	10.62
Urban/Developed	13.42	344.77	358.19
Total	1,310.96	3,872.62	5,183.58
SOURCES: E&E. 2020.			

TABLE 4.4-1: VEGETATION COMMUNITY AND LAND COVER TYPES ON THE PROJECT SITE

TABLE 4.4-2: PLANT SPECIES OBSERVED

Scientific Name	Common Name	Special Status
	GYMNOSPERMS	
Ephedraceae - Ephedra family		
Ephedra nevadensis	Nevada ephedra	
Pinaceae – Pine family		
* Pinus halepensis	Aleppo pine	
	EUDICOTS	
Anacardiaceae – Sumac family		
Rhus aromatica	Fragment sumac	
Apiaceae – Carrot family		
Lomatium mohavense	Mohave wild parsley	
Asteraceae – Sunflower family		
Ambrosia acanthicarpa	annual bur-sage	
Ambrosia dumosa	White bur-sage	
Ambrosia salsola ¹	cheesebush	
Chaenactis xantiana	fleshy pincushion	
Erigeron canadensis ¹	Canada horseweed	
Ericameria cooperi var. cooperi ¹	Cooper's goldenbush	
Ericameria nauseosa	rabbitbush	
Ericameria paniculata	Mojave rabbitbrush	

Scientific Name	Common Name	Special Status
Helianthus annuus	common sunflower	
Gutierrezia sp.	matchweed	
* Lactuca serriola	prickly lettuce	
Lasthenia gracilis	common goldfields	
Leptosyne calliopsidea	leafy stemmed coreopsis	
Layia glandulosa	white layia	
Layia platygossa	tidy-tips	
Logfia depressa	dwarf cottonrose	
Malacothrix californica	California dandelion	
Malacothrix coulteti	snake's head	
Malacothrix glabrata	desert dandelion	
Matricaria discoidea	pineapple weed	
Monolopia lanceolata	common hillside daisy	
Stephanomeria pauciflora	wire lettuce	
Uropappus lindleyi	Lindley's silver puffs	
Boraginaceae – Borage family		
Amsinckia tessellata	devil's lettuce	
Heliotropium curassavicum	salt heliotrope	
Pectocarya penicillata	northern pectocarya	
Pectocarya recurvata	arch-nutted pectocarya,	
Phacelia crenulata var. ambigua	notch-leaved phacelia	
Phacelia fremontii	Fremont's phacelia	
Phacelia tanacetifolia	lacy phacelia	
Plagiobothrys canescens ¹	valley popcornflower	
Brassicaceae – Mustard family		
Caulanthus lasiophyllus	California mustard	
* Capsella-bursa pastoris	shepherd's purse	
* Descurainia sophia	herb sophia	
* Hirschfeldia incana	shortpod mustard	
* Lepidium appelianum	hairy whitetop	
Lepidium nitidum	shining pepperweed	
* Sisymbrium irio	London rocket	
* Sisymbrium altissimum	tumble mustard	

TABLE 4.4-2: PLANT SPECIES OBSERVED

Scientific Name	Common Name	Special Status
* Sisymbrium orientale	Indian hedge mustard	
Tropidocarpum gracile	dobie pod	
Chenopodiaceae – Goosefoot family		
Atriplex argentea var. expansa	Mojave silverscale	
Atriplex canescens ¹	four-wing saltbush	
Atriplex polycarpa	allscale	
* Atriplex semibaccata	Australian saltbush	
Atriplex spinifera	spiny saltbush	
Krascheninnikovia lanata ¹	winterfat	
* Salsola tragus	Russian thistle	
Suaeda nigra	Bush seepweed	
Convolvulaceae – Morning Glory fami	ly	
* Convolvulus arvensis	Field bindweed	
Euphorbiaceae – Spurge family		
Croton setiger	turkey-mullein	
Euphorbia albomarginata ¹	rattlesnake sandmat	
Fabaceae – Legume family		
Astragalus didymocarpus var. didymocarpus	common dwarf milkvetch	
Astragalus douglasii var. douglasii ¹	Douglas's milkvetch	
Astragalus lentiginosus var. variabilis ¹	freckled milk vetch	
Lupinus bicolor ¹	miniature lupine	
Lupinus microcarpus ¹	chick lupine	
* Medicago sativa	alfalfa	
* Robinia pseudoacacia ¹	black locust	
Geraniaceae – Geranium family		
* Erodium cicutarium	Redstem filaree	
Lamiaceae – Mint family		
* Marrubian vulgare	White horehound	
Salvia carduacea	Thistle sage	
Loasaceae – Loasa family		
Mentzelia sp.	Blazing star	
Malvaceae – Mallow family		
* Malva parviflora ¹	cheeseweed	

TABLE 4.4-2: PLANT SPECIES OBSERVED

Scientific Name	Common Name	Special Status
Onograceae – Evening Primrose family	I	
Camissonia campestris ssp. campestris ¹	field suncup	
Camissonia strigulosa ¹	strigose sun cup	
Camissoniopsis bistorta ¹	California sun cup	
Oenothera californica ssp. californica ¹	California evening primrose	
Tetrapteron palmeri ¹	Palmer's evening primrose	
Orobanchaceae – Broomrape family		
Castilleja exserta ssp. exserta	purple owl's clover	
Papaveraceae – Poppy family		
Eschscholzia californica ¹	California poppy	
Platystemon californicus ¹	cream cups	
Plantaginaceae – Plantain family		
* Plantago lanceolata ¹	English plantain	
Polemoniaceae – Phlox family		
Gilia minor	little gilia	
Leptosiphon liniflorus ¹	narrowflower flaxflower	
Polygonaceae – Buckwheat family		
Eriogonum angulosum ¹	angled buckwheat	
Eriogonum fasciculatum ¹	California buckwheat	
Eriogonum sp.	annual buckwheat	
* Polygonum aviculare ¹	prostrate knotweed	
Salicaceae – Willow family		
Populus fremontii	Fremont cottonwood	
Salix exigua	Narrowleaf willow	
Solanaceae – Nightshade family		
Datura wrightii	Jimsonweed	
Lycium andersonii ¹	Anderson's desert thorn	
Lycium cooperi ¹	Cooper's boxthorn	
* Solanum elaeagnifolium	white horse-nettle	
Tamaricaceae – Tamarisk family		
* Tamarix ramosissima	saltcedar	
Ulmaceae – Elm family		
* Ulmus pumila	Siberian elm	

TABLE 4.4-2: PLANT SPECIES OBSERVED

Scientific Name	Common Name	Special Status
Zygophyllaceae – Caltrop family		* • • • • • • • • • • • • • • • • • • •
Larrea tridentata	Creosote bush	
	MONOCOTS	
Agavaceae - Century Plant family		
Yucca brevifolia ¹	Western Joshua tree	SC
Alliaceae - Onion family		
Allium fimbriatus	Wild onion	
Liliaceae - Lily family		
Calochortus striatus	Alkali mariposa lily	CRPR 1B.2
Poaceae – Grass family		
* Avena fatua	wild oat	
* Bromus berteroanus	Chilean chess	
* Bromus diandrus ¹	ripgut brome	
* Bromus madritensis ssp. rubens	red brome	
* Bromus tectorum ¹	cheat grass	
* Cynodon dactylon ¹	Bermuda grass	
Festuca microstachys	small fescue	
* Hordeum murinum	foxtail barley	
* Schismus arabicus ¹	Arabian schismus	
* Schismus barbatus	Mediterranean schismus	
Stipa cernua ¹	nodding needle grass	
* Triticum aestivum	common wheat	
Themidaceae – Brodiaea Family		
Dipterostemon capitatus ¹	Blue dicks	
LEGEND:	CRPR (Califor	rnia Rare Plant Rank):
* Non-native or invasive species	1B. Rare or 1	Endangered in California and elsewhere
Only observed along gen-tie routes	2A. Presume elsewhere	ed extinct in California, more common
Special Status:	2B. Rare or l	Endangered in California, more common
Federal $FE =$ Endangered $FT =$ ThreatenedState $SE =$ Endangered $ST =$ Threatened $SC =$ Candidate for ListingSOURCE: $FE = 2018: FEE 2020: SWCA = 2019$	3. Plants for list 4. Plants of I <u>Threat Ranks</u> .1 = Seriousl .2 = Fairly en .3 = Not very	which we need more information – Review imited distribution – Watch list y endangered in California ndangered in California y endangered in California
SOUKCE: E&E, 2018; E&E 2020; SWCA, 2	020.	

TABLE 4.4-2: PLANT SPECIES OBSERVED

Agriculture

Croplands include cultivated, in crop, harvested, fallow, and temporarily idle land. Most field and row crops in the Antelope Valley are irrigated. Fields lie fallow for at least one season within the year. Fallow fields that have remained inactive for over two years may contain a sparse shrub cover, including such species as saltbush (*Atriplex* sp.) or rubber rabbitbrush (*Ericameria nauseosa*), both of which are rapid colonizers in recently cleared or farmed land (Menke et al, 2013). They were dominated by weedy species such as tumble mustard (*Sisymbrium altissimum*) and Russian thistle (*Salsola tragus*) during 2017 reconnaissance survey.

Alkaline Mixed Scrub

The alkaline mixed scrub community is defined as having no single dominant genus and occurs within drainage basins where precipitation evaporates quickly, leaving saline or alkaline salt deposits that make this habitat ideal for more salt-tolerant scrub species. This vegetation community is composed of saltbush iodinebush (*Allenrolfea occidentalis*), horsebrush (*Tetramydia* spp.), Kochia, bud sagebrush (*Artemisia spinescens*), and spiny hopsage (*Grayia spinosa*), and generally lacks cactus species (USDA, 2009).

California Annual Forbs/Grasses

The California annual forbs/grasses vegetation type is characterized by mostly annual grasses and forbs, particularly native herbs, though non-native forbs and grasses may be dominant. Cover and composition vary year to year, but primary species include fiddleneck (*Amsinckia* spp.), California poppy (*Eschscholzia californica*), goldfields (*Lasthenia* spp.), daisy (*Monolopia* spp.), tidy tips (*Layia* spp.), tickseed (*Coreopsis* spp.), foothill plaintain (*Plantago erecta*), and small fescue (*Vulpia microstachys*) (Menke et al, 2013).

Creosote Bush Scrub

Creosote bush scrub is a community that is most commonly associated with alluvial fans, bajadas, upland slopes, and intermittent washes. Creosote bush is dominant in this community, with at least 2 percent cover. The shrub layer generally does not exceed 9 feet in height, and the canopy is open, with an intermittent herbaceous layer. Other common non-dominant plant species associated with this vegetation community include Shockley's goldenhead (*Acamptopappus shockleyi*), rayless (*Acamptopappus sphaerocephalus*), white bursage, cheesebush (*Ambrosia salsola*), shadscale saltbush (*Atriplex confertifolia*), desert holly (*Atriplex hymenelytra*), cattle saltbush (*Atriplex polycarpa*), woolly brickellbush (*Brickellia incana*), brittlebush (*Encelia farinosa*), California ephedra (*Ephedra californica*), Nevada jointfir (*Ephedra nevadensis*), and Anderson's desert thorn (*Lycium andersonii*) (Menke et al, 2013). Additionally, Joshua tree may also be present in lower densities (CNPS, 2020a).

Joshua Tree Woodland

Joshua tree woodland is found in alluvial fans, ridges, and gentle to moderate slopes. Soils are coarse sands, very fine silts, gravel, or sandy loams. This vegetation community is an emergent small tree over a shrub or grass layer with white bursage, cheesebush, big sagebrush (*Artemisia tridentata*), yellow rabbitbrush (*Chrysothamnus viscidiflorus*), blackbrush (*Coleogyne ramosissima*), buckhorn cholla (*Cylindropuntia acanthocarpa*), nevada jointfir (*Ephedra nevadensis*), California buckwheat (*Eriogonum fasciculatum*), creosote bush, and Anderson's desert thorn (*Lycium andersonii*) (CNPS, 2020b). As discussed above in Table 4.4-1, Joshua tree woodland is only found along the gen-tie routes and is not present within the proposed solar generation sites.

Rabbitbrush Scrub

In this vegetation type, blackstem rabbitbrush (*Ericameria paniculata*) is dominant or co-dominant in the shrub canopy. The rabbitbrush vegetation type is widespread throughout a broad elevation range in much of the mapping area on the edges and terraces of relatively large, recently active washes (Menke et al, 2013).

Saltbush Scrub

In this vegetation type, saltbush generally has the highest cover, though white bursage may have similar cover. Some stands contain Joshua trees. This vegetation type occurs in sandy substrates and in sandy washes (Menke et al, 2013).

Urban/Developed

Urban/developed land cover is characterized by areas that have been built upon or otherwise physically altered to the extent that native vegetation is no longer supported. Urban/developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation. Areas where no natural land is evident because of a large amount of debris or other materials being placed upon it may also be considered urban/developed (e.g., equipment staging area, quarry). Little to no vegetation occurs in these areas, other than ruderal, disturbance-loving species and a variety of ornamental (usually non-native) plants.

Wildlife Species

A total of 49 species of wildlife were detected, the majority of which were birds, followed in species richness by mammals and reptiles. A list of species observed during project surveys is provided in Appendix B of the BRR and Appendix A of the SWCA Burrowing Owl Survey Memo. A full copy of the BRR is provided in Appendix E 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 or State Endangered Species Acts. Other species have been designated as special-status on the basis of adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities and/or special districts to meet local conservation objectives. Special-status species include the following:

- Species listed or proposed for listing as threatened or endangered, or are candidates for possible future listing as threatened or endangered, under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA);
- Species that meet the definitions of rare or endangered under *California Environmental Quality Act* (*CEQA*) *Guidelines* Section 15380;
- All of the plants constituting California Rare Plant Rank (CRPR) 1B and Rank 2B meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act [NPPA]) or Sections 2062 and

2067 (CESA) of the 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.);
- Native desert plants protected under the California Desert Native Plant Act (California Food and Agriculture Code, Sections 80001-80006, Division 23);
- Species and open lands that are identified in the Kern County General Plan (Kern County, 2009) and the Willow Springs Specific Plan (Kern County, 2008);

It should be noted that most avian species are afforded certain protections by the Migratory Bird Treaty Act (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.

A complete list of special-status plant and wildlife species that have the potential to occur on the project site provided in **Table 4.4-3**, *Special-Status Species and Habitats of Concern Potential to Occur on the Project Site*. Table 4.4-3 summarize the special-status plant and wildlife species that were evaluated for their potential to occur within the project site. The "Potential to Occur" categories indicated in Table 4.4-3 are defined as follows:

- Low: The project site or immediate region does not support suitable habitat, and the known range of the species is outside of the project site or immediate region.
- Moderate: The project site and immediate region support suitable habitat for the species.
- **High:** The project site and immediate region support favored or high value habitat for the species and it is known to occur in the area.
- Present: Species observed on or near the project site during focused surveys or other site visits.

Scientific Name	Common Name	Federal Status ^a	State Statusª	CRPR Status	Habitat Requirements	Potential to Occur and Explanation
Plants						
Astragalus hornii var. hornii	Horn's milk- vetch	None	None	1B.1	Found in alkaline meadows and seeps along lake margins.	Low. Low potential to occur on site due to lack of suitable habitat. Species was not observed during 2020 rare plant surveys.
Calochortus striatus	alkali mariposa lily	None	None	1B.2	Found on silt or caked mud in open spaces between shrubs and on edges of salt pans and alkali playas. Associated with annual grasses, fourwind saltbush, rubber rabbitbrush, inland saltgrass, and California goldfields.	Present. Suitable habitat observed on-site. Species was document on the project site during 2020 rare plant surveys.
Cryptantha clokeyi	Clokey's cryptantha	None	None	1B.2	Found in valley grasslands and creosote bush scrub in sandy soil dominated by redstem stork's bill, California poppy, cream cups, bluegrass, pincushion flower, and linanthus.	Low. Low potential to occur on site due to lack of suitable habitat. Species was not observed during 2020 rare plant surveys.
Eriastrum rosamondense	Rosamond eriastrum	None	None	1B.1	Occurs in chenopod scrub and vernal pools (edges); alkaline hummocks, often sandy.	Low. Low potential to occur on site. Species was not observed during 2020 rare plant surveys.
Loeflingia squarrosa var. artemisiarum	sagebrush loeflingia	None	None	2B.2	Occurs in sandy areas in sagebrush and creosote bush scrub between 3,500 and 4,00 feet elevation.	Low. Low potential to occur on site due to the project site being outside of the recognized elevation range for the species. Species was not observed during 2020 rare plant surveys.
Opuntia basilaris var. brachyclada	Short-joint beavertail	None	None	1B.2	Occurs in chaparral, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland.	Low. Low potential to occur on site due to lack of suitable habitat. Species was not observed during 2020 rare plant surveys.
Yucca brevifolia	Western Joshua tree	None	SC	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. Western Joshua trees were not observed on the proposed generation sites. Western Joshua trees were identified along the gen-tie routes.

Scientific Name	Common Name	Federal Status ^a	State Statusª	CRPR Status ^b	Habitat Requirements	Potential to Occur and Explanation
Invertebrates						
Bombus crotchii	crotch bumble bee	None	SC	N/A	Generalist forager in open grassland and scrub habitats.	Moderate. Moderate potential to occur on site. One CNDDB recorded occurrence for this species approximately 5-miles southeast of the project site. Habitats in the proposed project area include flowering plants within scrub habitats
Reptiles						
Anniella pulchra	Northern California legless lizard	None	CSC	N/A	Occurs on the desert side of the Tehachapi Mountains in moist, warm, loose soil with sparse plant cover.	Low. Low potential to occur on site due to lack of suitable habitat.
Gopherus agassizii	desert tortoise	FT	ST	N/A	Occurs in desert alluvial fans, washes, canyon bottoms, and hillsides.	Low. Low potential to occur on site due to lack of suitable habitat.
Phrynosoma blainvillii	coast horned lizard	None	CSC	N/A	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Low. Low potential to occur on site due to lack of suitable habitat.
Birds						
Agelaius tricolor	tricolored blackbird	None	ST, CSC	N/A	Nests in colonies in freshwater marshes.	Low. Low potential to occur on site due to lack of suitable habitat.
Aquila chrysaetos	golden eagle	BGEPA	FP	N/A	Found in rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons and large trees in open areas provide nesting habitat.	Low (breeding). Moderate (foraging). Low potential to breed on site due to lack of suitable habitat. Moderate potential to forage on site during wintering and migration periods.

Scientific Name	Common Name	Federal Statusª	State Status ^a	CRPR Status b	Habitat Requirements	Potential to Occur and Explanation
Athene cunicularia	burrowing owl	None	CSC	N/A	Inhabits open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals—most notably, the California ground squirrel.	Present. One occupied burrow with a single owl was observed during 2020 burrowing owl surveys. Two breeding burrows were adjacent but not within the proposed project site.
Buteo swainsoni	Swainson's hawk	None	ST	N/A	Forages over a variety of open habitats, including grasslands, rangeland, and agricultural fields.	Present. One active nest was observed during 2020 burrowing owl surveys within the project site.
Charadrius montanus	mountain plover	None	CSC	N/A	Breeds on open plains at moderate elevations and winters in shortgrass prairie, plowed fields, and sandy deserts.	Moderate. Moderate potential to forage on site during the winter season. The species does not breed in the region of the proposed project site.
Circus hudsonius	northern harrier	None	CSC	N/A	Most common in undisturbed wetlands and grasslands, but also found in agricultural areas. Nest on the ground in low, thick vegetation.	Present. Moderate potential to nest and forage on the project site. Individual observed during field surveys.
Falco peregrinus anatum	American peregrine falcon	None	FP	N/A	Known to occur near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds. Nest consists of a scrape or a depression or ledge in an open site.	Present . Low potential to nest on site due to lack of suitable nesting habitat. Individual observed during field surveys.
Gymnogyps californianus	California condor	FE	None	N/A	Nests in caves and on cliff faces in rocky, forested areas. Forages in shrublands, coniferous forests, and oak savannahs.	Low. Critical habitat for this species is present 14 miles west of the proposed project site in the Tehachapi Mountains. No suitable nesting habitat occurs on site and low potential to forage on site.

Scientific Name	Common Name	Federal Statusª	State Statusª	CRPR Status ^b	Habitat Requirements	Potential to Occur and Explanation
Lanius ludovicianus	loggerhead shrike	None	CSC	N/A	A rare to uncommon breeding resident in southern California, with an influx into the region during winter. Prefers open terrain, with short vegetation, including rangeland, agricultural fields, open brushlands, etc. Was once more common and widely distributed in North America.	Present. Suitable nesting and foraging habitat present on the project site. Individuals heard and observed during field surveys.
Toxostoma lecontei	LeConte's thrasher	None	CSC	N/A	Habitat includes sparsely vegetated desert flats, dunes, and alluvial fans usually with a high proportion of saltbush and/or cholla cactus.	Moderate. Moderate potential to forage on site. Suitable nesting habitat is mainly on adjacent lands, not on site.
Mammals						
Corynorhinus townsendii	Townsend's big-eared bat	None	CSC	N/A	Inhabits mines, caves, and vacant buildings and requires a vertical surface for roosting. Highly sensitive to disturbance. Feeds on flying insects.	Low. Low potential to occur on site. No suitable roosting habitat is present on any of the three solar facilities. Marginal suitable foraging habitat is present on site.
Taxidea taxus	American badger	None	CSC	N/A	Occurs in grasslands and scrublands with sparse cover. Excavates burrows for dens and breeding. Forages primarily on burrowing rodents, but also eats small birds, insects, and reptiles.	Present. Suitable habitat present on the project site. Potentially active burrows with sign of recent used documented during 2020 burrowing owl surveys.
Vulpes macrotis arsipus	desert kit fox	None	None ^c	N/A	Inhabits creosote bush scrub and dry grassland habitats throughout the Mojave desert.	Present. Suitable habitat present on the project site. Desert kit fox scat was found at several potential burrowing owl burrow locations.
Xerospermophilus mohavensis	Mohave ground squirrel	None	ST	N/A	Found in the western Mojave Desert in Inyo, Kern, Los Angeles, and San Bernardino Counties in desert scrub habitats.	Low. Low potential to occur on site. Outside the current known range for this species

				CRPR		
Scientific	Common	Federal	State	Status	Habitat Daguinamanta	Betendial to Ocean and Employedian
Iname	Name	Status	Status	~	Habitat Requirements	Potential to Occur and Explanation
^a Status Codes <u>Federal</u> FE = Federally list PE = Proposed En FT = Federally list FC = Federal Cano FSC = Federal Spe BGEPA = Bald an D = Delisted	ed; Endangered dangered ed; Threatened didate for Listing ecies of Concern d Golden Eagle Prot	tection Act	b C 1 1 2 3 4 0 0 0 0	California A = Plants B = Plants r = Plants a = Limited .1 = Seriou .2 = Fairly .3 = Not ve	Rare Plant Ranks (CRPR) s presumed extinct in California s rare, threatened, or endangered in Cali about which we need more informatio d distribution (Watch List) usly endangered in California / endangered in California rery endangered in California	alifornia and elsewhere ifornia, but more common elsewhere n
State ST = State listed; I SE = State listed; T SC = State Candid R = Rare (Native H CSC = California Fu FP = California Fu	Endangered Fhreatened ate for Listing Plant Protection Act) Species of Special C Illy Protected Specie 0: SWCA 2020a: S) Concern 28 WC 4 2020b	°T S	he desert l ection 460	kit fox is protected by CDFW as a fur).	r-bearing animal under California Code of Regulations Title 14,
SOURCE: E&E, 202	0; SWCA, 2020a; S	WCA, 2020b	•			

Special-Status Plants

Seven special-status plant species were identified in the literature review and database search as historically occurring in the region; five of these species were determined not likely to occur because of a lack of suitable habitat and/or absence during focused surveys conducted within the appropriate blooming period. Table 4.4-3 identifies the regulatory status and habitat requirements for each plant species that has some potential to occur as well as the potential for the species to occur on the project site based on focused survey results and the presence or absence of suitable habitat.

Two special-status plant species were detected within the project site during the 2017 reconnaissance survey and 2020 rare plant surveys: alkali mariposa lily and western Joshua tree (E&E, 2018a; SWCA, 2020b). These species are described further below.

Alkali Mariposa Lily. The alkali mariposa lily, a CRPR 1B.2 species, is a bulbiferous perennial herb found in alkaline and mesic areas within chaparral, chenopod scrub, Mojavean desert scrub, and meadow and seep habitats. It occurs in Inyo, Kern, Los Angeles, San Bernardino, and Tulare counties at elevations ranging from 230 and 5,240 feet amsl. It flowers from April through June.

Appropriate suitable habitat and alkaline areas for alkali mariposa lily occurs within the project site. Approximately 1,550 individuals were recorded in an area of roughly 76 acres (20 plants per acre). The population was found within the northeastern parcel in saltbush scrub and California annual forbs/grasses habitat.

Western Joshua Tree. The western Joshua tree was recently (September 22, 2020) approved as a candidate for listing as a threatened species under CESA. The species is a native tree found in the arid southwest, with populations occurring in southeastern California, western Arizona, southern Nevada, and southwestern Utah, as well as Northwestern Mexico. Western Joshua trees are primarily confined to the geographic range of the Mojave Desert, occurring between 1,300 and 5,900 feet. Appropriate habitat occurs throughout the project site, particularly within creosote scrub vegetation communities. One Joshua tree was observed on the project site during the 2017 surveys, however, this individual was located on a parcel later removed from the proposed project site. No Joshua trees were observed on the project site during the 2020 rare plant surveys. Prior to ground disturbing activities, a complete census survey to CDFW guidelines will be performed and all applicable western Joshua tree candidate species CDFW mitigation requirements will be met. Additionally, Joshua tree woodland is considered a sensitive plant community by CDFW and was only documented along the gen-tie route.

Special-Status Wildlife

Based on the literature review and database search, 18 special-status wildlife species (1 invertebrate, 3 reptiles, 10 birds, and 4 mammals) have been historically recorded within the vicinity of the project site. Of these, seven were determined not likely to occur due to lack of suitable habitat or range constraints. In addition, prairie falcon (*Falco mexicanus*) and merlin (*Falco columbarius*) were observed within the project site during 2017 field surveys. These species are not listed as special-status species, and thus is not discussed further, but are classified as Watch List species by CDFW. Species with potential to occur are listed in Table 4.4-3, which identifies their regulatory status and habitat requirements, as well as the potential for the species to occur on the project site or immediate vicinity based on recent survey results.

Of the eleven special-status wildlife species identified in Table 4.4-3, above, as having the potential to occur within the project site, seven species were determined to be present: burrowing owl, Swainson's hawk (*Buteo swainsoni*), northern harrier (*Circus hudsonius*), American peregrine falcon (*Falco peregrinus*), loggerhead shrike, American badger (*Taxidea taxus*), and desert kit fox (*Vulpes macrotis arsipus*). No species were determined to have a high potential to occur within the project study area. Four species were determined to have a moderate potential to occur within the project study area. Four species were determined to have a moderate potential to occur within the project study area: crotch bumble bee (*Bombus crotchii*), golden eagle (*Aquila chrysaetos*), mountain plover (*Charadrius montanus*), and LeConte's thrasher (*Toxostoma lecontei*). Species that are present or moderate potential to occur are also described further below. Additional description is also provided for desert tortoise (*Gopherus agassizii*) and Mohave ground squirrel (*Xerospermophilus mohavensis*) regarding why these species were determined to have a low occurrence potential.

Invertebrates

Crotch Bumble Bee. The crotch bumble bee was listed as a candidate for listing under the CESA (along with three other bee species) on July 16, 2019. The CDFW has 12 months to review the petition and evaluate available information and report back to the Fish and Game Commission about whether the petitioned actions (listing the crotch bumble bee under the CESA) are warranted.

The crotch bumble bee is a generalist forager that has been reported occurring on a variety of flowering plant species in California. This species requires flowering plants in open grassland and scrub habitats, and it occurs primarily in California, specifically in the Mediterranean region, Pacific Coast, Western Desert, Great Valley, and adjacent foothills throughout most of southwestern California (Williams et al., 2014). Based on information from the CNDDB, this species has no record of occurrence within the proposed project area but does have recorded occurrence approximately 5-miles southeast of the project site. Habitat requirements for this species are broad and not well understood at this time; however, this species does require flowering plants and the proposed project site is within the known range of this species. Habitat along the gen-tie and the proposed project site, include annual grasses and forbs and agriculture, which generally include flowering plants. Based on the single CNDDB sighting of this species from 1971, as well as this species' broad and relatively poorly understood habitat requirements, it is difficult to determine the likelihood of occurrence within the proposed project site, but likely has moderate potential to occur. Based on the December 9, 2019 reconnaissance survey, flowering shrubs and forbs are present within all new parcels and gen-tie locations. While flowering plants necessary for pollinators are present within the propose project site, these flowering plants are ubiquitous throughout the entire region.

Reptiles

Desert Tortoise. The desert tortoise is listed as threatened under the CESA and the ESA. The project site falls within the historic range of the Mojave Desert population of the desert tortoise and within the Western Mojave Recovery Unit (USFWS, 2011). Habitat characteristics include gentle slopes with sparse, woody vegetation and sandy to gravelly soils below 5,500 feet (Germano et al., 1994; USFWS, 1994). Lower elevation habitat areas are dominated by creosote bush and white bursage, and higher elevation habitats are dominated by blackbrush and juniper woodlands (USFWS, 2009). No desert tortoises were observed during desert tortoise surveys for the Solar Star 1 and 2 Projects, southeast of the project site (AECOM, 2010); the Willow Springs Project (Ironwood Consulting, 2011a); or the Rosamond Solar Array Projects (Ironwood Consulting, 2011b). The project site does not represent suitable habitat for desert tortoise, and no suitable desert tortoise burrows, tortoise sign, or tortoises were observed during surveys. The most recent and closest

CNDDB occurrence for desert tortoise is a single 2006 observation of an adult tortoise crossing Tehachapi Willow Springs Road approximately 2.75 miles northeast of the project site. Because of the lack of suitable habitat, desert tortoise has a low potential to occur in the project site.

Birds

Burrowing Owl. Burrowing owl, a California Species of Special Concern, occurs in a wide range of mostly open habitats in California, including grasslands, shrub-steppe, deserts, pastures, and agricultural areas. The burrowing owl's breeding range in the western U.S. extends from southern Canada to Baja California and central Mexico (Klute et al., 2003). Some burrowing owls remain in California year round, while others migrate to California to winter (Shuford and Gardali, 2008). The burrowing owl uses a variety of open, arid to semi-arid habitat types, including prairies, open scrublands, agricultural fields, airports, and golf courses (Dechant et al., 2002; Klute et al., 2003). Burrowing owls generally do not create their own burrows, but instead occupy burrows excavated by ground squirrels, American badgers, foxes, or coyotes. They may also use natural cavities in rocks and openings in humanmade structures such as pipes. In southern California, the burrowing owl most commonly uses California ground squirrel burrows (Trulio, 1997). Burrowing owls are known to occur in the project site and suitable burrowing owl habitat is present throughout the project site in the form of fallow agricultural lands and grassland.

During 2017 reconnaissance, suitable burrows were observed but no burrowing owls or burrow owl sign were detected. During 2020 protocol-level burrowing owl surveys, two active nests were found near the project but outside the project boundary, and one occupied burrow with an owl but no confirmed nest was identified within the project boundary. In addition to the one occupied burrow by a single owl, 79 unoccupied potential burrows (6 with sign, 73 without sign) were observed within the project site.

Swainson's Hawk. Swainson's hawk is listed as threatened species under the CESA; it has no federal listing. Swainson's hawk is relatively common and breeds throughout the western United States (west of the Great Plains) but has a severely limited population in California and, particularly, in southern California. Although this species historically bred in small numbers in southern California, its known breeding population is currently isolated to the Antelope Valley in Los Angeles and Kern counties. Swainson's hawk is a medium-sized migratory raptor that prefers open grasslands and agricultural fields for foraging, typically nesting nearby in isolated trees or rows of trees, particularly those near water sources.

The Antelope Valley population of Swainson's hawks nest in Joshua trees and roadside and windrow trees, and forage mostly on small mammals in open grasslands, shrublands, and agricultural fields (e.g., alfalfa, irrigated pastures, and dryland pastures). Swainson's hawks are known to nest in the project vicinity, and four historic Swainson's hawk nests were observed within 5 miles of the project site during 2014 Swainson's hawk surveys for the Willow Springs Solar Project (Ironwood Consulting, 2014).

The first Swainson's hawk nest is located approximately 275 feet west of the project site in a windrow tree near several residences. A second Swainson's hawk nest is located along West Avenue A adjacent to the 110th Street interconnection option. A third nest was located in a Joshua tree approximately 4.5 miles north of the Rosamond Boulevard interconnection option. A fourth nest was located in a windrow tree approximately 4.6 miles north of project site. Suitable foraging habitat for Swainson's hawk is present throughout the project site, and nesting habitat is available primarily along the proposed interconnection and gen-tie lines, in roadside trees. While limited within the solar sites, some trees are present that may be suitable nesting habitat for this species. During 2020 burrowing owl surveys, it was determined that the first Swainson's hawk nest mentioned above was active.

Northern Harrier. The northern harrier is a California Species of Special Concern. Northern harriers forage in a variety of open grasslands (Shuford and Gardali, 2008) and marsh habitats and nest on the ground in dense vegetation. Northern harriers are not known to nest in eastern Kern County (Shuford and Gardali, 2008). This species is expected to forage on the project site and was observed during reconnaissance surveys.

American Peregrine Falcon. The American peregrine falcon is a California fully protected species that was delisted from both the CESA and FESA due to the recovery of the species. This species can be found throughout California and preys on a variety of birds. This species typically breeds and forages near water. Peregrine falcons typically nest on high cliffs or ledges, including on human-made structures, and occasionally they will nest in trees, snag cavities, or on old nests of other raptors (CDFW 2020a). This species was observed foraging on site during 2017 reconnaissance surveys, however, suitable nesting habitat is not present on the project site.

Loggerhead Shrike. Loggerhead shrike, a California Species of Special Concern, occurs throughout most of the United States and is a year-round resident of much of the southern half of the country, including southern California (Shuford and Gardali 2008). This species is found in a variety of habitats, including thinly wooded or shrubby areas with clearings, meadows, pastures, old orchards, and roadside thickets (Terres 1980). Historically common and widespread throughout southern California, loggerhead shrike populations are now declining, especially in coastal areas (Shuford and Gardali 2008). This species was observed foraging on site during 2017 reconnaissance surveys and suitable nesting habitat is present on the project site.

Golden Eagle. The golden eagle is a California fully protected species; it is also protected under the Bald and Golden Eagle Protection Act. Golden eagles are found throughout the western U.S. in a range of open habitats, including tundra, shrubland, and coniferous forests (Kochert et al., 2002). In southern California, golden eagles may occur year round as residents or as transients during migration, and breed on cliffs or in large trees from late January through August (Katzner et al. 2012). In the Mojave Desert, breeding ranges vary from 24 to 1,556 square miles (Katzner et al. 2012). Foraging habitat typically consists of wide open spaces with abundant mammals as prey; in California, this is often in grasslands. There is ample foraging habitat for golden eagle in the Antelope Valley and within the project site, and it has a moderate potential to forage within or near the project. However, it would not be expected to nest within the project site. Based on surveys conducted in 2017 through 2020, there are no active or historic golden eagle nests within the project site.

Mountain Plover. Mountain plover is a California Species of Special Concern. The mountain plover is a migratory shorebird that breeds in grassland habitats east of the Rocky Mountains and winters in agricultural fields in Southern California from September through mid-March (Knopf, 1996). This species does not breed in the region of the project site but has a moderate potential to forage on site.

LeConte's Thrasher. The LeConte's thrasher, a California Species of Special Concern, is an uncommon to rare, local resident in Southern California Deserts. LeConte's thrashers are non-migratory and are sparsely distributed in southern California, western Arizona, southern Nevada, and southwestern Utah. LeConte's thrashers inhabit sparsely vegetated desert flats, dunes, alluvial fans, and gently rolling hills with a high proportion of saltbush or shadscale (Birds of North America 2015). This species nests in cacti, saltbushes, yuccas, and mesquites (Weigand and Fitton 2008). The project site has suitable nesting habitat and has been documented on the project site (eBird 2017).

Mammals

American Badger. American badger is an uncommon California Species of Special Concern that ranges throughout the entire state but is rarely encountered. This species is found in a wide variety of habitats, from mountains to deserts (Williams 1986). American badgers are highly adapted for digging and spend much of their time underground in burrows. They feed primarily on rodents and ground squirrels. American badgers have large home range sizes—over 100 square miles—and can disperse great distances (Apps et al. 2002). Suitable denning and foraging habitat occurs in the project site and American badger sign (fresh scrapes along burrow walls) was observed on the project site during 2020 burrowing owl surveys.

Desert Kit Fox. Desert kit fox is not a federally or state-listed species and does not receive protection under the FESA, but is protected under CCR, Title 14, Section 460, which prohibits take of this species at any time. This species is found in a wide range of arid climates within chaparral, desert scrub, and grassland habitats. Desert kit foxes are mainly nocturnal, spending much of the day in underground burrows and emerging after sunset to prey on rodents, rabbits, small reptiles, and birds. Desert kit foxes may utilize many dens throughout their home range and give birth in larger, natal den complexes in March and April. Desert kit foxes are known to breed in the project site, and suitable denning habitat is present on site. One inactive escape den was observed on the project site in a buried pipe. This den was classified as inactive because it showed no recent sign of use. However, old scat was present near the entrance. Additional, desert kit fox scat was found at several potential burrowing owl burrow locations during 2020 burrowing owl surveys.

Mohave Ground Squirrel. The Mohave ground squirrel is listed as threatened under CESA. Mohave ground squirrels occur in the western Mojave Desert in portions of Inyo, Kern, Los Angeles, and San Bernardino Counties (Gustafson, 1993). This species prefers flat to moderately sloping desert scrub habitats with sandy and alluvial soils (Gustafson, 1993; Wessman, 1977; Laabs, 1998). Mohave ground squirrels are generally active from mid-March through the late summer and fall. They hibernate or aestivate in their underground burrows for the remainder of the year (Leitner and Leitner, 1998). The project site is outside of the currently accepted range for the Mohave ground squirrel (Leitner, 2008), but this species was included in this analysis because it is of heightened conservation concern in the Antelope Valley. No Mohave ground squirrels were observed during 2010 trapping surveys for the Willow Springs (Ironwood Consulting, 2011a) or Rosamond Solar Array Projects (Ironwood Consulting, 2011b) immediately adjacent to the project site. This species is not expected to occur on the project site due to lack of suitable habitat.

Sensitive Natural Communities

Sensitive habitats and vegetation communities are those that are considered rare in the region, support special-status plant or animal species, or receive regulatory protection, including those that are of special concern to resource agencies or are afforded specific consideration through CEQA. In addition, vegetation communities listed by CDFW as having the highest inventory priorities are considered sensitive. Three sensitive natural communities (valley needlegrass, southern willow scrub, and wildflower fields) were identified by the CNDDB as occurring within 5 miles of the proposed project site. Based on the field surveys in 2017 and 2019, none of these natural communities occur within the proposed project site. Joshua tree woodland, a CDFW sensitive natural community, occurs along the gen-tie interconnection options.
Critical Habitat

USFWS has not designated or proposed any critical habitats on or near the project site under the FESA (16 U.S. Code [USC] 1533 (a)(3)). Critical habitat is designated for the survival and recovery of federally listed endangered and/or threatened species. Protected habitat includes areas for foraging, breeding, roosting, shelter, and movement or migration.

Wildlife Movement Corridors

In recent decades, conserving landscape connectivity has received increasing recognition as key strategy to protect biodiversity and maintain viable ecosystems and wildlife populations (Rosenberg et al., 1997). The project site lies near the center of the western Antelope Valley, which is generally flat with few well-defined canyons, riparian corridors, or other corridor-like topographic features that would serve to channel the movement of terrestrial wildlife species. As such, wildlife movement across the Valley is likely diffuse, with roads, fences, and agriculture serving as barriers or filters to movement.

While the existing studies do not call out the project site or surrounding areas as essential connectivity areas, the project site may be used for more local wildlife movement. The project site does contain areas of relatively undisturbed desert vegetation that are used by species on a smaller scale; however, these habitats are fragmented by roads, fences, rural residences, agricultural fields, and solar energy developments which likely limits the project site as a significant corridor for wildlife movement. Scattered small washes run throughout the project site; however, riparian vegetation to support concentrations of wildlife and to facilitate wildlife movement is absent. Likewise, while habitats or other sources of water that would attract concentrations of birds during migration. Fenced areas, particularly the existing solar energy developments in areas immediately adjacent to the project, likely limit the movement of larger terrestrial wildlife species (e.g., kit fox, badger, coyote) through the area.

Jurisdictional Waters

Jurisdictional waters include aquatic resources such as streams, creeks, lakes, riparian areas, wetlands, and certain aquatic vegetation communities, which are considered sensitive biological resources and can fall under the jurisdiction of federal and/or State regulatory agencies including the U.S. Army Corps of Engineers (USACE), CDFW, and/or Lahontan Regional Water Quality Control Board (RWQCB). The definitions of the extent of regulatory agency jurisdictions are described in Subsection 4.4.3, *Regulatory Setting*.

The project site is located within the Antelope-Fremont Valleys Watershed in the Antelope Valley Hydrologic Unit, within the South Lahontan Hydrologic 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).

One ephemeral drainage was found along the gen-tie interconnection route as shown in **Table 4.4-4**, *Potential Jurisdictional Features identified on the Project Site*. The potential feature does not contain any riparian habitat outside of the feature's banks. As an isolated non-wetland drainage that does not establish connectivity with navigable waters, the feature along the gen-tie interconnection route is not considered

waters of the U.S. However, this feature is a Water of the State under the jurisdictional authority of RWQCB. Additionally, CDFW may also take jurisdiction over the water feature, associated bank habitat, and active floodplains associated with this feature.

TABLE 4.4-4. I OTENTIAL JURISDICTIONAL FEATURES IDENTIFIED ON THE I ROJECT SITE						
	CDFW		RWQCB			
Feature ID	Area (Acres)	Width (Feet)	Area (Acres)	Width (Feet)	Description	
S-001	0.01	6	0.01	6	Ephemeral Wash (Natural)	
Totals	0.01	6	0.01	6		

TABLE 4.4-4: POTENTIAL JURISDICTIONAL FEATURES IDENTIFIED ON THE PROJECT SITE

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 (NMFS) share responsibilities for administering the FESA. Regulations governing interagency cooperation under Section 7 are found in California Code of Regulations (CCR) Title 50, Part 402. The opinion issued at the conclusion of consultation will include a statement authorizing "take" (i.e., to harass, harm, pursue, hunt, wound, kill, etc.) that may occur incidental to an otherwise legal activity.

Section 9 lists those actions that are prohibited under the FESA. Although take of a listed species is prohibited, it is allowed when it is incidental to an otherwise legal activity. Section 9 prohibits take of listed species of fish, wildlife, and plants without special exemption. The definition of "harm" includes significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns related to breeding, feeding, or shelter. "Harass" is defined as actions that create the likelihood of injury to listed species by disrupting normal behavioral patterns related to breeding, feeding, and shelter significantly.

Section 10 provides a means whereby a nonfederal action with the potential to result in take of a listed species can be allowed under an incidental take permit. Application procedures are found at Code of Federal

Regulation (CFR), Title 50, Sections 13 and 17 for species under the jurisdiction of USFWS and CFR, Title 50, Sections 217, 220, and 222 for species under the jurisdiction of 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" (U.S. Code Title 16, Section 703). The current list of species protected by the MBTA includes several hundred species and essentially includes all native birds. Permits for take of nongame migratory birds can be issued only for specific activities, such as scientific collecting, rehabilitation, propagation, education, taxidermy, and protection of human health and safety and personal property.

Bald and Golden Eagle Protection Act of 1940 (USC Title 16, Section 668, enacted by 54 State. 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 CWA provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 401 requires a project proponent for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The RWQCB administers the certification program in California. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S. Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S., including wetlands. USACE implementing regulations are found at CFR, Title 33, Sections 320 and 330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed

by the U.S. Environmental Protection Agency in conjunction with USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

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 wetlands and/or waters of the state, which may include waters deemed 'isolated' or not subject to Section 404 jurisdiction, under the Solid Waste Agency of Northern Cook County (SWANCC) 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 Clean Water Act. Filling, dredging, or excavation of isolated waters may constitute a discharge of waste to waters of the state and if so, then prospective dischargers are required to file a Report of Waste Discharge to obtain Waste Water Discharge Requirements as authorization for that fill or waiver thereof from the RWQCB.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, waters of the state fall under the jurisdiction of the appropriate RWQCB. Under the act, the RWQCB must prepare and periodically update 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 Code 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 ten days in advance of any change in land use. This allows CDFW to salvage listed plant species that otherwise would be destroyed. The project proponent is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

California Desert Native Plant Act (California Food and Agricultural Code Sections 800071–80075)

The California Desert Native Plant Protection Act affords protection to certain native desert plant species to make the harvest, transport, sale, or possession of these species unlawful unless a permit is first obtained. It restricts harvesting of the following plants, except for educational or scientific purposes under a permit issued by the commissioner of the county in which the native plants are growing:

• All species of the genus *Burseraceae* family (such as elephant tree [*Bursera microphylla*], saguaro cactus [*Carnegiea* gigantean], barrel cactus [*Ferocactus acanthodes*], and panamint dudleya [*Dudleya saxosa*])

The California Desert Native Plant Protection Act also restricts harvesting of the following species, except under a permit issued by the commissioner of the sheriff of the county in which the native plants are growing:

- All species of the agave family (*Agavaceae*)
- All species of the genus *Prosopis*
- All species of the genus *Cercidium*
- All species of the cacti family *Cactaceae*, besides saguaro and barrel cactus which are protected as described above.
- All species of the ocotillo and candlewood family *Fouquieriaceae*
- 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, and policies that govern the conservation of biological resources that must be considered by Kern County during the decision making process for any project that could affect biological resources.

The Land Use, Open Space, and Conservation Element of the Kern County General Plan states that the element provides for a variety of land uses for future economic growth while also ensuring the conservation of the County's agricultural, natural, and resources attributes. Section 1.10, *General Provisions*, provides goals, policies, and implementation measures that apply to all types of discretionary projects.

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

1.10 General Provisions; **1.10.5** Threatened and Endangered Species

Goal

Goal 1:	Ensure that the County can accommodate anticipated future growth and development while a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.			
Policies				
Policy 27:	Threatened or endangered plant and wildlife species should be protected in accordance with State and Federal laws.			
Policy 28:	The County should work closely with State and Federal agencies to assure that discretionary projects avoid or minimize impacts on fish, wildlife, and botanical resources.			
Policy 29:	The County will seek cooperative efforts with local, State, and Federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands.			
Policy 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.

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.

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 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 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 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.

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, BRR (E&E 2018a, E&E, 2020) and the Preliminary Jurisdictional Waters and Wetland Delineation Report (E&E, 2018b). 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.

Reconnaissance and focused surveys including CDFW protocol surveys for burrowing owl and rare plants were conducted on the project site from November 2017, December 2019, and April through July of 2020. The impact analyses presented here address potential biological resources located on the project site based on results of field surveys detailed in Appendix E of this EIR.

Thresholds of Significance

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

Overview

The proposed project has the potential to impact special-status plants and wildlife through the loss of habitat, as well as direct and indirect impacts on species, such as mortality of individuals, interference with reproductive success, introduction of invasive species, and habitat degradation. Potential impacts to special-status plants and wildlife from construction, operation and maintenance, and decommissioning are discussed below.

Construction

Special-Status Plants

The project site contains two special-status plant species: alkali mariposa lily and western Joshua tree. Direct impacts to the special-status plants and their habitat may include mortality of individuals as a result of permanent removal or damage to root structures during the construction phase of the project through activities like clearing vegetation and removal of suitable habitat, trampling by construction vehicles or personnel, or unauthorized collection. Other direct impacts may include clearing and grading activities that could disturb and compress soils, potentially destroying seed banks and preventing or reducing future utilization of the area by these species. Indirect impacts may include construction-related dust, erosion, runoff, and introduction of invasive species on disturbed soils. Increased dust during construction activities could decrease a plant's ability to photosynthesize. This could result in diminished reproduction or loss of special-status plants. Construction equipment, vehicles, or imported materials could introduce and spread non-native invasive plant species within the project area, which could outcompete special-status plants for resources such as water and space. In addition, suitable habitat could become monotypic, thereby reducing quality and diversity of native vegetation communities on site.

Direct and indirect impacts to alkali mariposa lily and western Joshua tree would be considered significant. To reduce potential significant impacts to special-status plants, Mitigation Measures MM 4.4-1 through MM 4.4-5, and MM 4.4-12 would be implemented. With the implementation of these mitigation measures, which include monitoring, worker environmental awareness training, preconstruction clearance survey, general biological resources avoidance measures, preconstruction special-status plant surveys, and creation of a Joshua Tree Preservation Plan impacts would be less than significant

With implementation of Mitigation Measures MM 4.4-1 through MM 4.4-5, and MM 4.4-12, impacts to special-status plant species would be less than significant.

Special-Status Wildlife

Special-status wildlife species confirmed present for the project site include burrowing owl, Swainson's hawk, northern harrier, American peregrine falcon, loggerhead shrike, American badger, and desert kit fox. Additionally, the following four special-status species have a moderate potential to occur onsite: crotch bumble bee, golden eagle, mountain plover, and LeConte's thrasher. While northern harrier, American peregrine falcon, golden eagle, and mountain plover may occur as migrates or foraging birds on the project site, no suitable nesting habitat for these species are present on the project site, and thus no significant impacts to these species would occur. Suitable habitat for several migratory birds and raptors protected under the MBTA and the CFGC are also present. Construction of the project could result in the direct impacts of these special-status species if any are present. Individual discussions for species determined to have the potential for significant impacts are further discussed below.

Crotch Bumble Bee. Direct impacts to crotch bumble bee include removal and loss of potential food sources and to individual eggs, larvae, and pupal stages of the crotch bumble bee, if present. This species' preferred substrates for underground nest sites and preferred plants for nectaring are unknown (Koch et al 2012). The loss of habitat is not expected to be significant because of the abundance of similar suitable habitat surrounding the project site. Individual adults are mobile and can move away from the project site during construction, if present. Implementation of the project is not expected to have a substantial impact on this little-known species

Burrowing Owl. Direct impacts to the burrowing owl and its habitat could occur as a result of project construction through the loss of available habitat and potential breeding burrows due to construction activities and increased human presence. Based on focused surveys conducted in 2020, two active nest were adjacent to the project site and one burrow with a single owl was observed on the project site. Additional, burrowing owl sign was observed within the project site. Besides direct impacts to burrows and habitat, construction activities could directly impact occupied burrows resulting in injury or mortality to individual owls. Birds flying away from burrows could collide with machinery or vehicles and are more likely to be predated by other animals such as red-tailed hawks and coyotes. Indirect impacts could also occur during construction if burrowing owls are nesting in adjacent offsite areas within 500 feet of the project site, and noise from construction activities harasses an owl to the point of abandoning an active burrow. Other indirect impacts include vehicle emissions, dust, habitat degradation from introduction of non-native plants or other factors. Any adverse direct or indirect impacts to burrowing owls as a result of construction would be considered significant under CEQA. However, implementation of Mitigation Measures MM 4.4-2 through 4.4-4, MM 4.4-6, and MM 4.4-7 are proposed to be implemented which include monitoring, education awareness training, preconstruction clearance survey, general biological resources avoidance measures, preconstruction burrowing owl surveys, and nesting bird surveys, would reduce the potential impacts. Mitigation Measure MM 4.9-3 also requires applying non-toxic herbicide if dens or nests are found. Implementing these mitigation measures would ensure that nesting or foraging burrowing owls impacted during construction are mitigated for. With implementation of these mitigation measures, impacts to burrowing owl would be less than significant.

Swainson's Hawk. Swainson's hawks occur in the project vicinity and have a decreasing presence in this area, although, Swainson's hawk continue to nest around agricultural areas in the Antelope Valley. Swainson's hawks show nest site fidelity and typically forage in suitable habitat adjacent to their nest sites.

The project site provides both suitable foraging and nesting habitat. A Swainson's hawk nest was observed on the project site during 2020 burrowing owl surveys in an Aleppo pine. Site development would result in the permanent loss of foraging habitat which would be considered a significant impact. The Aleppo pine will remain in place, therefore, no direct impact to the nest will occur. Besides a direct loss of foraging habitat, should the species happen to be present during construction activities, other direct impacts include death or injury to eggs and chicks, nest destruction, displacement of hawks and loss of territory, and disruption of breeding activities. Indirect impacts from construction and decommissioning activities include disturbance to nesting individuals related to increase dust, noise, vibrations, and increase human presence. Potential impacts would be avoided through implementation of minimization measures, including avian nesting surveys that would detect any nesting Swainson's hawk within the project vicinity and mitigate for loss of foraging habitat per Mitigation Measure MM 4.4-7 and preparation and implementation of a Swainson's Hawk Monitoring and Mitigation Plan per Mitigation Measure MM 4.4-8. Potential impacts would be further reduced through implementation of Mitigation Measures MM 4.4-2 through MM 4.4-4 which include worker training, general avoidance and protection measures, and preconstruction surveys prior to initial grading activities. With implementation of these mitigation measures, project level impacts to Swainson's hawk would be less than significant.

Loggerhead Shrike and LeConte's Thrasher. The project site contains suitable nesting and foraging habitat for loggerhead shrike and LeConte's thrasher, the latter species being documented during 2017 surveys. Direct impacts to loggerhead shrike and LeConte's thrasher and their habitat could occur as a result of project construction from removal of vegetation that provides suitable habitat for this species during the nesting season which could include death or injury to chicks. The act of removing habitat may additionally result in destruction of nests and vehicular strikes to birds that are attempting to flee the disturbance, which could result in injuries or mortality. Potential indirect effects on loggerhead shrike and LeConte's thrasher from construction and decommissioning activities include disturbance to nesting individuals related to increase dust, noise, vibrations, and increase human presence. The loss of foraging and nesting habitat is not expected to be significant because of the abundance of suitable habitat surrounding the project site. To reduce potential significant impacts to loggerhead shrike and LeConte's thrasher, Mitigation Measures MM 4.4-1 through MM 4.4-4 and MM 4.4-7 would be implemented. With the implementation of these mitigation measures which include monitoring, education awareness training, preconstruction clearance survey, general biological resources avoidance measures, and preconstruction nesting bird surveys, impacts would be less than significant.

American Badger. Signs of this species was observed within the project site during 2020 surveys. Direct impacts to American badger from project construction activities may include permanent and temporary loss of habitat or injure or death could result from adults or young being crushed in dens or from collisions with vehicles. This species is locally scarce but within a wide range. Additional suitable habitat would remain surrounding the project site; therefore, there would be no significant impacts to American badger suitable habitat with development of the project. Indirect effects due to displacement of this species could also occur as a result of construction activities associated with the project. These types of potential impacts to this species would be considered significant without mitigation. To reduce potential significant impacts to American badger, Mitigation Measures MM 4.4-1 through MM 4.4-4 would be implemented. With the implementation of these mitigation measures which include monitoring, education awareness training, preconstruction clearance survey, and general biological resources avoidance measures, impacts would be less than significant.

Desert Kit Fox. Desert kit fox sign and burrows were observed within and in the vicinity of the project site during 2017 and 2020 surveys. Although this species is protected under Title 14, California Code of Regulations, Section 460, it does not constitute as a special-status species; therefore, loss of suitable habitat for desert kit fox is not considered significant. However, direct impacts to the species could include the loss of potential burrows due to construction activities and increased human presence, and injury or death could result from adults or young being crushed in dens or from collisions with vehicles. These types of potential impacts to this species would be considered significant. To reduce potential significant impacts to desert kit fox, Mitigation Measures MM 4.4-1 through MM 4.4-4 would be implemented. With the implementation of these mitigation measures which include monitoring, education awareness training, preconstruction clearance survey, and general biological resources avoidance measures, impacts would be less than significant.

Migratory Birds. Project-related direct impacts on nesting birds during construction could include crushing of or vehicle collisions with nesting birds and/or destruction of nests and eggs during vegetation clearing and grading with heavy machinery. Potential indirect impacts include interference with reproductive success and nest abandonment in adjacent areas from increased human presence and increased noise levels (and vibration) from project construction. Reproductive and nest impact could occur if construction occurs during the breeding season, which is generally considered to be February 1 through August 31 in the Mojave Desert. Impacts to these species would be considered significant. To reduce potentially significant impacts to nesting birds, Mitigation Measure MM 4.4-7 requires implementation of preconstruction nesting bird surveys as well as avoidance and minimization measures if active nests are found. Mitigation Measure MM 4.9-3 also requires applying non-toxic herbicide if burrows, dens, or nests are found. Impacts to nesting or foraging birds would be less than significant during construction with the implementation of these mitigation measures.

Operations and Maintenance

Direct impacts to special-status species are unlikely to result from project operation and maintenance activities because project implementation would remove habitat for special-status species on the project site, although wildlife movement through or around the project site (i.e., wildlife fencing) would still allow limited movement. Additionally, Mitigation Measure MM 4.4-2 and MM 4.4-3 require methods designed to reduce wildlife mortality and impacts, promote long-term project site suitability, and educate onsite personnel. However, maintenance activities within the project site could impact the special-status species if avoidance measures are not implemented. Project operation could result in indirect impacts to wildlife in proximity of the project if nighttime lighting is used. However, the potential indirect impact from nighttime lighting during operation and maintenance would be minimized through compliance with all development standards, the Kern County Zoning Ordinance, and the goals, policies, and implementation measures of the Kern County General Plan. The proposed project would be required to implement Mitigation Measure 4.1-4 which requires compliance with the Kern County's Dark Skies Ordinance to minimize nighttime lighting in unincorporated areas of Kern County.

Swainson's Hawk, Golden Eagles, and Other Raptors. Potential direct impacts to raptor species from the operations and maintenance phase of the project may occur through the collisions into and/or electrocution from power lines anticipated to be installed throughout the project site but particularly along the proposed gen-tie interconnection routes. Raptor prey sources such as rodents and small birds are still likely to inhabit the area around solar panels on the project site. Raptors may be able to use the solar panels, perimeter fencing, and utility structures surrounding the facilities as perch sites for hunting. Swainson's

hawk are known to nest within the project site and show nest site fidelity indicating the use of the same nest year after year. Operation and maintenance activities could disturb nesting Swainson's hawk given the known nest location. While collision/electrocution impacts to the aforementioned raptors are potentially significant, impacts would be reduce through the implementation of Mitigation Measure MM 4.4-8 through MM 4.4-9. Specifically, the Swainson's Hawk Monitoring and Mitigation Plan would be implemented to ensure operation and maintenance activities do not disturb nesting Swainson's hawk. Mitigation Measure MM 4.4-9 requires power lines to be installed per APLIC standards, reducing the likelihood of collision and/or electrocution from power lines. Direct and indirect impacts to Swainson's hawk and other raptors would be less than significant with the implementation of the above mitigation measures.

Migratory Birds. Direct and indirect impacts to avian species may occur during project operation and maintenance through individual collisions with project facilities and equipment including transmission wires, fencing, array structures, and heavy equipment. Such risks are commonplace with most human development activities. Factors that may determine the risk of avian collisions with man-made structures include the size, height, and specific attributes of the structures (guy wires and lighting/light attraction). Other factors include the siting in high-risk areas, frequency of inclement weather, type of development, and the species at potential risk. Such collisions can result in injury or mortality of avian species from electrocution, including in the case of power lines. Collisions with project facilities and equipment would be considered a potentially significant impact under CEQA.

Potential indirect impacts to migratory bird species from the operations and maintenance phase of the project may occur through "lake effect" from utility-scale solar panel arrays. The lake effect refers to the perception of solar panels as water by birds. Solar panels are both reflective and have a strong polarization signature, which are elements thought to mimic water or related suitable habitat. As a result, some have theorized that solar panels can attract bird species that mistake the panels for bodies of water, potentially leading to increased collisions, stranding within site fencing once they land, or other forms of distress. The lake effect is at present a hypothesis that remains unsupported by empirical research. The cause of avian injuries and fatalities at commercial-scale solar projects are being evaluated by the USFWS, CDFW, and others. No formal studies have been conducted at commercial-scale solar projects that establish a clear causal link between such projects and the types of avian mortality and injury documented on existing solar project sites.

To reduce potentially significant direct and indirect impacts to migratory birds, Mitigation Measure MM 4.1-4 and MM 4.1-5 would be implemented to ensure solar panels and hardware are designed to minimize glare and spectral highlighting 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 of the proposed project, the project site would be disturbed, devoid of native habitat, and have some areas of compacted soil from years of vehicle traffic. The post-project condition of the project site as a result of project construction and operations and maintenance would be different than pre-project conditions. If special-status species have recolonized the project site during operations and maintenance, 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 and maintenance, 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, American badger, bats, and nesting birds. Burrowing owls are known to use burrows under concrete slabs and an active nesting burrow was observed in a solar project adjacent to the project site.

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 4.4-4 require biological monitoring, worker education training, measures for avoidance and protection of biological resources, and preconstruction clearance surveys. Implementation of these mitigation measures during the decommissioning period would reduce potentially significant impacts to special-status wildlife and plant species to less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.1-4 through MM 4.1-5 MM 4.9-3 and MM 4.10-1

- **MM 4.4-1: Biological Monitoring.** Prior to the issuance of grading or building permits and prior to decommissioning, the project operator shall retain a Lead Biologist who meets the qualifications of an Authorized Biologist as defined by U.S. Fish and Wildlife Service to oversee compliance with protection measures for all listed and other special-status species. The Lead Biologist shall be on the project site during construction of perimeter fencing and grading activities throughout the construction phase, and as-needed during decommissioning. The Lead Biologist shall have the right to halt all activities that are in violation of the special-status species protection measures. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk. The Lead Biologist shall have in her/his possession a copy of all the compliance measures and appropriate Plans while work is being conducted on the project site.
- MM 4.4-2: Construction Worker Environmental Awareness Training and Education Program. Prior to the issuance of grading or building permits and for the duration of construction and decommissioning activities, within one week of employment all new construction workers at the project site, laydown area and/or transmission routes shall attend an Environmental Awareness Training and Education Program, developed and presented by the Lead Biologist. Any employee responsible for the operations and maintenance or decommissioning of the project facilities shall also attend the Environmental Awareness Training and Education Program.

The program shall include information on the life history of the alkali mariposa lily, burrowing owl, Swainson's hawk and other raptors, nesting birds, American badger, desert kit fox, as well as other wildlife and plant species that may be encountered during construction activities. The program shall also discuss the legal protection status of each species, the definition of "take" under the federal Endangered Species Act and California Endangered Species Act, measures the project operator is implementing to protect the species, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species, and penalties for violation of the federal Endangered Species Act or California Endangered Species Act.

- a. An acknowledgement form signed by each worker indicating that Environmental Awareness Training and Education Program has been completed would be kept on record;
- b. A sticker shall be placed on hard hats indicating that the worker has completed the Environmental Awareness Training and Education Program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker;
- c. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the Environmental Awareness Training and Education Program and copies of the signed acknowledgement forms shall be submitted to the Kern County Planning and Community Development Department; and
- d. The construction crews and contractor(s) shall be responsible for unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits.
- e. An Operation and Maintenance-phase version of the WEAP will be maintained within the applicant's centralized O&M headquarters for all AV projects, located in the City of Lancaster, for review as may be necessary during the life of the project.
- **MM 4.4-3:** Avoidance and Protection of Biological Resources. During construction, operations and maintenance, and decommissioning the project operator shall implement the following general avoidance and protective measures:
 - a. All proposed impact areas, including solar fields, staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging prior to construction to avoid natural resources where possible. Construction-related activities outside of the impact zone shall be avoided.
 - b. The project operator shall limit the areas of disturbance to the extent feasible. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.
 - c. Spoils shall be stockpiled in disturbed areas that lack native vegetation. Best management practices shall be employed to prevent erosion in accordance with the project's approved stormwater pollution prevention plan (SWPPP). All detected erosion shall be remedied within 2 days of discovery or as described in the SWPPP.
 - d. To prevent inadvertent entrapment of desert kit foxes, American badgers, or other wildlife during construction, all excavated, steep-walled holes or trenches more than 2 feet deep shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or

wooden planks. All holes and trenches, whether covered or not, shall be inspected for trapped wildlife at the start and end of each workday. Before such holes or trenches are filled, they shall be thoroughly inspected by the Lead Biologist or approved biological monitor for trapped wildlife. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape. If a listed species is found trapped, all work shall cease immediately. If the animal is apparently uninjured, then the Lead Biologist shall directly supervise the provision of escape structures and/or trench modification to allow the trapped animal to escape safely. Work shall not resume in the vicinity of the animal, and it shall be allowed to leave the work area and project site on its own. If the listed animal is injured, then the Lead Biologist or approved biological monitor shall immediately contact the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife to identify an individual with the appropriate permit or authorization to handle listed species, who shall bring the animal to a pre-identified wildlife rehabilitation or veterinary facility for care.

- Burrowing owls, mammals, and nesting birds may use construction pipes, culverts, or e. similar structures for refuge or nesting. All towers shall be of the monopole variety and all hollow vertical structures, such as solar mount poles, or fencing poles, shall be capped immediately after installation to prevent bird entrapment. Therefore, all construction pipes, culverts, or similar structures with a diameter of 4 inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until the Lead Biologist has been consulted and the animal has either moved from the structure on its own accord (for listed species) or until the animal has been captured and relocated (for non-listed species) by the Lead Biologist. If the animal is a listed species, then work shall immediately halt in the vicinity, and the animal shall be allowed to move from the structure and the work area of its own accord. The Lead Biologist will direct work stoppages near the animal to allow it to freely move out of the pipe and away from the work area. Listed species shall not be handled or captured by anyone without the appropriate permit or authorization.
- f. No vehicle or equipment parked on the project site shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of wildlife. If present, the animal shall be left to move on its own.
- g. Vehicular traffic to and from the project site shall use existing routes of travel. Cross country vehicle and equipment use outside designated work areas shall be prohibited.
- h. A speed limit of 15 miles per hour shall be enforced within the limits of the proposed project.
- i. A long-term trash abatement program shall be established for construction, operations and maintenance, and decommissioning. Trash and food items shall be contained in closed containers and removed daily to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.
- j. Workers shall be prohibited from bringing pets and firearms to the project area and from feeding wildlife.

- k. Intentional killing or collection of any plant or wildlife species shall be prohibited.
- 1. To enable kit foxes and other wildlife (e.g., American badger) to pass through the project site after construction, the security fence, and any permanent interior fencing shall be a wildlife friendly design that meets the goals of allowing wildlife to move freely through the project site during operation, leaving 4- to 7-inch openings or portals in the fence or the fence shall be raised 7 inches above the ground leaving a gap between the fence mesh and the ground. In the latter case the bottom of the fence fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife that passes under the fence.
- **MM 4.4-4: Preconstruction Clearance Surveys.** During construction and decommissioning, the Lead Biologist or approved biological monitor shall monitor all initial ground-disturbance activities and remain on-call throughout construction/decommissioning in the event a special-status species wanders into the project site.

Preconstruction surveys for special-status species shall be conducted within the project boundaries by the Lead Biologist or approved biological monitor within 14 days of the start of any vegetation clearing or grading activities. Methodology for preconstruction surveys shall be appropriate for each potentially occurring species-status species and shall follow U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife preconstruction survey guidelines where appropriate. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days of the portion of the project site being disturbed. The Lead Biologist may use a variety of approaches (including but not limited to monitoring, track plates, and direct observation) and evidence (including burrow characteristics and presence of sign such as scat and tracks) to determine burrow activity. If any evidence of occupation of the project site special-status species is observed, a buffer shall be established by a qualified biologist that results in sufficient avoidance, as described below.

If desert tortoises are found onsite during subsequent surveys or biological monitoring activities, construction activities shall cease to avoid the potential for take and consultation with U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be initiated to obtain the necessary incidental take permit authorizations or provide evidence such a permit is not required.

Preconstruction surveys shall be conducted by a qualified biologist for the presence of American badger or desert kit fox dens within 14 days prior to commencement of construction activities. The surveys shall be conducted in the project site for American badger and desert kit fox. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days prior to that portion of the project site disturbed. If potential dens are observed and avoidance is feasible, the following buffer distances shall be established prior to construction activities:

- Desert kit fox or American badger potential den: 50 feet.
- Desert kit fox or American badger active den: 100 feet.
- Desert kit fox or American badger natal den: 500 feet.

If avoidance of the potential dens is not possible, the following measures are required to avoid potential adverse effects to the American badger and desert kit fox:

- If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent American badgers or desert kit foxes from re-using them during construction.
- If the qualified biologist determines that potential dens may be active, an onsite passive relocation program shall be implemented. This program shall consist of excluding American badgers or desert kit foxes from occupied burrows by installation of one-way doors at burrow entrances, monitoring of the burrow for 7 days to confirm usage has been discontinued, and excavation and collapse of the burrow to prevent reoccupation. After the qualified biologist determines that American badgers or desert kit foxes have stopped using the dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction.

During fencing and grading activities daily monitoring reports shall be prepared by the monitoring biologists. The Lead Biologist shall prepare a summary monitoring report documenting the effectiveness and practicality of the protection measures that are in place and making recommendations for modifying the measures to enhance species protection, as needed. The report shall also provide information on the overall activities conducted related to biological resources, including the Environmental Awareness Training and Education Program, clearance/pre-activity surveys, monitoring activities, and any observed special-status species, including injuries and fatalities. These monitoring reports shall be submitted to the Kern County Planning and Community Development Department and relevant resource agencies, as applicable, on a monthly basis along with copies of all survey reports.

- **MM 4.4-5: Preconstruction Special-Status Plant Surveys.** Within 14 days prior to the commencement of any ground-disturbing activities, the project operator shall conduct preconstruction surveys for special-status and protected plant species within the project area, including but not limited to western Joshua trees and alkali mariposa lily. After the preconstruction survey determines the exact location of these species, if present, on the project site and the number of individuals or populations present, the project proponent/operator shall submit written documentation to the Kern County Planning and Natural Resources Department confirming implementation of the measures described below.
 - a. The project proponent/operator shall work with a qualified biologist to determine presence of and identify all known locations of western Joshua tree and alkali mariposa lily to establish "avoidance areas". All special-status plants found within the project site shall be avoided by a buffer of 25 feet through micro-siting activities. Sturdy, highly visible, orange plastic construction fencing (or equivalent material verified by the authorized biologist) shall be installed around all locations of detected special-status plants to protect from impacts during the construction phase, until they can be relocated. The fence shall be securely staked and installed in a durable manner that would be reasonably expected to withstand wind and weather events and last at least through the construction period. Fencing shall be removed upon completion of the project construction.
 - b. All alkali mariposa lilies that cannot feasibly be avoided in final project design shall have bulbs collected prior to construction. Additionally, a transplantation plan for alkali mariposa lily will be submitted and approved by the County prior to ground disturbance and bulb collection. The plan will include the following:

- 1. Identify an area of occupied habitat to be preserved and removed;
- 2. Identify areas of onsite or offsite preservation, restoration, or enhancement locations;
- 3. Methods for preservation, restoration, enhancement, and/or translocation;
- 4. Indicate a replacement ratio and success standard of 1:1 for impacted individuals;
- 5. Establish a monitoring program to ensure mitigation success;
- 6 Create an adaptive management and remedial measures in the event that performance standards are not achieved; and
- 7. Ensure financial assurances and a mechanism for conservation of any mitigation lands required in perpetuity.
- c. Temporary ground disturbance associated with the gen-tie lines or collector lines shall be recontoured to natural grade (if the grade was modified during the temporary disturbance activity), and revegetated with an application of a native seed mix prior to or during seasonal rains to promote passive restoration of the area to pre-project conditions. However, if invasive plant species were present, these species would not be restored. An area subjected to temporary ground disturbance means any area that is disturbed but will not be subjected to further disturbance as part of the project. This does not include areas already designated as urban/developed. Prior to seeding temporary ground disturbance areas, the qualified biologist will review the seeding palette to ensure that no seeding of invasive plant species, as identified in the most recent version of the California Invasive Plant Inventory for the region, will occur.
- d. The project operator shall correspond with the County to determine what is needed for project compliance with the Willow Springs Specific Plan.
- **MM 4.4-6: Preconstruction Burrowing Owl Surveys.** A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct preconstruction surveys of the permanent and temporary impact areas to locate active breeding or wintering burrowing owl burrows no fewer than 14 days prior to ground-disturbing activities (i.e., vegetation clearance, grading, tilling). The survey methodology shall be consistent with the methods outlined in the 2012 California Department of Fish and Wildlife (CDFW) Staff Report on Burrowing Owl Mitigation and shall consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls. Surveys may be conducted concurrently with the preconstruction clearance surveys. As each burrow is investigated, surveying biologists shall also look for signs of American badger and desert kit fox. Copies of the survey results shall be submitted to CDFW and the Kern County Planning and Community Development Department.

If burrowing owls are detected onsite, no ground-disturbing activities shall be permitted within a buffer of no fewer than 100 meters (330 feet) from an active burrow during the breeding season (i.e., February 1 to August 31), unless otherwise authorized by CDFW. During the non-breeding (winter) season (i.e., September 1 to January 31), ground-disturbing work can proceed as long as the work occurs no closer than 50 meters (165 feet) from the burrow. Depending on the level of disturbance, a smaller buffer may be established in consultation with CDFW.

If burrow avoidance is infeasible during the non-breeding season or during the breeding season (February 1 through August 31) where resident owls have not yet begun egg laying or incubation, or where the juveniles are foraging independently and capable of independent survival, a qualified biologist shall implement a passive relocation program in accordance with Appendix E1 (i.e., Example Components for Burrowing Owl Artificial Burrow and Exclusion Plans) of the 2012 CDFW Staff Report on Burrowing Owl Mitigation.

If passive relocation is required, a qualified biologist shall prepare a Burrowing Owl Exclusion and Mitigation Plan and a Mitigation Land Management Plan in accordance with the 2012 CDFW Staff Report on Burrowing Owl Mitigation, for review by CDFW prior to passive relocation activities. The Mitigation Land Management Plan shall include a requirement for the permanent conservation of offsite Burrowing Owl Passive Relocation Compensatory Mitigation. At a minimum, the following recommendations shall be implemented:

- a. Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions including decompacting soil and revegetating.
- b. Permanent impacts to nesting, occupied and satellite burrows and/or burrowing owl habitat shall be mitigated such that the habitat acreage, number of burrows and burrowing owl impacted are replaced based on a site-specific analysis and shall include permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals.
- c. Permanently protect mitigation land through a conservation easement, deed restriction, or similar mechanism deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a CDFW-approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits. Land identified to mitigate for passive relocation of burrowing owl may be combined with other offsite mitigation requirements of the proposed project if the compensatory habitat is deemed suitable to support the species.
- **MM 4.4-7: Nesting Birds and Raptors.** If construction is scheduled to commence during the nonnesting season (i.e., September 1 to January 31), no preconstruction surveys or additional measures are required. To avoid impacts to nesting birds in the project area, a qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitat within the project site for construction activities that are initiated during the breeding season (i.e., February 1 to August 31). The raptor survey shall focus on potential nest sites (e.g., cliffs, large trees, windrows) within a 0.5-mile buffer around the project site. Surveys shall be conducted no more than 14 days prior to construction activities. Surveys need not be conducted for the entire project site at one time; they may be phased so that surveys occur shortly before a portion of the project site is disturbed. The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. If active nests are found, a suitable buffer (e.g., 200–300 feet for common raptors; 0.5 mile for Swainson's hawk; 30–

50 feet for passerine species) shall be established around active nests and no construction within the buffer allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). For non-listed species, encroachment into the avoidance buffer may occur at the discretion of a qualified biologist; however, for State-listed species, consultation with CDFW shall occur prior to encroachment into the aforementioned buffers.

- **MM 4.4-8:** Swainson's Hawk Monitoring and Mitigation Plan. The project proponent/operator shall be required to prepare and implement a Swainson's Hawk Monitoring and Mitigation Plan in consultation 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 by CDFW and the County and shall include the following in order to avoid and minimize impacts to Swainson's hawks in and near the project site:
 - a. If a nest site is found, design the project site to allow sufficient foraging and fledgling area to maintain the nest site.
 - b. During the nesting season, ensure no new disturbances, habitat conversions, or other project-related activities that may cause nest abandonment or forced fledgling occur 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.
 - c. Do 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.
 - d. 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 outside of normal business hours. Notify the appropriate personnel via telephone or email, followed by a written incident report. Include the date, time, location, and circumstances of the incident in reports.

- e. Plan will focus on providing habitat management (HM) lands. Lands which are currently in urban use or lands that have no existing or potential value for foraging Swainson's hawks will not require mitigation nor would they be suitable for mitigation. The plans should call for mitigating loss of Swainson's hawk foraging habitat by providing HM lands within the Antelope Valley Swainson's hawk breeding range at a minimum 1:1 ratio for such habitat impacted within a 5-mile radius of active Swainson's hawk nest(s). The Department considers a nest active if it was used one or more times within the last 5 years. Project developers may consider delegating responsibilities for acquisition and management of the HM lands to the Department or a third party, such as a nongovernmental organization dedicated to Mojave Desert habitat conservation. Seek approval of such delegations from the Department and the appropriate lead agency. Approaches for acquisition and management of HM lands include the following:
 - 1. HM Land Selection Criteria. 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. Review and Approval of HM Lands Prior to Acquisition. 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. Land Acquisition Schedule and Financial Assurances. Complete acquisition of proposed HM lands before initiating ground-disturbing project activities. If an irrevocable letter of credit or other form of security is provided, complete land acquisition within 12 months prior to beginning ground-disturbing project activities. Provide financial assurances for dedicating adequate funding for impact avoidance, minimization and compensation measures required for project approval (see 3. d. below).
 - 4. HM Lands Acquisition. Be prepared to provide a preliminary title report, initial hazardous materials survey report, biological analysis, at a minimum to the Department and the appropriate lead agency. 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 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.

MM 4.4-9: APLIC Compliance. 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.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.1-4 through MM 4.1-5, MM 4.4-1 through MM 4.4-9, MM 4.4-12, and MM 4.9-3, impacts are considered less than significant.

Impact 4.4-2: The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

There is no riparian habitat on the project site. Within the gen-tie interconnection route, Joshua tree woodland is present, however, this sensitive natural community will be avoided. Therefore, no impacts to sensitive natural communities or riparian habitat would result from the implementation of the proposed project. Mitigation Measure MM 4.10-1 requires the applicant to devise and submit a site-specific SWPPP to minimize the discharge of wastewater during construction. The SWPPP would include steps for implementation of best management practices (BMPs) aimed at sediment control and erosion control, and could include soil stabilization, silt fencing, straw bale and temporary catch basins. These BMPs would be implemented during construction of the proposed project as a condition of required permits, therefore minimizing soil erosion in jurisdictional waters to the extent feasible.

One aquatic feature, an ephemeral wash, was identified and delineated adjacent to the gen-tie interconnection. This feature is potentially subject to RWQCB and CDFW jurisdiction. USACE has determined that isolated waters within the South Lahontan Hydrologic Region where this feature is located are not considered "waters of the United States" and, therefore, are not be subject to regulation under the federal CWA. Approximately 0.01 acres of CDFW jurisdiction and 0.01 acres of RWQCB jurisdiction could be impacted if the feature is not avoided during construction activities. Construction activities from the proposed project could permanently impact this potentially jurisdictional feature as a result of grading and construction of the gen-tie interconnection. Impacts to jurisdictional areas would be considered significant but mitigatable through implementation of Mitigation Measures MM 4.4-10 and MM 4.4-11.

Mitigation Measures

Implement Mitigation Measure MM 4.10-1

MM 4.4-10: Prior to issuance of any grading or building permit, the project proponent/operator shall submit a final Jurisdictional Delineation report. A copy of this report shall also be provided to the Lahontan Regional Water Quality Control Board (RWQCB), CDFW, and the

County. The report shall include information as shown below as a plan if necessary and shall outline compliance to the following:

- a. Delineation of all jurisdictional features at the project site. Potential jurisdictional features (ephemeral drainages) within the project boundary identified in the jurisdictional delineation report that are not anticipated to be directly impacted by project related activities shall be avoided. This may be shown in plan form.
- b. Any material/spoils generated from project activities shall be located away from jurisdictional areas or special-status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.
- c. Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and generally at least 50 feet from the top of bank.
- d. Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative will be notified.
- **MM 4.4-11:** Prior to ground disturbance activities that would impact aquatic features, the project proponent/operator shall be subject to provisions as identified below:
 - a. 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 streambed alteration agreement. Copies of reports shall be submitted to the County.
 - b. 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.
 - c. Compensatory mitigation for impacts to unvegetated streambeds/washes shall be identified prior to disturbance of the features at a minimum 1:1 ratio, as approved by the RWQCB or CDFW either through onsite or offsite mitigation, or purchasing credits from an approved mitigation bank.
 - d. The project proponent/operator shall comply with the compensatory mitigation required and proof of compliance, along with copies of permits obtained from RWQCB and/or CDFW, which shall be provided to the County.
 - e. 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 offsite, mitigation lands shall be comprised of similar or higher quality and preferably located in Kern County. Offsite land shall be preserved through a deed restriction or conservation easement and the HMMP shall identify an approach for funding assurance for the long-term management of the conserved land. Alternatively, the applicant may purchase credits from an approved mitigation bank.
- 4. Copies of any coordination, permits, etc., with RWQCB and CDFW shall be provided to the County.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.4-10, MM 4.4-11, and MM 4.10-1 impacts would be 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.

Isolated waters within the Lahontan Region, including those on the project site, are not considered "waters of the United States" and therefore are not be subject to regulation under the federal CWA. In addition, no areas were identified on the project site that exhibit characteristics of wetlands as defined by USACE. Therefore, the proposed project would have no impact on federally protected wetlands.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impact would occur.

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.

There are no perennial water features on the project site, and therefore, no potential corridors for aquatic species. In addition, no wildlife nursery sites have been identified on or in the vicinity of the project site.

Project development, fencing, and activities associated with construction and operations have the potential to interfere with local movement of wildlife within and adjacent to the project site; however, the project site is not located within a known wildlife migratory corridor or a wildlife connectivity area connecting large open space areas in the region or locally, as mapped by the California Essential Habitat Connectivity Project. The project site contains areas of relatively undisturbed desert vegetation that are used by species on a smaller scale; however, these habitats are fragmented by roads, fences, rural residences, agricultural fields, and solar energy developments which likely limits the project site as a significant corridor for local wildlife movement. Therefore, implementation of the project would not significantly impact local or regional wildlife by deterring them from illuminated areas around the project site. However, all lighting installed as a part of the proposed project would comply with the Kern County Dark Skies Ordinance and would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties as discussed in Mitigation Measures MM 4.1-4 through 4.1-6. This would reduce the temporary impacts to wildlife movement through the area. Therefore, with implementation of Mitigation Measure MM 4.1-4 through 4.1-6 the proposed project would not adversely impact wildlife movement and impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.1-4 through MM 4.1-6.

Level of Significance after Mitigation

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

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. The project would implement mitigation measures to reduce potential project-related impacts to sensitive biological resources including special-status species and jurisdictional features. One local policy (Willow Springs Specific Plan) falls within the project site. This plan requires avoidance of Joshua trees when possible and to create a Preservation and Transportation Plan. Direct impacts to Joshua tree 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. Significant impacts could occur to Joshua trees on the project site. To reduce potential significant impacts to Joshua trees, Mitigation Measures MM 4.4-1 through MM 4.4-5 and 4.4-12 are proposed to be implemented. With the implementation of these mitigation measures, which include monitoring, worker environmental awareness training, preconstruction clearance survey, general biological resources avoidance measures, preconstruction special-status plant surveys, and creation of a Joshua Tree Preservation Plan impacts would be less than significant with implementation of Mitigation Measure MM 4.4-1 through MM 4.4-5 and 4.4-12, impacts to any local policies or ordinances would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-5 would be required.

- **MM 4.4-12:** Prior to the issuance of a grading permit, the project proponent/operator shall develop a Joshua Tree Preservation Plan. The Plan shall be prepared by a qualified biologist pre-approved by Kern County and shall be approved by the appropriate agencies, including Kern County, prior to implementation. At a minimum, the plan shall include the following:
 - a. The plan shall identify the methods utilized, as applicable, that the project is taking to comply with any CDFW CESA take requirements and compensatory mitigation related to the protection or mitigation of impacted Joshua Trees and documentation of any such CDFW take authorization and mitigation shall be provided to the Kern County Planning and Natural Resources Department.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.4-1 through MM 4.4-5 and MM 4.4-12, impacts would be less than significant.

Impact 4.4-6: The project would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan.

The project site is located within the proposed West Mojave Plan (WMP) Habitat Conservation Plan (HCP) area, however, this HCP is not yet approved. Therefore, the project would not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Mitigation Measures

No mitigation would be required.

Level of Significance after Mitigation

No impact would occur.

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 4.1-4 through MM 4.1-6, MM 4.4-1 through MM 4.4-12, MM 4.9-3 and MM 4.10-1

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 3-9, *Cumulative Projects List*, in Chapter 3, *Project Description*, of this EIR, other projects with similar species effects have been completed within the Antelope Valley. In general, bioregions are defined through physical and environmental features, including watershed boundaries and soil and terrain characteristics. Areas to the north and west of the Tehachapi Mountains, and to the south of the San Gabriel Mountains, are within a

different bioregion and are separated from the project site by the natural geography that these ranges present. SR-14, at the eastern end of the western Antelope Valley, also acts as a barrier to wildlife movement.

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, has the potential to impact transient wildlife species, including burrowing owls, Swainson's hawk, loggerhead shrike, northern harrier, 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, a CDFW Candidate species; however, after implementation of MM 4.4-5 and MM 4.4-12, which includes pre-construction surveys, avoidance, and translocation/salvage measures, 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 foraging and nesting habitat for special-status species. Implementation of Mitigation Measures would reduce impacts to foraging and nesting habitat to less-than-significant levels for the proposed project. However, the proposed project, when combined with other related development projects proposed throughout the County, the cumulative impact foraging and nesting 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 special-status wildlife would be reduced.

The residual effects on migratory birds of the project were determined to be less than significant. This cumulative analysis analyzes the potential for these incremental impacts of the project to combine with related projects to cause or contribute to a significant cumulative effect within the Central Valley portion of the Pacific Flyway for the duration of the project. Identified cumulative projects that involve the installation of 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 mitigation.

Mitigation Measures

Implementation of Mitigation Measures MM 4.1-4 through MM 4.1-6, MM 4.4-1 through MM 4.4-12, MM 4.9-3 and MM 4.10-1.

Level of Significance after Mitigation

Despite implementation of the above mitigation, cumulative impacts would be significant and unavoidable to transient wildlife species, including burrowing owls, Swainson's hawk, loggerhead shrike, northern harrier, other raptors, migratory birds, American badger, and desert kit fox.

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4.5.1 Introduction

This section 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 a records search, cultural resources survey of the project site, and significance evaluation of identified resources.

This section is based on a cultural resources technical report entitled, Final *Cultural Resources Assessment Raceway 2.0 Project* (BCR, 2020), which details the results of a cultural resources records search, field survey, and resource evaluations for the project. This report is provided in Appendix F of this EIR and was conducted in compliance with Section 5024.1 of the California Public Resources Code (PRC) and CEQA to identify archaeological, historic built architectural, and other cultural resources in the project site. Due to the confidential nature of the location of cultural resources, information regarding locations of cultural resources has been removed from the report 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 period 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 (CRHR); (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

Holocene: Of, denoting, or formed in the second and most recent epoch of the Quaternary period, which began 10,000 years ago at the end of the Pleistocene.

Isolate: An isolated artifact or small group of artifacts that appear to reflect a single event or activity (isolates were defined as less than three artifacts within 30 meters of each other). 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 Assembly Bill 52 (AB 52) as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe"

that are either included or determined to be eligible for inclusion in the CRHR or included in a local register of historical resources (PRC 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. The Antelope Valley occurs 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 wedged between the Garlock Fault and the San Andreas Fault, which have uplifted the surrounding mountains relatively rapidly, isolating the Mojave Desert from the Pacific Coast and creating the interior drainage basins of the western Mojave Desert, such as the Antelope Valley. The west end of the Antelope Valley is defined by the Tehachapi and San Gabriel Mountains, forming the v-shaped basin of the western Mojave Desert.

The Antelope Valley floor is mantled in thick deposits of Quaternary alluvial and lacustral (lakebed) sediments that have filled the West Antelope, East Antelope and Kramer structural basins. The alluvial sediments are subdivided into two units: older (Pleistocene) Quaternary sediments, and younger (Holocene) alluvial surface deposits. These alluvial sediments are derived from nearby granitic mountains and have been deposited on the valley floor over the course of thousands of years.

Paleoenvironment

During the late Pleistocene age, fossil evidence suggests that the Antelope Valley was inhabited by numerous large mammalian species including sloths, horses, bears, mammoth, bison, camels, as well as prong-horned antelope. Large carnivorous species included saber-toothed cats, wolves, mountain lions, desert coyotes and foxes, while smaller animals included rodents, rabbits, squirrels and a multitude of birds. Studies of pollen and pack rat middens suggest that desert vegetation began replacing the low-elevation woodlands between 12,000 and 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 (Price et al., 2008).

Prehistoric Setting

The prehistory of the Mojave Desert is generally described in terms of cultural "complexes." A complex is a specific archaeological manifestation of a general mode of life, characterized by technology, artifact types, economic systems, trade, burial practices, and other aspects of culture. Complexes are typically associated with particular chronological periods. The prehistory of the Mojave is generally divided into the following time-periods/complexes: Paleo-Indian, Lake Mojave Complex, Pinto Complex, Gypsum Complex, Rose Springs Complex, and Late Prehistoric.

Paleo-Indian (10,000-8000 B.C.)

The Paleo-Indian period is represented in the Mojave primarily by large, fluted Clovis projectile points. This limited evidence suggests that early human occupants of the Mojave probably lived in small, mobile groups in temporary camps in the vicinity of permanent water sources (Sutton et al., 2007). In the vicinity of the project site, a fragment of a fluted Clovis point was recorded on the southern slopes of the Tehachapi Mountains, and recent excavations at Rosamond Lake in the Antelope Valley to the south have documented a terminal Pleistocene/Early Holocene occupation. In addition, the earliest occupation of CA-KER-2821/H, also known as the Bean Springs complex, an extensive archaeological site near Willow Springs, has been radiocarbon dated to 9020-9430 RCYBP (radiocarbon years before present) (Way, 2009).

Lake Mojave Complex (8000-6000 B.C.)

In terms of material culture, the Lake Mojave Complex is typified by stone tools such as Lake Mojave and Silver Lake projectile points, bifaces, steep-edged unifaces, crescents, and some ground stone implements (Sutton et al., 2007). Lake Mojave groups were organized in relatively small, mobile groups and practiced a forager-like subsistence strategy. Some trade with coastal groups was practiced, as evidenced by the presence of shell beads. Lake Mojave sites have been found primarily around Fort Irwin, Lake Mojave, China Lake, Rosamond Lake, and Twentynine Palms.

The Pinto Complex (6000–3000 B.C.)

Archaeological deposits dating from the Pinto Complex suggest that Pinto settlement patterns consisted of seasonal occupation by small, semi-sedentary groups that were dependent upon a combination of big and small-game hunting and collection strategies, which could include the exploitation of stream or water resources. Typically, sites of this period, which are far more geographically widespread than the Lake Mojave complex sites, are found along lakeshores and streams or springs, some of which are now dry. Material culture representative of this period in California prehistory include roughly formed projectile points, "heavy-keeled" scrapers, choppers, and a greater prevalence of flat millingstones and manos, indicating a more intensive use and processing of plant resources (Warren, 1984; Sutton et al., 2007). At the end of the middle Holocene, around 3000 B.C., environmental conditions became much drier and hotter, and few sites in the Mojave date to the period between 3000 and 2000 B.C., suggesting that the area's population may have decreased during this period of unfavorable climate (Sutton et al., 2007). A number of Pinto sites have been recorded in the Antelope Valley, including at least six at Edwards Air Force Base (Price et al., 2008).

Gypsum Complex (c. 2000 B.C.–A.D. 200)

Many archaeological sites of this period are small and surficial, probably of a temporary nature. It is during this time, however, that more archaeological evidence suggestive of inter-tribal trade appears, particularly between the desert and the coast. A site at Lovejoy Springs (CA-LAN-192), which has a prominent Gypsum component, a group inhumation with at least nine individuals was uncovered, including a child buried with more than 3,000 *Olivella* shell beads from the southern Californian coast (Price et al., 2008). The artifact assemblage associated with this period also includes an increased number of millingstones and manos, and it is believed that it was during this period that the pestle and mortar were introduced. These technological developments may point to the increased consumption of seeds and mesquite. Other artifacts associated
with the Gypsum Period include Humboldt Concave Base, Gypsum Cave, Elko Eared, and Elko Cornernotched projectile points (Warren, 1984).

Rose Springs Complex (c. A.D. 200–1200)

The general cultural pattern for this period is a continuation of that of the preceding Gypsum Period. Rose Springs archaeological sites are more numerous than sites dating to previous periods and contain more well-developed middens, indicating an increase in population and a more permanent settlement pattern (Sutton et al., 2007). In addition, the archaeological record attests to established trade routes between desert and coastal populations by way of shell beads and steatite, as well as an introduction of Anasazi influence from the eastern Great Plains as evidenced by the appearance of turquoise and pottery. Material culture related to this complex includes obsidian artifacts, Rose Spring and Eastgate projectile points, millingstones, manos, mortars and pestles, slate pendants, and incised stones (Warren, 1984). These projectile points, which are smaller than those in preceding periods, are thought to reflect the adoption of the bow and arrow.

The prevalent use of obsidian is a defining feature of the Rose Springs period. Obsidian from the Coso volcanic field, 70 miles north of Mojave, was imported in near-finished form for use in making lithic tools (Price et al., 2008). The importing of obsidian seems to have dropped sharply at the end of the Rose Springs period, possibly associated with the Medieval Climatic Anomaly, a period of climate change between A.D. 800 to 1350, and the concurrent migration of Numic-speaking populations out of southeastern California and into the Great Basin.

Several periods of drought affected the Mojave in the Rose Springs period, associated with the Medieval Climatic Anomaly, and subsequent Late Prehistoric Period. Drops in the lake levels at Mono Lake attest to dry periods in A.D. 900-1100 and A.D. 1200-1350 (Price et al., 2008).

Several major Rose Springs villages or site complexes exist in the vicinity of the project site. A complex of 15 sites exists near Rosamond Lake, many of which are characterized solely by evidence of lithic reduction. Some of these sites have been dated to the Rose Springs Complex (Gardner, 2009). A number of sites have been identified along the shores of Koehn Lake, including one site that retains evidence of a pit-house (Sutton, 1996).

The Late Prehistoric Period (A.D. 1200–European Contact)

Following periods of drought during the Rose Springs Period, wetter conditions returned between A.D. 1350 and 1600, associated with a climatic event known as the Little Ice Age.

By the Late Prehistoric Period, an extensive network of established trade routes wound their way through the desert, routing goods to populations throughout the Mojave region. Near the project site, trade routes have been postulated as running along the foothills on the southern border of the Antelope Valley and along the Mojave River (Sutton, 1988). The Antelope Valley sat at a convenient geographical location for controlling trade, between the Great Basin and the southern coastal region (Sutton, 1988).

It is also believed that these trade routes encouraged or were the motivating factors for the development of an "increasingly complex socioeconomic and sociopolitical organization" among Protohistoric peoples in southern California. Housepit village sites are prevalent during this period, as are the presence of Desert Side-notched and Cottonwood projectile points, brownware and buffware ceramics, steatite shaft straighteners,

painted millingstones, and, to a lesser degree, coastal shell beads. Beginning around A.D. 1300, however, a decline in trade occurred and well-established village sites were abandoned (Warren, 1984).

Ethnographic Setting

At the time of European contact, numerous groups occupied the area in and surrounding the Antelope Valley. The southeastern portion of the valley, around the Mojave River, was inhabited by the Serrano and Vanyume. The territory of the Tataviam centered on the southwestern extent of the Antelope Valley, the Santa Clara River drainage, and possibly the Sierra Pelonas and the Palmdale area (Sutton, 1988). The Kitanemuk inhabited the southern Tehachapi Mountains and the northern and central portion of the Antelope Valley. To the north, the Kawaiisu occupied the southern Sierra Nevada and the northern Tehachapi Mountains, and may have also inhabited part of the western Mojave Desert (Sutton, 1988). Finally, during the historic period, there is some evidence for the occupation of the Western Mojave by the Chemehuevi.

The Kitanemuk, Serrano, and Tataviam are the three groups that have the most well-documented association with the proposed project vicinity and are described in more detail below.

Kitanemuk

The Kitanemuk occupied a territory that extended from the Tehachapi Mountains into the western end of the Antelope Valley. While most of their recorded villages were located in the Tehachapi Mountains, their settlement pattern is poorly understood. Some scholars posit that the Antelope Valley's desert floor was used only on a seasonal basis, while others point to archaeological evidence of permanent occupation of the desert floor during the Late Prehistoric Period (Sutton, 1988). While the Kitanemuk maintained friendly relations with their other neighbors such as the Chumash, historic evidence indicates that their relationship with the Tataviam was generally hostile (Blackburn and Bean, 1978).

Like other Takic-speaking groups, such as the Serrano, Kitanemuk society had a patrilineal organization. Families grouped together into villages, which were headed by a team of "administrative elite" composed of a chief, messengers, and shamans. Kitanemuk subsistence was similar to their neighbors the Tataviam. Primary vegetable food sources included acorns, juniper berries, seeds, and yucca buds. Small game such as antelope and deer supplemented these foods.

Serrano

The Serrano occupied territories that ranged from low or moderately low desert to the mountain regions of the Transverse and Peninsular ranges. Serrano territory was bordered to the west roughly by the Cajon Pass in the San Bernardino Mountains, to the east by Twenty-Nine Palms and to the south by Yucaipa Valley. Their territory extended north of the San Bernardino Mountains into the desert near Victorville, along the Mojave River. According to Kroeber (1925) Serrano territory may have extended at least 20 miles to the west of Mount San Antonio.

The Serrano were organized into clans, with the clan being the largest autonomous political entity. They lived in small villages where extended families lived in circular, dome-shaped structures made of willow frames covered with tule thatching. Each clan had one or more principal villages in addition to numerous smaller villages associated with the principal village (Price et al., 2008).

Villages located at higher elevations were placed near canyons that received substantial precipitation or were adjacent to streams and springs. Villages situated at lower elevations were also located close to springs or in proximity to the termini of alluvial fans where the high water table provided abundant mesquite and shallow wells could be dug.

The Serrano subsistence strategy relied upon hunting and gathering, and occasionally fishing. Villages divided into smaller, mobile gathering groups during certain seasons to gather seasonally available foods. The division of labor was split between women gathering and men hunting and fishing (Bean and Smith, 1978; Warren, 1984). Mountain sheep, deer, rabbits, acorns, grass seeds, piñon nuts, bulbs, yucca roots, cacti fruit, berries, and mesquite were some of the more common resources utilized (Bean and Smith, 1978; Warren, 1984).

Despite early European and Spanish contact in 1771, the Serrano remained relatively autonomous until the period between 1819 and 1834 when most of the western Serrano were removed and placed into missions (Bean and Smith, 1978; Warren, 1984).

Tataviam

Tataviam territory was concentrated primarily along the upper reaches of the Santa Clara River drainage between the San Fernando Valley to the south at Pastoria Creek in the Tehachapi Mountains to the north. Their territory also included east Piru Creek and the southern slopes of the Sawmill and Liebre Mountains, and extended into the southern end of the Antelope Valley (King and Blackburn, 1978). The northern boundary was likely along upper Piru Creek south of Hungry Valley and Cañada de los Alamos (Johnson and Earle, 1990). Tataviam territory was bounded by the Gabrielino to the south, the Serrano to the east, the Kitanemuk to the northeast, the Emigdiano Chumash to the north, and the Ventureño Chumash to the west.

There are few historical sources regarding the Tataviam. The word "Tataviam" most likely came from a Kitanemuk word that may be roughly translated as "people of the south-facing slope," due to their settlement on south-facing mountain slopes (King and Blackburn, 1978). The Chumash referred to them as "Alliklik" (Kroeber, 1925). The Tataviam spoke a language that was part of the Takic branch of the Uto-Aztecan language family (King and Blackburn, 1978). The language was related to those spoken by the Gabrieliño-Tongva and Kitanemuk.

Tataviam villages varied in size from larger centers with as many as 200 people, to smaller villages with only a few families (King and Blackburn, 1978). The nearest village to the project was *Pu'ning* located approximately 12 miles southwest of the Project (Johnson and Earle, 1990).

At the time of Spanish contact, the Tataviam population is estimated to have been less than 1,000. Primary vegetable food sources included acorns, juniper berries, seeds, and yucca buds. Small game such as antelope and deer supplemented these foods. Trade networks between inland groups such as the Tataviam, the coastal regions, and desert regions enabled the trade of exotic materials such as shell, asphaltum, and steatite.

Historic Context

Early Exploration

Several major trails crossed the Mojave before and at the time of Spanish contact, and continued to be used not only by the native peoples but also by Euro-American explorers. The Yuma-Needles Trail ran from south of Yuma up the western side of the Colorado River to the Needles area. The Mojave Trail ran from Needles west across the desert to the coast, following the path of the Mojave River for a portion of the route. The Cocomaricopa Trail ran west from Arizona through the Salton Sink (Coachella Valley) and then northwest to meet the Mojave Trail near San Bernardino (Greene, 1983).

The first Europeans known to have visited the Mojave were Don Pedro Fages in 1772 and Juan Bautista de Anza and Father Francisco Garcés in 1774 (Greene, 1983). In 1775, Father Garcés separated from de Anza and crossed the Mojave along the ancient Mojave Trail from Needles west to the San Gabriel Mission, travelling past Soda Lake and resting at modern-day Afton Canyon in 1776 (Earle, 2005).

The Spanish missions that dotted the California coast never spread inland to the Mojave, and the desert remained relatively unexplored and unsettled by Europeans for much of the next century. The Romero-Estudillo Expedition of 1823-24 was an attempt by the Spanish to establish a secure route between the California Coast and Tucson; however, despite two attempts, the expedition never managed to make it as far as the Colorado River (Greene, 1983).

The first recorded American visitors to the Mojave were the party of Jedediah Smith, who crossed the Mojave along the Mojave Trail in 1826. Ewing Young and Kit Carson followed his route in the 1820s and 1830s. Kit Carson, who had participated in Jedediah Smith's 1828 expedition, later was the guide for John C. Fremont in 1844. This expedition was one of the first to document the Antelope Valley in detail.

The Homestead Act and Agriculture

In 1862, the Homestead Act was passed, allowing settlement of public lands and requiring only residence, improvement, and cultivation of the land. Although settlement had been encouraged by the Homestead Act of 1862 and the Desert Land Act of 1877, which permitted disposal of 640-acre tracts of arid public lands at \$1.25 per acre to homesteaders if they proved reclamation of the land by irrigation, the Antelope Valley did not see much growth until after the coming of the railroad. In 1876, the Southern Pacific Railroad line (now the Union Pacific Railroad) that ran south from the San Joaquin Valley was connected to the line from Los Angeles, running through the Fremont and Antelope Valleys. Stops along this line were located at Cantil and Cinco, north of the project area, and Mojave, south of the project area. In 1884, this line joined the Atchison, Topeka, & Santa Fe line that ran east through Needles (Boyd, 2000).

In the 1880s, a number of groups established colonies in the Antelope Valley, including the Quakers, German Lutherans, and Utopian Socialists. However, fluctuating water levels and years of severe drought brought a quick end to many of these colonies. By 1930, over 80 settlements had been established in the region, most along railroad lines. The town of Rosamond was established in 1877 along the Southern Pacific line and named for the daughter of a Southern Pacific executive (Gudde, 1960).

Agriculture and ranching were the primary economic focus of homesteaders in the Antelope Valley. During the initial wave of settlement in the 1880 and 1890s, dry-farming methods proved fairly successful. However, this was in large part because these were unusually wet years. A severe drought between 1894

and 1904 brought an end to most agricultural enterprises. After the drought, irrigation was used with some success, particularly for the cultivation of alfalfa, which became the valley's primary crop (COLA Public Library, 2010). However, the lack of reliable water prevented agriculture from becoming a major industry.

In the arid environment of the high desert, water sources were always a factor in the success of agriculture. Farms were generally located near dependable sources of water such as rivers or springs. Some farmers, however, used wells for irrigation or located their farms near dry lake beds, which periodically flooded during the wet season.

Borgman Ranch

The Borgman Ranch was a historic-era agricultural operation located within the Site 4 portion of the proposed solar fields. The 158.18-acre Borgman Ranch raised alfalfa farm and was originally patented to William "Carl" Borgman in 1927 as part of the Homestead Act (BRC, 2020). Borgman constructed a residence, barn and shed immediately after receiving the property and water-leveled and partitioned the entire ranch plant alfalfa (BRC, 2020). Borgman and his wife, Erna, raised two daughters and one son and grew alfalfa on the ranch for about 13 years. In 1939 or 1940 they moved to Los Angeles so that William could pursue a career as a real estate broker (BRC, 2020). At this time Los Angeles residents Irene Krumsiek and her daughter Muriel Krumsiek acquired the property. Although they never lived there, during their ownership three barns were added southeast of the residence constructed by Borgman. The water-leveled fields were reoriented and barriers to adjacent fields were removed, to increase the alfalfa growing acreage to approximately 400 acres. Because the Krumsieks never lived on the property it likely they leased the property to a large-scale alfalfa farming operation. In 1952, the Krumsieks sold the ranch to Ada L. Tucker and the property remained in alfalfa production during Ms. Tucker's ownership (BRC, 2020). Albert and Helen Veldhuizen bought the property in 1964 and constructed a second residence in front of the original Borgman residence (BRC, 2020). The Veldhuizens never lived on the property, and were the last owners to maintain an alfalfa operation there. Charles Murray Howard, founder and President of Murray Howard Realty, acquired the property in the 1980s and when Murray died in 1989 James T. Hsu assumed ownership.

Mining

In the Antelope Valley, mining played a significant role in the development of the area. Kern County was known for its gold production, primarily from its two most prominent mines: the Yellow Aster in Randsburg, and the Golden Queen near Mojave (Shumway et al., 1980). In addition to gold, early mining also concentrated on borax and later potash. In 1866, the Mining Act declared all mineral lands of public domain free and open to exploration and occupancy.

The Los Angeles Aqueduct

As the local water resources of Los Angeles were no longer able to meet the growing city's needs, the Owens Valley was identified as a potential water source for Los Angeles. Led by William Mulholland, the Los Angeles Department of Water and Power (LADWP) proposed the construction of a water system to transport water from the Owens Valley to Los Angeles. The construction of the Los Angeles Aqueduct, a segment of which is located approximately 135 feet north of the project, began in 1908, and was completed in 1913. Five thousand workers were employed during the construction of the 223 miles of 12-foot diameter steel pipe. Gravity carried water along the aqueduct from the Owens Valley, and eventually Bishop and Mono Lake Basin areas, down to the Los Angeles Basin (LADWP, 2009).

Existing Cultural Resources

Methods Used to Identify Known Cultural Resources

To evaluate the project's potential effects on significant cultural resources, a cultural resources study for the project was prepared, which included archival research and cultural resources survey (BRC, 2020). Archival research included records searches at the California Historical Resources Inventory System (CHRIS) South Central Coastal Information Center (SCCIC) and Southern San Joaquin Valley Information Center, a review of historic maps and aerial photographs, review of the Bureau of Land Management's General Land Office (GLO) records, a review of records from the Kern County Assessor-Recorder office, review of materials at the West Antelope Valley Historical Society and the Rosamond Branch Library, as well as a review of online sources including ancestry.com and newspapers.com. The methodology and results of BRC's study are summarized below.

SCCIC and SSJVIC Records Search

Cultural resources record searches for the project site was conducted by BRC staff at the SCCIC housed at California State University, Fullerton, and the SSJVIC housed at the California State University, Bakersfield on October 2, 2017 and October 4, 2017, respectively. The record searches included a review of all previous cultural resources studies, recorded archaeological resources, and built-environment resources within 1 mile of the project site. Additional sources consulted included the National Register of Historic Places (NRHP), the Historic Property Data File, the listing of California Historical Landmarks, the CRHR, the California Inventory of Historic Resources, and the California Points of Historical Interest.

The results of the records searches indicate 55 previous cultural resources studies have been conducted within 1 mile of the project site. Of these 55 previous studies, nine have included portions of the project site.

The records search results also indicate nine cultural resources have been previously recorded within the 1mile records search radius. These nine resources include the following:

- Two historic-period archaeological sites: P-15-006786 (foundation remnants) and P-15-14898 (remnants of farming operations).
- Four built environment resources: P-19-004414 (State Route 138), P-19-004637 (road alignment), P-15-011586 (race track), and P-15-018681 (Owens Gorge 230 kV transmission line).
- Three prehistoric isolates: P-15-008487 (hammerstone), P-15-012786 (core), and P-15-018733 (flake).

Of these nine resources, three cross segments of the proposed gen-tie lines including P-19-004414 (State Route 138), P-19-004637 (road alignment), and P-15-018681 (transmission line).

Cultural Resources Surveys

A pedestrian survey of project site including proposed solar fields and proposed gen-tie routes was conducted on October 9-27, 2017; July 2-5, 2019; September 2, 2019; and October 24, 2019 (BRC, 2020). The pedestrian cultural resources survey was intended to locate and document previously recorded and new cultural resources, including archaeological sites, features, isolates, and historic buildings, that exceed 45

years in age within defined project boundaries. The solar fields were surveyed systematically using transects spaced at 15-meter (approx. 50 feet) intervals. The survey area for the proposed gen-tie routes included the centerline of the gen-tie options plus a 100-foot corridor (50 feet on either side of the line). Identified cultural resources were documented on California Department of Parks and Recreation (DPR) 523 record forms.

Cultural Resources Recorded within the Project Site

As a result of the cultural resources surveys, five cultural resources were documented or updated. These include two previously built environment resources (P-15-004414 [State Route 138] and -018681 [Owens Gorge 230 kV transmission line]), two newly recorded built environment resources (Borgman Ranch and 502 85th Street West), and one newly recorded historic-period archaeological site (SPO1704-H-3 [foundation remnants]). The resources are summarized in **Table 4.5-1**, *Cultural Resources Identified within the Project Site*, and described below. This is followed by a resource descriptions and evaluations of the for listing in the California Register and as unique archaeological resources based on the technical report prepared for the project (BRC, 2020).

P Number (P-15-)	Permanent Trinomial (CA-KER-)	Temporary Identifier	Resource Description	Location within Project	CRHR Eligibility
004414	_	—	Built environment resource: State Route 138.	Crosses proposed gen-tie routes	Determined not eligible
018681	_	_	Built environment resource: Owens Gorge 230 kV transmission line	Crosses proposed gen-tie	Recommended not eligible
_		Borgman Ranch	Built environment resource: single-family residence and ancillary structures	Site 4	Recommended not eligible
_	_	502 85th Street West	Built environment resource: corrugated metal barn	Site 2	Recommended not eligible
—	—	SPO1704-H-3	Historic-era archaeological site: foundation remnants	Site 6	Recommended not eligible

 TABLE 4.5-1:
 SUMMARY OF CULTURAL RESOURCES AND EVALUATIONS

P-15-004414

Resource P-19-004414 is a built environment resource consisting of a segment of State Route 138, a paved, well- maintained east-west oriented road. The segment within the Antelope Valley connects State Route 14 in the eastern portion of Antelope Valley to Interstate 5 in the western portion of the valley and was constructed in the 1930s. Resource P-19-004414 passes under three proposed gen-tie routes and has been determined not eligible for listing in the CRHR (BRC, 2020).

P-15-018681

Resource P-15-018681 is a built environment resource consisting of the northeast-southwest trending Owens Gorge 230 kV transmission line originally constructed between 1950 and 1952. Resource P-15-018681 crosses over proposed gen-tie route and has been previously recommended not eligible for listing in the CRHR due to a lack of integrity (BRC, 2020).

Borgman Ranch

This newly recorded built environment resource consists of a 158.18-acre farm with two single-family residences (Residence #1 and #2), a barn, and wooden utility shed (BRC, 2020). Residence #1 is a one-story wooden clapboard farmhouse set approximately 250 feet west of 80th Street West. It is square in shape and topped by a plank wood roof and tarpaper and was constructed in the late 1920s by William Borgman. A barn is located southwest of Residence #1 and is constructed of wooden planks and clad in stucco with a corrugated tin roof. Southwest of the barn is a small utility shed made entirely of wood. Residence #2 is a single story, L-shaped home set approximately 75 feet west of 80th Street West and was constructed was constructed after 1964. The resource is located within Site 4 of the proposed solar fields.

Based on the results of the archival research and survey conducted for the project (BRC, 2020), this resource does not appear to be associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage (Criterion 1); it is not associated with the lives of persons important in our past (Criterion 2); and it does not embody the distinctive characteristic of a type, period, region, or method of construction, nor does it represent the work of an important creative individual or possess high artistic value (Criterion 3). Moreover, because the resource represents a single dumping episode it is unlikely to yield information important to history or prehistory (Criterion 4). Therefore, the resource is not eligible for listing in the CRHR, nor is it considered a historical resource under CEQA.

502 85th Street West

This newly recorded built environment resource consist of metal storage structure (barn) and a modern ancillary building located at 502 85th Street West. The barn was constructed sometime between 1954 and 1959 and the ancillary building was constructed sometime between 1974 and 1995. A review of assessor's information indicates that the storage structure and ancillary building occupy a 135.91-acre parcel that was used in alfalfa cultivation from before 1948 through 2005 and are likely associated with agricultural operations. The resource is located within Site 2 of the proposed solar fields.

Based on the results of the archival research and survey conducted for the project (BRC, 2020), this resource does not appear to be associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage (Criterion 1); it is not associated with the lives of persons important in our past (Criterion 2); and it does not embody the distinctive characteristic of a type, period, region, or method of construction, nor does it represent the work of an important creative individual or possess high artistic value (Criterion 3). Moreover, because the resource represents a single dumping episode it is unlikely to yield information important to history or prehistory (Criterion 4). Therefore, the resource is not eligible for listing in the CRHR, nor is it considered a historical resource under CEQA.

SPO1704-H-3

This newly recorded resource is a historic-era archaeological site consisting of the remnants of a singlefamily residential complex used to raise livestock. The residential complex originally contained a house and several ancillary structures that were demolished sometime between 2005 and 2009 (BRC, 2020). Presently, the resource consists of three abandoned wells, a concrete foundation, an animal pen, and a set of concrete footings. This resource is located within Site 6 of the proposed solar fields.

Based on the results of the archival research and survey conducted for the project (BRC, 2020), this resource does not appear to be associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage (Criterion 1); it is not associated with the lives of persons important in our past (Criterion 2); and it does not embody the distinctive characteristic of a type, period, region, or method of construction, nor does it represent the work of an important creative individual or possess high artistic value (Criterion 3). Moreover, because the resource represents a single dumping episode it is unlikely to yield information important to history or prehistory (Criterion 4). Therefore, the site is not eligible for listing in the CRHR, nor is it considered a historical or unique archaeological resource under CEQA.

Potential for Unknown Buried Cultural Resources

The Antelope Valley floor is covered in thick deposits of Quaternary alluvial sediments. Dibblee (1963) subdivides the alluvium into two units: the older (Pleistocene) Quaternary sediments, and younger (Holocene) alluvial surface deposits. These alluvial sediments are derived from nearby granitic mountains and have been deposited on the valley floor over the course of thousands of years. The younger Quaternary valley alluvial deposits, composed of weathered soil material and poorly sorted clay, silt, and sand, may be up to several hundred feet thick in valley areas, and thinner on slopes at the valley margins.

In many places, the interface between older land surfaces and newer alluvial depositions is marked by a well-developed buried soil profile, or a paleosol. Paleosols preserve the composition and character of the earth's surface prior to subsequent sediment deposition; thus, paleosols have the potential to preserve archaeological resources if the area had been occupied or settled by humans. Holocene alluvium and Pleistocene-age surfaces buried by Holocene alluvium are the most likely landforms to contain paleosols. However, because human populations have grown since the arrival of the area's first inhabitants, younger paleosols (late Holocene) are more likely to yield archaeological resources than older paleosols (early Holocene or Pleistocene).

Given that these portions of the Antelope Valley within the Project site have been covered with Holocene alluvial deposits, which have been deposited over the course of known human occupation in the region, there is a possibility that alluvium has buried prehistoric archaeological sites that once existed on the surface. However, project specific review of historic aerial photography and topographic maps combined with historical research and field survey results indicate that agricultural activities spanning the historic-period to modern times have significantly disturbed project sediments, including deposits with potential for buried deposits. Specifically, much of the project site has been "water leveled" so that irrigation water could evenly flood large areas at the same depth (BRC, 2020). This leveling was done using horse-pulled or mechanical equipment, and significantly transformed the local topography from sloping alluvial fans to flat agricultural fields. This leveling has disturbed sediments that might otherwise contain potential for archaeological deposits. As such, should subsurface archaeological deposits be present within the project site they have likely been destroyed or otherwise obscured through historic-era "water leveling" (BRC, 2020).

4.5.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

California Register of Historical Resources (CRHR)

Created in 1992 and implemented in 1998, the CRHR is "an authoritative guide in California to be used by State and local agencies, private groups, and citizens to identify the State's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change." Certain properties, including those listed in, or formally determined eligible for listing in, the NRHP and California Historical Landmarks numbered 770 and higher, are automatically included in the CRHR. 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 CRHR. A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria:

- 1. It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- 2. It is associated with the lives of persons important in our past.
- 3. It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.
- 4. It has yielded, or may be likely to yield, information important in history or prehistory.

Furthermore, under PRC 5024.1, Title 14 California Code of Regulations [CCR], Section 4852(c), a cultural resource must retain integrity to be considered eligible for the CRHR. Specifically, it must retain sufficient character or appearance to be recognizable as a historical resource and convey reasons of significance. Integrity is evaluated with regard to retention of such factors as location, design, setting, materials, workmanship, feeling, and association. Cultural sites that have been affected by ground-disturbing activities, such as farming, often lack integrity because they have been directly damaged or moved from their original location, among other changes.

Typically, an archaeological site in California is recommended eligible for listing in the CRHR based on its potential to yield information important in prehistory or history (Criterion 4). Important information includes chronological markers such as projectile point styles or obsidian artifacts that can be subjected to dating methods or undisturbed deposits that retain their stratigraphic integrity. Sites such as these have the ability to address research questions.

California Historical Landmarks

California Historical Landmarks (CHLs) are buildings, structures, sites, or places that have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value and that have been determined to have Statewide historical significance by meeting at least one of the criteria listed below. The resource also must be approved for designation by the County Board of Supervisors (or the city or town council in whose jurisdiction it is located); be recommended by the State Historical Resources Commission; and be officially designated by the Director of California State Parks. The specific standards now in use were first applied in the designation of CHL #770. CHLs #770 and above are automatically listed in the California Register.

To be eligible for designation as a landmark, a resource must meet at least one of the following criteria:

- 1. It is the first, last, only, or most significant of its type in the State or within a large geographic region (Northern, Central, or Southern California);
- 2. It is associated with an individual or group having a profound influence on the history of California; or
- 3. It is a prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder.

California Points of Historical Interest

California Points of Historical Interest (PHI) are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. PHI designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the CRHR. No historical resource may be designated as both a landmark and a point. If a point is later granted status as a landmark, the point designation will be retired. In practice, the point designation program is most often used in localities that do not have a locally enacted cultural heritage or preservation ordinance.

To be eligible for designation as a PHI, a resource must meet at least one of the following criteria:

- 1. It is the first, last, only, or most significant of its type within the local geographic region (city or county);
- 2. It is associated with an individual or group having a profound influence on the history of the local area; or
- 3. It is a prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the State and is codified at PRC Section 21000 et seq. CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or archaeological resources.

Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. The CEQA *Guidelines* (Title 14 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 CRHR; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. 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 Section 21084.1 of CEQA and Section 15064.5 of the CEQA *Guidelines* apply. If a project may cause a substantial adverse change (defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired) in the significance of an historical resource, the lead agency must identify potentially feasible measures to mitigate these effects (CEQA *Guidelines* Sections 15064.5(b)(1), 15064.5(b)(4)).

If an archaeological site does not meet the historical resource criteria contained in the CEQA *Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is a unique archaeological resource. As defined in Section 21083.2 of CEQA a "unique" archaeological resource is an archaeological artifact, object, or site, for which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.2(b)). If preservation in place is not feasible, mitigation measures shall be required.

The CEQA *Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (CEQA *Guidelines* Section 15064.5(c)(4)).

Native American Heritage Commission

PRC Section 5097.91 established the Native American Heritage Commission (NAHC), the duties of which include inventorying places of religious or social significance to Native Americans and identifying known graves and cemeteries of Native Americans on private lands. PRC Section 5097.98 specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

California Public Records Act

Sections 6254(r) and 6254.10 of the California Public Records Act were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies to withhold information from the public related to "Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission." Section 6254.10 specifically exempts from disclosure requests for "records that relate to archaeological site information and reports maintained by, or in the possession of, the 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.

Chapter 1. Land Use, Open Space and Conservation Element

1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation

Policy

Policy 25: The County will promote the preservation of cultural and historic resources that provide ties with the past and constitute a heritage value to residents and visitors.

Implementation Measures

Measure K:	Coordinate with the California State University, Bakersfield's Archaeology Inventory Center.
Measure L:	The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.
Measure 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 site is subject to the provisions of the Willow Springs Specific Plan (WSSP) in 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, maybe 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 such as CA-KER-129, 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

The proposed project's potential impacts to cultural resources have been evaluated using a variety of sources. To evaluate the project's potential effects on significant archaeological and historic built environment resources, BCR conducted a cultural resources study of the project site, which included a records search, archival research, a cultural resources survey, and evaluation of resources for inclusion in the CRHR (BRC, 2020).

Thresholds of Significance

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

A project would have a significant adverse effect on cultural resources if it would:

- a. Cause a substantial adverse change in the significance of a historical resource, as defined in CEQA Guidelines Section 15064.4;
- b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines Section 15064.4;
- c. Disturb any human remains, including those interred outside of dedicated cemeteries.

All of the above impact thresholds are addressed in the "Project Impacts" section below. Impacts to tribal cultural resources have been addressed in Section 4.16, *Tribal Cultural Resources*, of this EIR.

Project Impacts

Impact 4.5-1: The project would cause a substantial adverse change in the significance of a historical resource, as defined in CEQA *Guidelines* Section 15064.5.

Five cultural resources were identified within the project site as a result of the cultural resources study prepared for the project. These resources include 4 built environment resources (P-15- 004414 [State Route 138], P-15-018681 [Owens Gorge 230 kV transmission line], Borgman Ranch, and 502 85th Street West) and one historic-era archaeological site (SPO1704-H-3). None of these five resources have been found eligible for listing in the CRHR and do not qualify as historical resources. Therefore, the project would not result in a substantial adverse in the significance of a known historical resources.

As noted above, much of the project site is covered to an unknown depth by Holocene-age alluvium. Although these Holocene-age were deposited during the course of human occupation of the region, and would have the potential to contain buried archaeological deposits, the "water leveling" that occurred within the project site during the historic era would have likely destroyed or obscured intact archaeological deposits. As such, the project site has a low likelihood of containing intact subsurface archaeological deposits. However, should project-related ground disturbance encounter unknown archaeological deposits qualifying as historical resources, significant impacts to these resources could occur. Mitigation Measures MM 4.5-1 through MM 4.5-3 would require the retention of a Lead Archaeologist, cultural resources sensitivity training for construction workers, and appropriate treatment of unearthed archaeological resources during construction. With implementation of mitigation, impacts to historical resources would be less than significant.

Mitigation Measures

- **MM 4.5-1:** The project proponent/operator shall retain a Lead Archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (U.S. Department of the Interior, 2011), to carry out all mitigation measures related to archaeological and historical resources. The contact information for this Lead Archaeologist shall be provided to the Kern County Planning and Natural Resources Department prior to the commencement of any construction activities on-site. Further, the Lead Archaeologist shall be responsible for ensuring the following employee training provisions are implemented during implementation of the project:
 - a. Prior to commencement of any ground disturbing activities, the Lead Archaeologist shall conduct a Cultural Resources Sensitivity Training for all personnel working on the proposed project. A Cultural Resources Sensitivity Training Guide approved by the Lead Archaeologist shall be provided 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.

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 monitor(s) for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources.

- b. A copy of the Cultural Resources Sensitivity Training Guide/Materials shall be kept on-site and available for all personnel to review and be familiar with as necessary. It is the responsibility of the Lead Archaeologist to ensure all employees receive appropriate training before the work on-site.
- **MM 4.5-2** Prior to this 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) Provide an overview of best management practices to be utilized during construction activities to ensure protection of cultural resources.
 - b) Outline the process for evaluation of any unanticipated cultural discoveries during project construction activities.
- **MM 4.5-3:** During implementation of the project, in the event archaeological materials are encountered during the course of grading or construction, the project contractor shall cease any ground disturbing activities within 50 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 50-foot radius from the location of discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area and all entrance to the area shall be avoided until the discovery is assessed by the Lead Archaeologist, as well as Native American representatives affiliated with the project site vicinity. The Lead Archaeologist in consultation with Native American representatives, shall evaluate the significance of the discovery is necessary, the Environmentally Sensitive Area shall remain in place until all work is completed. Per California Environmental Quality Act Guidelines (CEQA) 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 Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the Lead Archaeologist in consultation with Native American representatives 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. Diagnostic archaeological materials with research potential recovered during any investigation shall be curated at an accredited curation facility. The Lead Archaeologist, in consultation with a designated Native American monitor, shall prepare a report documenting evaluation and/or additional treatment of the resources. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to the southern San Joaquin Valley Information Center at California State University, Bakersfield.

Level of Significance

With implementation of the Mitigation Measures MM 4.5-1 through MM 4.5-3, impacts would be less than significant.

Impact 4.5-2: The project would cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA *Guidelines* Section 15064.5.

As discussed above under Impact 4.5-1, only one archaeological site (SPO1704-H-3) was identified within the project site. This resource does not qualify as a unique archaeological resource and, therefore, the project would not result in a substantial adverse change in the significance of a unique archaeological resource. Also, as discussed above, the likelihood of encountering intact subsurface archaeological deposits within the project site is low given the degree of historic-era disturbances to the project site associated with "water leveling" for the purposes of agricultural operations. However, should project-related ground disturbance encounter unknown archaeological deposits qualifying as unique archaeological resources, significant impacts to these resources could occur. Mitigation Measures MM 4.5 1 through MM 4.5 3 would reduce impacts to unknown unique archaeological resources would be less than significant

Mitigation Measures

Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-3 would be required.

Level of Significance after Mitigation

With implementation of the Mitigation Measures MM 4.5-1 through MM 4.5-3, impacts would be less than significant.

Impact 4.5-3: The project would disturb any human remains, including those interred outside of formal cemeteries.

There is no indication, either from the archival research results or the archaeological survey, that any particular location within the project site has been used for human burial purposes in the recent or distant past. However, in the event that human remains are inadvertently discovered during project construction activities, the human remains could be damaged or disturbed, which would be a significant impact. Implementation of Mitigation Measure MM 4.5-4 would ensure that any human remains encountered during Project implementation are properly treated, thus reducing impacts to a less than significant level.

Mitigation Measures

MM 4.5-4: If human remains are uncovered during project construction, the project contractor shall immediately halt work within 100 ft. of the find, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.4 (e)(1) of the California Environmental Quality Act Guidelines. If the County Coroner determines that the remains are Native American, the coroner shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by Assembly

Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendent for the remains per Public Resources Code 5097.98. Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. If the remains are determined to be neither of forensic value to the Coroner, nor of Native American origin, provisions of the California Health and Safety Code (7100 et. seq.) directing identification of the next-of-kin will apply.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.5-4, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

An analysis of cumulative impacts takes into consideration the entirety of impacts that the projects, zone changes, and general plan amendments discussed in Chapter 3, *Project Description* of this EIR, would have on cultural resources. The geographic area of analysis of cumulative impacts for cultural resources includes the Antelope Valley. The Antelope Valley includes a portion of the southeast corner of Kern County and a portion of northern Los Angeles County. This geographic scope of analysis is appropriate because the prehistoric 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. Multiple projects, including solar energy production facilities, are proposed throughout the 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, no significant historic or prehistoric resources were identified within the project site, and mitigation measures are included in this EIR to reduce potentially significant impacts to unknown archaeological resources that could be encountered during construction of the proposed project. Implementation of Mitigation Measure MM 4.5-1 requires cultural resources sensitivity training for construction workers Mitigation Measure MM 4.5-3 requires appropriate treatment of uncovered archaeological resources, including those that qualify as historical and unique archaeological resources to a less than significant level, and ensure that project impacts to cultural resources are not cumulatively considerable. Although project construction has the potential to disturb human remains, as do other projects in the cumulative study area, the implementation of Mitigation Measure MM 4.5-4 would ensure that appropriate protocols are followed with regard to identifying and handling remains, and ensure that cumulative impacts are not significant.

With implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4 as described above, the project would not result in significant impacts to cultural resources. Given this minimal impact, as well as similar mitigation requirements for other projects in the western Antelope Valley, cumulative impacts to cultural resources would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4, impacts would be less than significant.

4.6.1 Introduction

This energy section of the EIR analyzes the energy implications of the project, focusing on the following three energy resources: electricity, natural gas, and transportation-related energy (petroleum-based fuels). This section includes a summary of the project's anticipated energy needs (detailed energy calculations are based on air quality outputs provided in the project's air quality and greenhouse gas technical memorandum, *Raceway 2.0 Solar Project: Air Quality and Greenhouse Gas Technical Memorandum* (Ecology and Environment, Inc., 2020), located in Appendix C-1 of this EIR and incorporated by reference herein. In addition, the information found herein, as well as other aspects of the project's environmental-related energy impacts, are discussed in greater detail elsewhere in this Draft 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 Appendix F to the CEQA *Guidelines* (AEP 2018). Public Resources Code Section 21100(b) and Section 15126.4 of the CEQA *Guidelines* require that an EIR identify mitigation measures to minimize a project's significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy. Appendix F states that the potential energy implications of a project shall be considered in an EIR, to the extent relevant and applicable to the project. Appendix F further states that a project's energy consumption and proposed conservation measures may be addressed, as relevant and applicable, in the Project Description, Environmental Setting and Impact Analysis portions of technical sections, as well as through mitigation measures and alternatives.

In late 2018, the California Natural Resources Agency finalized updates to the 2018 CEQA *Guidelines* (California Natural Resources Agency, 2018). Appendix G was amended to now include the analysis of energy. Previously included in Appendix F, the Appendix G Checklist now provides energy criteria for the analysis of wasteful energy consumption and conflicts with state or local energy efficiency plans (California Natural Resources Agency, 2018).

4.6.2 Environmental Setting

Electricity

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components for distribution and use. The electricity generated is distributed through a network of transmission and distribution lines, commonly called a power grid.

Energy capacity, or electrical power, is generally measured in watts (W), while energy use is measured in watt-hours (Wh). For example, if a light bulb has a capacity rating of 100 W, the energy required to keep the bulb on for 1 hour would be 100 Wh. If ten 100 W bulbs were on for 1 hour, the energy required would

be 1,000 Wh or 1 kilowatt-hour (kWh). On a utility scale, a generator's capacity is typically rated in megawatts (MW), which is 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 for SCE compared to the statewide power mix for 2019, the most recent year in which data is available.

Energy Resource		2019 SCE	2019 CA Power Mix (for comparison) ^a	
Eligible Renewable		35%	32%	
Biomass & bio-wasteb		1%	2%	
Geothermal		6%	5%	
Eligible hydroelectric	1%		2%	
Solar		16%	12%	
Wind		12%	10%	
Coal		0%	3%	
Large Hydroelectric		8%	15%	
Natural Gas		16%	34%	
Nuclear		8%	9%	
Other		0%	<1%	
Unspecified sources of power ^c		33%	7%	
	Total	100%	100%	

TABLE 4.6-1: ELECTRIC POWER MIX DELIVERED TO RETAIL CUSTOMERS IN 2019

^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. Available at: https://www.sce.com/sites/default/files/inline-files/SCE 2019PowerContentLabel.pdf

Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs and delivered through high-pressure transmission pipelines. Natural gas provides almost one-third of the state's total energy requirements. Natural gas is measured in terms of cubic feet (cf). Southern California Gas Company is the natural gas provider in Kern County; however, there is not a known natural gas service for the project site.

Transportation

According to the California Energy Commission (CEC), transportation accounted for nearly 37 percent of California's total energy consumption in 2014 (CEC 2017). In 2019, California consumed 15.4 billion gallons of gasoline and 3.1 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 2016a). However, the State is now working on developing flexible strategies to reduce petroleum use. Over the last decade, California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and greenhouse gas (GHG) from the transportation sector, and reduce vehicle miles traveled (CEC 2016a). The CEC predicts that the demand for gasoline will continue to decline over the next 10 years, and there will be an increase in the use of alternative fuels (CEC 2016b). According to CARB's EMFAC2017 Web Database, Kern County on-road transportation sources consumed approximately 445 million gallons of gasoline and 311 million gallons of diesel fuel in 2019 (CARB 2019).

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 (NHTSA 2019). The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.

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).

Energy Independence and Security Act of 2007

Signed into law in December 2007, the Energy Independence and Security Act was passed to increase the production of clean renewable fuels; increase the efficiency of products, buildings, and vehicles; improve the energy performance of the federal government; and increase U.S. energy security, develop renewable fuel production, and improve vehicle fuel economy. The act included the first increase in fuel economy standards for passenger cars since 1975, and also included a new energy grant program for use by local governments in implemented energy-efficiency initiatives, as well as a variety of green building incentives and programs.

State

Senate Bill 1389

Senate Bill (SB) 1389 (Public Resources Code Sections 25300–25323; SB 1389) requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code Section 25301[a]). The 2016 Integrated Energy Policy Report provides the results of the CEC's assessments of a variety of energy issues facing California including energy efficiency, strategies related to data for improved decisions in the Existing Buildings Energy Efficiency Action Plan, building energy efficiency standards, the impact of drought on California's energy system, achieving 50 percent renewables by 2030, the California Energy Demand Forecast, the Natural Gas Outlook, the Transportation Energy Demand Forecast, Alternative and Renewable Fuel and Vehicle Technology Program benefits updates, update on electricity infrastructure in Southern California, an update on trends in California's sources of crude oil, an update on California's nuclear plants, and other energy issues.

California's Renewables Portfolio Standard

First established in 2002 under SB 1078, California's Renewables Portfolio Standards (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent by 2020 and 50 percent by 2030 (CPUC 2019).

In 2018, SB 100 further increased California's RPS and required retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by the end of 2024, 52 percent by the end of 2027, and 60 percent by the end of 2030; and that the California Air Resources Board (CARB) should plan for 100 percent eligible renewable energy resources and zero-carbon resources by the end of 2045. The California Public Utilities Commission (CPUC) and the CEC jointly implement the RPS program. The CPUC's responsibilities include: (1) determining annual procurement targets and enforcing compliance; (2) reviewing and approving each investor-owned utility's renewable energy procurement plan; (3) reviewing contracts for RPS-eligible energy; and (4) establishing the standard terms and conditions used in contracts for eligible renewable energy. Refer to Section 4.8, *Greenhouse Gas Emissions*, of this EIR for additional details regarding this regulation.

California Assembly Bill 1493 (AB 1493, Pavley)

In response to the transportation sector accounting for more than half of California's CO2 emissions, Assembly Bill (AB) 1493 (commonly referred to as CARB's Pavley regulations), enacted in 2002, requires CARB to set GHG emission standards for new passenger vehicles, light-duty trucks, and other vehicles manufactured in and after 2009 whose primary use is non-commercial personal transportation. Phase I of the legislation established standards for model years 2009–2016 and Phase II established standards for model years 2017–2025 (CARB 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.

Impacts and Mitigation Measures

Methodology

This analysis addresses the project's potential energy usage, including electricity, natural gas, and transportation fuel. Energy consumption during both construction and operation is assessed. Specific analysis methodologies are discussed below. The assessment presented herein is based in part project's air quality and greenhouse gas technical memorandum, *Raceway 2.0 Solar Project: Air Quality and Greenhouse Gas Technical Memorandum* (Ecology and Environment, Inc., 2020), located in Appendix C-1 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). However, electricity is expected to be consumed from water use during construction. The water-related energy use during project construction was calculated using water usage assumptions provided by the project applicant in combination with CalEEMod defaults for electricity intensity factors associated with water conveyance, treatment, and distribution.

Natural gas is not expected to be consumed in large quantity during project construction (i.e., no natural gas-powered equipment or vehicles). Therefore, natural gas associated with construction activities was not calculated.

Regarding transportation-related fuel consumption during construction, the project construction equipment and haul trucks would likely be diesel-fueled, while the construction worker commute vehicles would primarily be gasoline-fueled. Construction activity durations, off-road equipment, horsepower ratings, hours of use, and load factors were used to calculate construction-related fuel use, provided by the project applicant and default assumptions from California Emissions Estimator Model (CalEEMod), version 2016.3.2. 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. The energy use associated with fuel consumption during project construction was calculated by converting GHG emissions (i.e., CO₂ emissions) estimated for the project in the 2018 Report (see Appendix C-1), using the rate of CO₂ emissions emitted per gallon of combusted gasoline (8.78 kilograms/gallon) and diesel (10.21 kilograms/gallon) from the EPA's Greenhouse Gases Equivalencies Calculator.

Operation

Electricity would be used by the project during water conveyance for solar panel washing. As with construction, water-related energy use during project operations was calculated using water usage assumptions provided by the project applicant in combination with CalEEMod defaults for electricity intensity factors associated with water conveyance, treatment, and distribution. There would be no stationary sources (such as an O&M building) onsite.

Natural gas is not expected to be consumed in large quantity during project operation. Therefore, natural gas associated with operations was not calculated.

Energy for off-highway trucks and pressure washers was estimated based on the CalEEMod outputs (see Appendix C-1). Trips from operation and maintenance personnel was not included in the *Raceway 2.0 Solar Project: Air Quality and Greenhouse Gas Technical Memorandum* as it was assumed to be minimal.

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 a less than 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 use during construction of the project. As shown in **Table 4.6-2**, *Project Construction Energy Usage*, construction activities are expected to consume approximately 107,479 gallons of gasoline, 275,117 gallons of diesel and 908,215 kWh of electricity. This is 0.02 percent of Kern County's annual gasoline fuel use in 2019, 0.09 percent of Kern County's annual diesel fuel use in 2019, and 0.001 percent of the total electricity consumption in the SCE service area in 2019, respectively.

As noted above, construction of the project would not result in any natural gas consumption on the site. Therefore, the project would not result in wasteful, inefficient, or unnecessary consumption of natural gas, and impacts would be less than significant. Energy consumption associated with decommissioning activities are anticipated to be similar to, and often less intensive, than construction activities. The consumption of fuels during construction and decommissioning would be irreversible, but temporary in nature. Therefore, it can be extrapolated that decommissioning energy use would be similar to construction energy use as a conservative assumption. As demonstrated in Table 4.6-2, Project Construction Energy Usage, the project's energy consumption during construction would be minimal compared to energy consumption in Kern County and SCE territory. Therefore, the project would not result in the wasteful, inefficient, or unnecessary consumption of transportation fuels and impacts would be reduced to less than significant.

Source	Total Gallons of Gasoline Fuel	Total Gallons of Diesel Fuel	Total Electricity (kWh)
Kern County (2019); SCE (2019)	445,151,657	311,403,744	84,654,000,000
Construction:			
Trucks	_	9,903	
Workers	107,479		
Equipment	—	265,214	_
Water Conveyance	_	_	908,215
Total	107,479	275,117	908,215
% of County/SCE	0.02%	0.09%	0.001%
SOURCES: ESA 2020.			

TABLE 4.6-2: PROJECT CONSTRUCTION ENERGY USAGE

Appendix C-1 of this EIR.

SCE. 2019 Annual Report. Available at:

https://www.annualreports.com/HostedData/AnnualReports/PDF/NYSE EIX 2019.pdf

Operation

Operational energy consumption in the form of electricity would occur as a result of solar panel maintenance. However, electricity use would be offset by the power produced by the solar panels. In addition, the use of transportation fuel would be minimal and are predominately associated with 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 9,538 gallons of diesel and 80,615 kWh of electricity. This is 0.003 percent of Kern County's annual diesel fuel use in 2019, and 0.0001 percent of the total electricity consumption in the SCE service area in 2019.

Source	Total Gallons of Gasoline Fuel	Total Gallons of Diesel Fuel	Total Electricity (kWh)
Kern County (2019); SCE (2019)	445,151,657	311,403,744	84,654,000,000
Equipment (Off-Highway Trucks, Pressure Washers)		9,538	
Water Conveyance for Panel Cleaning			80,615
Total		9,538	80,615
% of County/SCE	0%	0.003%	0.0001%

TABLE 4.6-3: PROJECT OPERATIONAL ENERGY USAGE

SOURCES: ESA 2020.

Appendix C-1 of this EIR.

SCE. 2019 Annual Report. Available at:

https://www.annualreports.com/HostedData/AnnualReports/PDF/NYSE_EIX_2019.pdf

Total annual electricity generation is estimated to be approximately 534,433 MWh (or 18.7 million MWh over the life of the project), which more than offsets the energy consumed annually to operate the project (as shown in Table 4.6-3). This production is anticipated to remain relatively constant throughout operation of the project. This electricity generation would assist State investor-owned utilities in meeting their obligations under State RPS guidelines by providing a renewable energy alternative to the utilities' existing power mix. In addition, operation of the project would not result in any natural gas consumption on the site. Therefore, the project would not result in wasteful, inefficient, or unnecessary consumption of electricity or natural gas, and impacts would be less than significant.

As shown in Table 4.6-3, the project would result in 9,538 gallons of diesel per year, representing a fraction of a percent of the County's annual diesel use. Based on the minimal number of trips, the negligible fuel use, and the cleaning of panels on an as-needed basis, the project would not result in wasteful, inefficient, or unnecessary consumption of transportation fuels. Overall, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.6-2: The project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Construction

Construction equipment would comply with federal, State, and regional requirements where applicable. With respect to truck fleet operators, the USEPA and NHSTA have adopted fuel efficiency standards for medium- and heavy-duty trucks. The Phase 1 heavy-duty truck standards apply to combination tractors,

heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018 and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type. 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 approximately 534,433 MWh of renewable electricity annually.

Furthermore, as the project would have an electric power generating capacity of approximately 291 megawatts MW (alternating current or "AC") of renewable electrical energy and advanced energy battery storage capacity on approximately 1,330 acres of land, 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.

Overall, because the main objectives of the project are to assist California Investor-Owned utilities in meeting their obligations under California's RPS Program and assist California in meeting the GHG emissions reduction goal of 1990 level GHG emissions by 2020, as required by AB 32, and the future reduction goal of 40 percent below 1990 levels by 2030, the project would be compliant with the applicable recommended actions of the CARB Climate Change Scoping Plan, as well as, applicable federal, state and local policies. Specifically, the project would assist the State and regulated utility providers to generate a greater portion of energy from renewable sources consistent with the 2020 and 2030 RPS. Therefore, this impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative impacts occur when the incremental effects of a project are significant when combined with similar impacts from other past, present, or reasonably foreseeable projects in a similar geographic area. As presented in the 2018 Report in Appendix C-1, there are 11 related projects located within the vicinity of the project site (2 of the 11 projects are within a 1-mile radius of the project site). No projects were found that would have concurrent construction in the year 2018. The 2020 update conducted a new search and found no additional projects with anticipated construction in Kern County in the year 2020 within the 6-mile radius of the proposed project. 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 4.3-9**, *Cumulative Operational Emissions*, 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 contribution of energy consumption from the project would be from construction equipment usage, haul truck trips, and employee trips during the construction phase and panel washing activities, off-highway trucks and pressure washers during project operation of the project as well as electricity used for water conveyance. The project's emissions would, therefore, contribute to the increase in emissions in the transportation sector as well as electricity generation sector. Construction emissions would be finite and temporary and would cease at the end of construction activities.

Although the project would result in a contribution to cumulative energy consumption in California, operation of the project could offset emissions from the electricity generation sector estimated at approximately 534,433 MWh 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.

Mitigation Measures

No mitigation measures are required.

Level of Significance after Mitigation

Impacts would be less than significant.

4.7.1 Introduction

This section of the EIR describes the geologic and soil characteristics of the project sites, potential impacts to geology and soils associated with construction and operation of the proposed project, and mitigation measures that would reduce these impacts where applicable. The analysis in this section is largely based on information from the California Environmental Impact Act (CEQA)-level *Soils Technical Memorandum* (Ecology and Environment, 2020) and the *Cultural Resources Assessment Raceway 2.0 Project* (BCR Consulting LLC., 2020). These reports are included in Appendix G and Appendix F of this EIR, respectively.

4.7.2 Environmental Setting

Regional Geologic Conditions

The proposed project is located in the western extent of the Mojave Desert Geomorphic Province, which is characterized by broad expanses of desert with localized mountains and dry lakebeds. The Province is bounded by the Garlock Fault to the north, the Basin and Range Province to the east, the San Bernardino Mountains and the Pinto Fault to the south, and the San Andreas Fault to the west. The major faults within the region are the Garlock and San Andreas Faults, which are located approximately 15 miles northwest and 22.5 miles southwest, respectively, of the proposed project site.

Kern County is located in one of the more seismically active areas of California and may at any time be subject to moderate to severe ground shaking. Ground shaking occurs as a result of movement along a fracture zone that intermittently releases large amounts of energy during earthquakes. The proposed project is located within the Antelope Valley, where most of the faults trend to the northwest parallel to the San Andreas Fault Zone, and are cut off against the Garlock Fault, which trends to the northeast.

Paleontological Setting

Paleontological resources are the mineralized (fossilized) remains of prehistoric plants and animals and the mineralized impressions (trace fossils) left as indirect evidence of the forma and activity of such organisms. These resources are located within sedimentary rocks or alluvium and are considered to be nonrenewable.

Formations that contain vertebrate fossils are considered more sensitive because vertebrate fossils tend to be rare and fragmentary. Formations containing microfossils, plant casts, and invertebrate fossils are more common. A significant fossil deposit is a rock unit or formation that contains significant nonrenewable paleontological resources. This is defined as comprising one or more identifiable vertebrate fossils, large or small, and any associated invertebrate and plant fossils, traces, and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, and stratigraphic information (ichnites and trace fossils generated by vertebrate animals such as trackways or nests and middens), which provide datable material and climatic information. This definition excludes invertebrate or botanical fossils except when present within a given vertebrate assemblage. However, invertebrate and botanical fossils may be significant as environmental indicators associated with vertebrate fossils.

The project is located in the southwestern portion of the Mojave Desert. Sediments within the project boundaries have been derived from several geologic units. Geologic mapping indicates the project site is largely underlain by alluvium ranging in age from modern to late Pleistocene. The alluvium is mostly unconsolidated, yellowish-brown, poorly sorted, overbank deposits. Other deposits include Aeolian sediment from the late Pleistocene to Holocene, mainly concentrated in the southern and central portions of the site, scattered between vast deposits of alluvium. The Aeolian sediment is mostly fine to medium-grained, subangular, arkosic, somewhat silty, and form sand sheets and thin veneers over other deposits with a maximum estimated thickness of two meters. There are deposits of colluvium located on Little Buttes, which partially occupies the southern portion of the project site near the proposed Gen-Tie alignments.

The colluvium includes unconsolidated, poorly sorted deposits of angular gravel and sand (BCR Consulting LLC., 2020). The majority of the project site is made up of geologic deposits that, if undisturbed, have the potential to contain archaeological deposits in relatively shallow depths (BCR Consulting LLC., 2020). However, project-specific review of historic aerial photography and topographic maps combined with historical research and field survey results indicate that agricultural activities spanning the historic-period to modern times have significantly disturbed project sediments, including deposits with the potential for buried deposits (BCR Consulting LLC., 2020). As indicated under "Agricultural Development of the Antelope Valley" (page 7), the project site has been "water-leveled" so that the water could evenly flood large areas at the same depth. This leveling was done using horse-pulled or mechanical equipment, and significantly transformed the local topography. This leveling has disturbed sediments that might otherwise contain potential archaeological deposits beyond depths at which such resources are likely.

Existing Paleontological Resources

The paleontological resources inventory conducted by BCR Consulting LLC. (2020) included a geologic map review, a literature search, and a record search conducted by the Natural History Museum of Los Angeles County (LACM). The geologic map and literature review indicates the project site is largely underlain by Pleistocene-aged alluvium. Late Pleistocene to Holocene-aged Aeolian sediment underlie the southern and central portions of the project site. Colluvium deposits are mapped within Little Buttes, which partially occupy the southern portion of the project site. Detailed descriptions of these three geologic units are provided in the *Paleontological Setting* in Section 4.5.2.

The LACM records search conducted for the project on October 23, 2017 indicates no vertebrate fossil localities have been previously recorded within the project site. However, three fossil localities (LACM 7853, 7884, and 5942-5953) have been recovered from Quarternary alluvial deposits in the project vicinity (BCR Consulting LLC. 2020). Locality LACM 7853, located due east of the southern portion of the project site, produced fossil specicimens of smelt, Osmeridae, western whiptail lizard (*Aspidocelis tigris*), desert iguana (*Dipsosaurus dorsalis*), desert spiny lizard (*Sceloporus magister*), side-blotched lizard (*Uta stansburiana*), desert night lizard (*Xantusia vigilis*), skink (*Plestiodon*), whip snake (*Masticophis*) leafnosed snake (*Phyllorhynchus*), western lyre snake (*Trimorphodon biscutatus*), wood rat (*Neotoma*), field mouse (*Peromyscus*), pocket gopher (*Thomomys bottae*), kangaroo rat (*Dipodomys*), pocket mouse (*Perognathus*), Audubon's cottontail rabbit (*Sylvilagus audubonii*), and antelope ground squirrel (*Ammospermophilus leucurus*). Locality LACM 7884 is located just west of south of locality LACM 7853, on the north side of Lancaster east and south of the proposed project site, and produced a fossil specimen
of camel (*Camelops hesternus*). Further to the southeast of the project site, are localities LACM 5942-5953. These localities were discovered from pipeline excavations in the Quaternary Alluvium and older Quaternary sediments that produced a fauna of small vertebrates including gopher snake (*Pituophis*), kingsnake (*Lampropeltis*), leopard lizard (*Gambelia wislizenii*), cottontail rabbit (*Sylvilagus*), pocket mouse (*Chaetodipus*), kangaroo rat (*Dipodomys*), and pocket gopher (*Thomomys*).

Based on the result of the paleontological resources inventory, each geologic unit within the project site or its vicinity was evaluated according to its potential to produce paleontological resources. Given previous discoveries of fossils in the vicinity of the Project site, the majority of the project site is made up of geologic deposits that, if undisturbed, have the potential to contain subsurface archaeological deposits in relatively shallow depths. However, project specific review of historic aerial photography and topographic maps combined with historical research and field survey results indicate that agricultural activities spanning the historic-period to modern times have significantly disturbed project sediments, including deposits with paleontological potential (BCR Consulting LLC., 2020).

Local Geologic Setting

Soils and Topography

The United States Department of Agriculture (USDA) Soil Conservation Service, National Cooperative Soil Survey classifies soils throughout the country. According to the soils technical memorandum, the USDA soil units identified on the project site include the Adelanto coarse sandy loam, Cajon loamy sand, Dune land, Greenfield sandy loam, Hanford coarse sandy loam, Hesperia loamy fine sand, Hesperia fine sandy loam, Ramona coarse sandy loam, Rock Land, Rosamond loamy fine sand and fine sandy loam, Rosamond loam and Rosamond loam saline-alkali, Rosamond silty clay loam and silty clay loam, saline-alkali, Sunrise sandy loam, and Tray loam, saline-alkali. Most of these soils have a wind erodibility rating of moderately susceptible to susceptible (Ecology and Environment 2020).

Topography across the project site is relatively flat as the site is located on the bajada of the Tehachapi Mountains, which is an overlapping of alluvial fans with southern trending slope. Topography within the proposed solar arrays area gently slopes from 2,300 feet to 2,800 feet above mean sea level. The area generally has low relief without significant topographic features.

Groundwater

The project site is located within the Antelope Valley Groundwater Basin. This groundwater basin includes approximately the area south of the Tehachapi Mountains and north of the San Gabriel Mountains. According to information obtained from the U.S. Geological Survey (USGS), average groundwater depths were recorded at approximately 159 to 247 feet below ground surface (USGS 2017 as cited in Ecology and Environment 2020).

Fault Rupture

Ground surface rupture occurs along an earthquake fault when movement on a fault deep within the earth breaks through to the surface; rupture may cause damage to above ground infrastructure and other features. Fault rupture is most likely to occur along the surface expression of identified traces of active faults. Rupture can occur slowly in the form of fault creep, which is known as a continuous fault split of the earth's crust that is not related to a seismic event. Rupture may also occur suddenly during an earthquake; sudden displacements are more damaging to structures than fault creep because they are accompanied by shaking. The State of California has mapped known active faults that may cause surface fault rupture in inhabited areas of the Alquist-Priolo Earthquake Fault Zoning Act. The project site is not located within or near an Earthquake Fault Zone regulated under the Alquist-Priolo Earthquake Fault Zoning act (DOC, 2021). The nearest active fault to the project site is the Garlock Fault, which is approximately 15 miles to the northwest.

Ground Shaking

The Southern California region is characterized by, and has a history of, fault stress and associated seismic activity including ground shaking, which can result in damage associated with ground lurching, structural damage, and liquefaction. During a seismic event, the project site may be subjected to high levels of ground shaking due to its proximity to active faults in the area. The type and magnitude of seismic hazards affecting the project site is dependent on the distance to causative faults, the intensity, and the magnitude of the seismic event. Earthquakes are classified by their magnitude, which is a measure of the amount of energy released during an event that can suggest how much ground shaking it would generate. **Table 4.7-1**, *Probable Earthquake Magnitudes for Regional Faults*, indicates the distance of the fault zones from the proposed project and the associated probable earthquake magnitude (in Moment Magnitude (Mw), an expression of realized magnitude) that can be produced by nearby seismic events. The San Andreas Fault Zone, which is located approximately 12.81 miles from the project site, could have the most significant effect from a design standpoint, due to its proximity and history. Other nearby active faults include Garlock Fault and the White Wolf 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 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 Zone and it is considered capable of producing a damaging earthquakes recorded along the Garlock Fault Zone and it is considered capable of producing a damaging earthquake. 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 2 weeks earlier. At least one section of the fault has displayed fault creep in recent years. Areas along this fault have been designated by the State as Alquist-Priolo Earthquake Fault Zones, none of which intersect the project site. Also of note is the Ridgecrest earthquakes on July 4th and 5th, 2019, while not associated with the Garlock fault, was centered just north of the Garlock fault.

Earthquake (Fault)	Approximate Distance to Proposed Project (miles)	Probable Earthquake Magnitude (Moment Magnitude M _w)
Garlock Fault Zone	13.91	6.8–7.6
San Andreas Fault Zone	12.81	6.8-8.0
White Wolf Fault	33.90	6.5–7.5
SOURCE: SCEDC 2019a, 2019b	o, and 2019c	

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In addition, there a few inactive faults in proximity to the site that include the Rosamond and Willow Springs faults. The Rosamond fault is classified as a Pre-Quaternary fault, or fault without recognized Quaternary displacement, and therefore inactive. The USGS defines a Quaternary fault as one that has been recognized at the surface and has moved in the past 1,600,000 years, a portion of the Quaternary epoch. The Willow Springs fault is considered a Quaternary fault and also considered inactive.

Liquefaction

Liquefaction generally occurs when an area is underlain by loose, sandy soil with a groundwater table higher than 50 feet below ground surface, or when soils are completely saturated. As noted above, based on measurements of nearby wells, the historical high groundwater is on the order of 159 to 257 feet below the ground surface around the project site. Based on the anticipated depth to groundwater, the potential for liquefaction at the project site is considered unlikely (Ecology and Environment 2020).

Expansive Soils

Expansive soils are characterized by their potential "shrink-swell" behavior. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in certain fine-grained clay sediments from the process of wetting and drying. Clay minerals such as smectite, bentonite, montmorillonite, beidellite, vermiculite, and others are known to expand with changes in moisture content. The higher the percentage of expansive minerals present in near surface soils, the higher the potential for significant expansion. The greatest effects occur when there are significant or repeated moisture content changes. Expansions of 10 percent or more in volume are not uncommon. This change in volume can exert enough force on a building or other structure to cause cracked foundations, floors and basement walls. Damage to the upper floors of the building can also occur when movement in the foundation is significant. Structural damage typically occurs over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils. According to soil survey data, the shrink-swell potential of Adelanto, Cajon, Greenfield, Hanford, Hesperia, Ramona, and Tray soil series is low (Ecology and Environment 2020). The shrink-swell potential of Rosamond and Sunrise soil series is moderate or moderately high (Ecology and Environment 2020). According to the Willow Springs Specific Plan, the lateral and vertical extent of expansive soils of the Rosamond and Sunrise series are not well known (KCDPDS 1992). Soils of the Rosamond and Sunrise series occur in the project area.

Soil Erosion

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 underground water. Excessive soil erosion can eventually lead to damage of building foundations and roadways. In general, areas that are most susceptible to erosion are those that would be exposed during the construction phase when earthwork activities disturb soils and require stockpiling. Typically, the soil erosion potential is reduced once the soil is graded and covered with concrete, structures, asphalt, or slope protection, however changes in drainage patterns can also cause areas to be susceptible to the effects of erosion.

Settlement of Soils

Settlement can occur from immediate settlement (including collapsible soils), consolidation, shrinkage of expansive soil, and liquefaction (discussed above). Immediate settlement occurs when a load from a structure or placement of new fill material is applied, causing distortion in the underlying materials. This settlement occurs quickly and is typically complete after placement of the final load. Consolidation settlement occurs in saturated clay from the volume change caused by squeezing out water from the pore spaces. Consolidation occurs over a period of time and is followed by secondary compression, which is a continued change in void ratio under the continued application of the load.

Soils tend to settle at different rates and by varying amounts depending on the load weight or changes in properties over an area, which is referred to as differential settlement. According to the Soils Technical Memorandum, the likelihood of soil instability including collapsible soils to be present at the site is considered moderate (Ecology and Environment 2020).

4.7.3 Regulatory Setting

Federal

Clean Water Act (Erosion Control)

The federal Clean Water Act (CWA) (33 U.S.C. 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point-source and certain nonpoint-source discharges to surface water. Such discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). Projects that disturb 1 acre or more are required to obtain NPDES coverage under the NPDES General Permit for Stormwater Discharges Associated with Construction Activity (General Permit), Order No. 2009-0009-DWQ. The General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), which includes best management practices (BMPs) to regulate stormwater runoff, including measures to prevent soil erosion. Requirements of the CWA and associated SWPPP are described in further detail in Section 4.10, *Hydrology and Water Quality*.

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act was enacted in 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 postearthquake 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 Highway Act of 1958. More recent federal statutes that address the preservation of paleontological resources include the National Environmental Policy Act, which requires the consideration of important natural aspects of national heritage when assessing the environmental impacts of a project (P.L. 91-190, 31 Stat. 852, 42 U.S.C. 4321–4327). The Federal Land Policy Management Act of 1976 (P.L. 94-579; 90 Stat. 2743, U.S.C. 1701–1782) requires that public lands be managed in a manner that will protect the quality of their scientific values, while Title 40 Code of Federal Regulations Section 1508.2 identifies paleontological resources as a subset of scientific resources. The Paleontological Resources Preservation Act (Title VI, Subtitle D of the Omnibus Land Management Act of 2009) is the primary piece of federal legislation.

Paleontological Resources Preservation Act

The Paleontological Resources Preservation Act offers provisions of paleontological resources identified on federal, Native American, or state lands and guidance for their management and protection, and promotes public awareness and scientific education regarding vertebrate fossils. The law also requires federal agencies to develop plans for inventory, collection, and monitoring of paleontological resources and establishes stronger criminal and civil penalties for the removal of scientifically significant fossils on federal lands.

State

The Alquist-Priolo Earthquake Fault Zoning Act of 1972

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (formerly the Special Studies Zoning Act), regulates the development and construction of buildings intended for human occupancy to avoid hazards associated with surface fault rupture. In accordance with this law, the California Geological Survey 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 Geological Survey is directed to delineate seismic hazard zones. The purpose of the act is to reduce the threat to public health and safety and minimize the loss of life and property by identifying and mitigating seismic hazards, such as those associated with strong ground shaking, liquefaction, landslides, other ground failures, or other hazards caused by earthquakes. Cities, counties, and State agencies are directed to use seismic hazard zone maps developed by the California Geological Survey in their land use planning and permitting processes. In accordance with the Seismic Hazards Mapping Act, site-specific geotechnical investigations must be performed prior to permitting most urban development projects within seismic hazard zones.

California Building Code

The 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 July 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 7-16, 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 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 PGA magnitudes and source characteristics consistent with the design earthquake ground motions.

Chapter 18 also describes analysis of expansive soils and the determination of the depth to groundwater table. Expansive soils are defined in the CBC as follows:

1803.5.3 Expansive Soil. In areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist. Soils meeting all four of the following provisions shall be considered expansive, except that tests to show compliance with Items 1,2 and 3 shall not be required if the test prescribed in Item 4 is conducted:

- 1. Plasticity index (PI) of 15 or greater, determined in accordance with ASTM D 4318.
- 2. More than 10 percent of the soil particles pass a No. 200 sieve (75 micrometers), determined in accordance with ASTM D 422.
- 3. More than 10 percent of the soil particles are less than 5 micrometers in size, determined in accordance with ASTM D 422.
- 4. Expansion index greater than 20, determined in accordance with ASTM D 4829.

Public Resources Code Section 5097.5 and Section 30244

Other state requirements for paleontological resource management are included in Public Resources Code (PRC) Section 5097.5 and Section 30244. These statutes prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, district) lands.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, in cooperation with the CWA, established the SWRCB. The SWRCB and the nine RWQCBs are responsible for protecting California's surface water and groundwater supplies. Section 13000 of the act directs each RWQCB to develop Water Quality Control Plans for all areas in its region, to designate the beneficial uses of California's rivers and groundwater basins; these plans are the basis for each board's regulatory program.

The Basin Plan gives direction on the beneficial uses of state waters in Region 7, describes the water quality that must be maintained to support such uses, and includes programs, projects, and other actions necessary to achieve the standards established in the Basin Plan. The Colorado River RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements to individuals, communities, or businesses whose waste discharges may affect water quality. These requirements are state Waste Discharge Requirements for discharge to land or federally delegated NPDES permits for discharges to surface water. Responsibility for implementing CWA Sections 401–402 and 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 requires that construction sites with 1 acre or greater of soil disturbance, or less than 1 acre but part of a greater common plan of development, apply for coverage for discharges under the General Construction Permit by submitting a Notice of Intent for coverage, developing a stormwater pollution prevention plan (SWPPP), and implementing best management practices to address construction site pollutants.

The SWPPP should contain a site map(s) which shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must list the best management practices (BMP) the discharger will use to protect stormwater runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program, a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP. Enrollment under the General Construction Permit is through the Stormwater Multiple Application and Report Tracking System. Additionally, the SWRCB is responsible for implementing the CWA and issues NPDES permits to cities and counties through the individual regional boards.

Local

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, the Willow Springs Specific Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies pertaining to the avoidance of geologic hazards and/or the protection of unique geologic features, as well as policies for the preservation of paleontological resources. The policies, goals, and implementation measures in the Kern County General Plan and Willow Springs Specific Plan for geology and soils that are applicable to the project are provided below. The Kern County General Plan and Willow Springs Specific Plan contain 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 and Willow Springs Specific Plan are incorporated by reference.

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. General Provisions

1.10.1. Public Services and Facilities

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.

1.10.3 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 proposed 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 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.

Policies

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)

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). As of January 1, 2020, Kern County has adopted the CBC, 2019 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, 2020).

Chapter 17.28. Kern County Grading Code

The purpose of the Kern County Grading Code is to safeguard life, limb, property, and the public welfare by regulating grading on private property. All requirements of the Kern County Grading Code would be applied during implementation of the project. All required grading permit(s) would be obtained prior to commencement of construction activities. Sections of the Grading Code that are particularly relevant to geology and soils are provided below.

Section 17.28.140. Erosion Control

- A. Slopes. The faces of cut-and-fill slopes shall be prepared and maintained to control erosion. This control may consist of effective planting. Protection for the slopes shall be installed as soon as practicable and prior to calling for final approval. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted.
- B. Other Devices. Where necessary, check dams, cribbing, riprap, or other devices or methods shall be employed to control erosion and provide safety.
- C. Temporary Devices. Temporary drainage and erosion control shall be provided as needed at the end of each work day during grading operations, such that existing drainage channels would not be blocked. Dust control shall be applied to all graded areas and materials and shall consist of applying water or another approved dust palliative for the alleviation or prevention of dust nuisance. Deposition of rocks, earth materials or debris onto adjacent property, public roads, or drainage channels shall not be allowed.

Section 17.28.170. Grading Inspection

- A. General. All grading operations for which a permit is required shall be subject to inspection by the building official. Professional inspection of grading operations and testing shall be provided by the civil engineer, soils engineer, and the engineering geologist retained to provide such services in accordance with Subsection 17.28.170(E) for engineered grading and as required by the building official for regular grading.
- B. Civil Engineer. The civil engineer shall provide professional inspection within such engineer's area of technical specialty, which shall consist of observation and review as to the establishment of line, grade, and surface drainage of the development area. If revised plans are required during the course of the work, they shall be prepared by the civil engineer.
- C. Soils Engineer. The soils engineer shall provide professional inspection within such engineer's area of technical specialty, which shall include observation during grading and testing for required compaction. The soils engineer shall provide sufficient observation during the preparation of the natural ground and placement and compaction of the fill to verify that such work is being performed in accordance with the conditions of the approved plan and the appropriate requirements of this chapter. Revised recommendations relating to conditions differing from the approved soils engineering and engineering geology reports shall be submitted to the permittee, the building official and the civil engineer.
- D. Engineering Geologist. The engineering geologist shall provide professional inspection within such engineer's area of technical specialty, which shall include professional inspection of the bedrock excavation to determine if conditions encountered are in conformance with the approved report. Revised recommendations relating to conditions differing from the approved engineering geology report shall be submitted to the soils engineer.
- E. Permittee. The permittee shall be responsible for the work to be performed in accordance with the approved plans and specifications and in conformance with the provisions of this Code, and the permittee shall engage consultants, if required, to provide professional inspections on a timely basis. The permittee shall act as a coordinator between the consultants, the contractor and the building official. In the event of changed conditions, the permittee shall be responsible for informing the building official of such change and shall provide revised plans for approval.
- F. Building Official. The building official may inspect the project at the various stages of the work requiring approval to determine that adequate control is being exercised by the professional consultants.
- G. Notification of Noncompliance. If, in the course of fulfilling their responsibility under this chapter, the civil engineer, the soils engineer, or the engineering geologist finds that the work is not being done in

conformance with this chapter or the approved grading plans, the discrepancies shall be reported immediately in writing to the permittee and to the building official. Recommendations for corrective measures, if necessary, shall also be submitted.

- H. Transfer of Responsibility. If the civil engineer, the soils engineer, or the engineering geologist of record is changed during the course of the work, the work shall be stopped until:
 - 1. The civil engineer, soils engineer, or engineering geologist, has notified the building official in writing that they will no longer be responsible for the work and that a qualified replacement has been found who will assume responsibility.
 - 2. The replacement civil engineer, soils engineer, or engineering geologist notifies the building official in writing that they have agreed to accept responsibility for the work.

Kern County Water Quality Control Plan

Each of the nine RWQCBs adopts a Water Quality Control Plan which recognizes and reflects regional differences in existing water quality, the beneficial uses of the region's groundwater and surface waters, and local water quality conditions and problems. Water quality problems in the regions are listed in these plans, along with the causes, if they are known. Each RWQCB is to set water quality objectives that will ensure the reasonable protection of beneficial uses and the prevention of nuisance, with the understanding that water quality can be changed somewhat without unreasonably affecting beneficial uses.

The Kern County Engineering and Survey Services Department requires the completion of an NPDES applicability form for all construction projects disturbing one or more acre within Kern County. This form requires the applicant to provide background information on construction activities. Applicants must apply for the permit under one of the following four conditions:

- 1. All storm water is retained onsite and no storm water runoff, sediment, or pollutants from onsite construction activity can discharge directly or indirectly offsite or to a river, lake, stream, municipal storm drain, or offsite drainage facilities.
- 2. All storm water runoff is not retained on site, but does not discharge to a Water of the United States (i.e. drains to a terminal drainage facility). Therefore, a SWPPP has been developed and BMPs must be implemented.
- 3. All storm water runoff is not retained on site, and the discharge is to a Water of the United States. Therefore, a Notice of Intent (NOI) must be filed with the State Regional Water Resources Control Board prior to issuance of the building permit. Also, a SWPPP has been developed and BMPs must be implemented.
- 4. Construction activity is between one to five acres and an Erosivity Waiver was granted by the SWRCB. BMPs must be implemented.

Kern County Public Health Services Onsite Wastewater Treatment System Permitting

The Kern County Public Health Services Department is responsible for permitting, inspecting, and approving onsite wastewater treatment systems including septic tank wastewater disposal systems. The

agency provides leach line requirements, seepage pit requirements, percolation testing standards, and other regulations for land development related to wastewater treatment systems.

4.7.4 Impacts and Mitigation Measures

Methodology

Potential significant impacts associated with the project site were identified based on a review of existing literature, and a CEQA-level *Soils Technical Memorandum* prepared by Ecology and Environment, Inc. (2020) (see Appendix G) and available data, including the Kern County General Plan. The CEQA-level technical report presents findings, conclusions, and recommendations concerning development of the project based on an engineering analysis of geotechnical properties of the subsurface conditions and evaluation of the underlying soils.

The loss of any identifiable fossil that could yield information important to prehistory, or that embodies the distinctive characteristics of a type of organism, environment, period of time, or geographic region, would be a significant environmental impact. Direct impacts to paleontological resources primarily concern the potential destruction of nonrenewable paleontological resources and the loss of information associated with these resources. This includes the unauthorized collection of fossil remains. If potentially fossiliferous bedrock or surficial sediments are disturbed, the disturbance could result in the destruction of paleontological resources and subsequent loss of information (significant impact). At the project-specific level, direct impacts can be mitigated to a less than significant level through the implementation of paleontological mitigation.

The CEQA threshold of significance for a significant impact to paleontological resources is reached when a project is determined to "directly or indirectly destroy a significant paleontological resource or unique geologic feature." In general, for projects that are underlain by paleontologically sensitive geologic units, the greater the amount of ground disturbance, the higher the potential for significant impacts to paleontological resources. For projects that are directly underlain by geologic units with no paleontological sensitivity, there is no potential for impacts on paleontological resources unless sensitive geologic units which underlie the non-sensitive unit are also affected.

Thresholds of Significance

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

A project would have a significant adverse effect on geology and soils if it would:

- a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving:
 - 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 direct or indirect risks to life or property.
- e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.
- f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Kern County determined in the Notice of Preparation/Initial Study (NOP/IS) that the following environmental issue areas would result in no impacts or less-than-significant impacts and, therefore, are scoped out of this EIR. Please refer to Appendix A of this EIR for a copy of the NOP/IS and additional information regarding these issue areas:

- a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving:
 - iv. Landslides.

As discussed in the NOP/IS, all construction would be subject to the Kern County Building Code (Chapter 17.08) and conditions for landslides are not present at the site which is characterized by relatively gradual inclines across the site.

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. While the project site is located in the highly seismic Southern California region within the influence of several fault systems, it is not transected by a known active or potentially active fault and is not located within an Alquist-Priolo Earthquake Fault Zone. The nearest active fault to the project site is the Garlock Fault which is approximately 15 miles to the northwest. The other faults located in close proximity to the site are the Rosamond and the Willow Springs; however, these are not active faults and, therefore, are unlikely to rupture. Although ground shaking and fault rupture originating from the Rosamond and the Willow Springs faults is unlikely, it cannot be completely ruled out. However, risks associated with these inactive faults are considered *significantly* lower than with the active faults in the

area. Due to the distance from the nearest active fault to the project site, the potential for surface fault rupture at the project site is considered negligible.

In addition, construction 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 2019 Edition (CCR Title 24), which incorporates substantially the same requirements as the IBC, 2018 Edition, with some modifications and amendments. Adherence to all applicable regulations would ensure that any potential impacts associated with fault rupture adjacent to the project site would be reduced. Based on project compliance with applicable ordinances of the Kern County Building Code, the potential impact of fault rupture would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Impact 4.7-2: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: strong seismic ground shaking.

As stated previously, the project site is in a highly seismic region that could experience one or more substantive seismic events in the future. Depending on the magnitude, distance to the source, and duration of shaking, damage to the PV modules, or other ancillary facilities and injury to workers or visitors could result.

However, prior to the issuance of grading permits, the project proponent would be required to design project infrastructure to withstand substantial ground shaking in accordance with all applicable ordinances of the Kern County Building Code (Chapter 17.08) and the current CBC. The CBC contains seismic safety provisions with the aim of preventing building collapse and structural damage during an earthquake. In addition, as described below, Mitigation Measure MM 4.7-1 requires that a final design level geotechnical study evaluating soil conditions and geologic hazards be performed by a qualified geotechnical engineer on the project site. Mitigation Measure MM 4.7-2 requires that a California geotechnical engineer be hired by the proponent to design the project facilities to withstand probable seismically induced ground shaking. All grading and construction onsite would adhere to the specifications, procedures, and site conditions contained in the final design plans, which would be fully compliant with the seismic recommendations provided by the California-registered professional engineer in accordance with California and Kern County Building Code requirements. The required measures would encompass site preparation, foundation specifications, and protection measures for buried metal. The final structural designs would be subject to approval and follow-up inspection by the Kern County Building Inspection Department. Final design requirements would be provided to the onsite construction supervisor and the Kern County Building Inspector to ensure compliance. A copy of the approved design would be submitted to the Kern County Planning and Natural Resources Department. Further, the facilities would be constructed in accordance with all applicable codes, which require property line and public roadway setbacks that would protect the general public and onsite staff from potential hazards associated with the facilities that could result from an earthquake. Required compliance with the Kern County Building Code, the CBC, and implementation of Mitigation Measures MM 4.7-1 and MM 4.7-2 would ensure that seismic hazards would be minimized; impacts related to ground shaking would be less than significant.

Mitigation Measures

- **MM 4.7.1:** Prior to the issuance of building or grading permits for the project, the project proponent shall conduct a full geotechnical study to evaluate soil conditions and geologic hazards on the project site and submit it to the Kern County Public Works Department for review and approval.
 - a. The geotechnical study must be signed by a California-registered and licensed professional geotechnical engineer or engineering geologist and must include, but not be limited to, the following:
 - 1. Location of fault traces and potential for surface rupture and ground shaking potential;
 - 2. Maximum considered earthquake and associated ground acceleration for design;
 - 3. Potential for seismically induced liquefaction, landslides, differential settlement, and unstable soils;
 - 4. Stability of any existing or proposed cut-and-fill slopes;
 - 5. Collapsible or expansive soils;
 - 6. Foundation material type;
 - 7. Potential for wind erosion, water erosion, sedimentation, and flooding;
 - 8. Location and description of unprotected drainage that could be impacted by the proposed development; and,
 - 9. 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.
 - c. The Kern County Public Works Department shall evaluate any final facility siting design developed prior to the issuance of any building or grading permits to verify that geological constraints have been avoided or mitigated.
- **MM 4.7-2:** Prior to the issuance of grading permits, the project proponent shall retain a California registered and licensed geotechnical engineer to design the project facilities to withstand probable seismically induced ground shaking at the site. All grading and construction onsite shall adhere to the specifications, procedures, and site conditions contained in the final design plans, which shall be fully compliant with the seismic recommendations of the California-registered professional engineer.

- a. The procedures and site conditions shall encompass site preparation, foundation specifications, and protection measures for buried metal.
- b. The final structural design shall be subject to approval and follow-up inspection by the Kern County Building Inspection Department. Final design requirements shall be provided to the onsite construction supervisor and the Kern County Building Inspector to ensure compliance. A copy of the approved design shall be submitted to the Kern County Planning and Natural Resources Department.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.7-1 and MM 4.7-2, impacts would be less than significant.

Impact 4.7-3: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: seismic-related ground failure including liquefaction.

The proximity of existing active faults to the project site presents the potential for seismic ground shaking, which could result in damage to structures and associated improvements if underlain by subsurface materials susceptible to liquefaction. Should liquefiable materials be present at the project site, damage to the photovoltaic (PV) modules and other ancillary facilities could result, and construction workers and employees could be exposed to potential adverse effects.

According to the soils memo, groundwater at the site ranges from approximately 159 to 247 feet below ground surface. In general, saturated unconsolidated sediments would be needed to be present within the upper 50 feet of ground surface to be considered potentially liquefiable. Shallow groundwater is not expected on the proposed project site and the site is not within an earthquake zone of required investigation for liquefaction (Ecology and Environment 2020). In addition, the project operator would be required to evaluate the potential for liquefaction in accordance with all applicable ordinances of the Kern County Building Code (Chapter 17.08) and the CBC in a final design level geotechnical report. The Kern County Engineering, Surveying and Permit Services Department requires the submittal of three sets of plans to the building department for review and approval prior to the issuance of a building permit; County review would ensure compliance with applicable standards. All grading and construction on site would adhere to the specifications, procedures, and site conditions provided by a California-registered professional engineer in accordance with California and Kern County Building Code requirements.

Although potential impacts from liquefaction are unlikely (as discussed above); adherence to the requirements of the Kern County Building Code, and the CBC would ensure that effects from seismic-related ground failure including the potential for liquefaction would be further minimized. The facility would be constructed in accordance with all applicable codes. Therefore, personnel present during the construction and operation phases of the proposed project would not be exposed to a substantial increase in seismic-related ground failure hazards as a result of project implementation. Implementation of these building code requirements and local agency enforcement would reduce impacts to less-than-significant levels.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be 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: substantial soil erosion or the loss of topsoil.

Construction of the project and associated improvements would involve earth-disturbing activities that could expose soils to the effects of wind or water erosion. Although the project site and surrounding study area consists of relatively flat topography and would not involve substantive cut and fill operations, earthmoving and construction activities could loosen soil, and the removal of existing minimal vegetation could contribute to soil loss and erosion. Since the project would not contain all stormwater runoff onsite, a SWPPP would be prepared and implemented per the requirements of the NPDES General Construction Permit Program. The SWPPP would detail that existing vegetation and topography are to be preserved to the maximum extent possible. The SWPPP would also specify various types of BMPs including erosion control BMPs to prevent soil from moving offsite; all temporary erosion control measures required by the Kern County Grading Code (Chapter 17.28.140) would be incorporated into the SWPPP, as required by Mitigation Measure MM 4.7-3. In addition, per Mitigation Measure MM 4.7-4, the project would be required to submit grading plans accompanied by a soils engineering report, engineering geology report, and drainage calculations pursuant to the Kern County Grading Code (Section 17.28.070) to the Kern County Engineering and Survey Services Department in order to obtain required grading permits. Compliance with MM 4.7-4 would ensure that excessive grading does not occur. As a result, project construction would have less-than-significant impacts related to erosion with implementation of Mitigation Measures MM 4.7-3 and MM 4.7-4.

Project operations would include the periodic cleaning of the panels with water. However, this is not expected to result in soil erosion because of the 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 require ground disturbance. As a result, project operation would have a less than significant impact as it relates to soil erosion.

Mitigation Measures

MM 4.7-3: The construction contractor shall incorporate Best Management Practices consistent with the National Pollutant Discharge Elimination System General Construction Permit Program for all construction projects that would not retain all stormwater onsite and the Kern County Grading Code. The project proponent shall prepare an Erosion and Sedimentation Control Plan as well as a Stormwater Pollution Prevention Plan. The Stormwater Pollution Prevention Plan shall be prepared by a Qualified Stormwater Pollution Prevention Plan Developer and submitted for review and approval by the applicable Regional Water Quality Control Board. The Stormwater Pollution Prevention Plan Best Management Practices shall include, but not be limited to, the following:

- a. Scheduling to avoid ground disturbance during rain events to the maximum extent possible
- b. Preservation of existing vegetation and topography to the maximum extent practicable
- c. Stabilized construction entrances and exits
- d. Erosion control (including all pertinent temporary erosion control practices as specified in Chapter 17.28.140 of the Kern County Grading Code), such as mulching, temporary drains and cullies, sandbag barrier, geotextiles and mats, silt fences, brush or rock filters, earth dikes, straw bale barriers, and sediment traps
- e. Sediment control
- f. Waste management
- g. Good housekeeping
- h. Post-construction site stabilization
- i. Prior to initial construction mobilization, preconstruction surveys shall be performed and sediment and erosion controls shall be installed in accordance with the approved Stormwater Pollution Prevention Plan. A copy of the approved Stormwater Pollution Prevention Plan shall be submitted to the Kern County Planning and Natural Resources Department.
- **MM 4.7-4:** The project proponent shall limit grading to the minimum area necessary for construction. Prior to the initiation of construction, the project proponent shall retain a California registered and licensed professional engineer to submit final grading earthwork and foundation plans to the Kern County Public Works for approval.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.7-3 and MM 4.7-4, impacts would be less than significant.

Impact 4.7-5: 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 offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.

As stated above, the proposed project would result in no impact related to landslides. As discussed above, the liquefaction potential on the project site is low, largely based on the groundwater depth in the area which is reportedly greater than 100 feet below ground surface (Ecology and Environment 2020). As a result, combined with the relatively flat topography the low liquefaction potential indicates a low potential for lateral spreading. While the soils memo does not discuss the collapse potential at the site, it does describe the surface soils as loose to very dense sand. Therefore, any substantive areas containing loose sands could potentially be susceptible to collapse. Further pre-construction subsurface exploration to confirm the subsurface conditions was recommended in the soils memo (Ecology and Environment

2020). This site specific exploration would be included as part of the design level geotechnical investigation required by Mitigation Measure MM 4.7-1. The subsurface data would be used to complete the final design of the Project and associated structures in consultation with the County in a manner that meets applicable State and County building, grading and construction codes, ordinances and standards. Therefore, since the project site itself has not been identified by the County as being prone to subsidence and the full geotechnical study required by Mitigation Measure MM 4.7-1 would be prepared for the proposed project to identify and remedy any soil conditions considered to be geologic hazards, including liquefaction, collapse and subsidence. Based on the conclusions of the report, recommended mitigation measures would be implemented to minimize geologic hazard-related impacts. With implementation of Mitigation Measure MM 4.7-1, impacts would be less than significant.

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.

Impact 4.7-6: The project would be located on expansive soils creating substantial direct or indirect risks to life or property.

Expansive soils (i.e., those with high-plasticity clay content) can cause structural failure of foundations such as those associated with project components that involve permanent structures, including collector substations, energy storage system, and solar arrays. According to information reviewed in the soils memorandum, the shrink-swell potential of Adelanto, Cajon, Greenfield, Hanford, Hesperia, Ramona, and Tray series soils is low. The shrink-swell potential of Rosamond and Sunrise series soils is moderate or moderately high (Ecology and Environment 2020). According to the Willow Springs Specific Plan, the lateral and vertical extent of expansive soils of the Rosamond and Sunrise series are not well known (KCDPDS 1992). Soils of the Rosamond and Sunrise series occur in the project area. If the project is not properly engineered to account for soil characteristics, impacts resulting in ground failure from soil expansion or contraction could occur, and impacts would be significant. To reduce the impact associated with expansive soil, which may be encountered at various locations in the project area, Mitigation Measure MM 4.7-1, which includes the preparation of a final design level geotechnical study (as required by the Kern County Code of Building Regulations) would confirm site suitability and provide final design and construction recommendations consistent with the Kern County Building Code (Chapter 17.08) and the most recent version of the CBC. Therefore, based on preliminary information on existing site characteristics, adherence to current building code requirements, and inclusion of (applicable) recommendations contained in the design level geotechnical study, the potential for placement of project elements on expansive soils would be less than significant with implementation of Mitigation Measure MM 4.7-1.

Mitigation Measures

Implement Mitigation Measure MM 4.7-1.

Level of Significance

With implementation of Mitigation Measure MM 4.7-1, impacts would be less than significant.

Impact 4.7-7: The project would 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.

According to the soils technical memorandum, the soils series encountered at the project site are generally deep, well-drained to excessively drained soils that are well suited for supporting the use of septic tanks or alternative wastewater disposal systems, except for a small portion of the site which contains Tray soils and are only moderately well drained (Ecology and Environment 2020). The proposed project does not include the construction of any septic tanks or alternative wastewater disposal systems, thus there would be no impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance

There would be no impact.

Impact 4.7-8: The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Most of the surficial deposits within the project site consist of Younger Quaternary alluvium aging in range from the modern to late Pleistocene. Younger Quaternary alluvium is typically not paleontologically sensitive; however, it may be underlain by older Quaternary alluvium, which has moderate potential to contain paleontological resources. If significant vertebrate fossils are encountered during project implementation, disturbance of such resources would result in a potentially significant impact to paleontological resources. Therefore, although surface grading and very shallow excavation within the younger Quaternary alluvium is unlikely to impact sensitive paleontological resources, excavations deeper than 12 feet could extend into the older Quaternary alluvium and impact significant vertebrate fossil resources. This would result in a potentially significant impact to paleontological resources. However, with implementation of Mitigation Measures MM 4.7-5 through MM 4.7-7, which would require Paleontological Resources Awareness Training for construction workers, use of a qualified paleontological monitor during construction activities, and appropriate treatment of accidentally uncovered paleontological resources would be reduced to less than significant.

Mitigation Measures

- **MM 4.7-5:** The project proponent shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology's Professional Standards (SVP, 2010), to carry out all mitigation measures related to paleontological resources.
 - a. Prior to the start of any ground disturbing activities, the qualified paleontologist shall conduct a Paleontological Resources Awareness Training program for all construction personnel working on the project. A Paleontological Resources Awareness Training Guide approved by the qualified paleontologist shall be provided to all personnel. A copy of the Paleontological Resources Awareness Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form.
 - b. Paleontological Resources Awareness Training may be conducted in conjunction with other awareness training requirements.
 - c. The training shall include an overview of potential paleontological resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified paleontologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of paleontological resources.
 - d. The Paleontological Resources Awareness Training Guides shall be kept onsite and available for all personnel to review and be familiar with as necessary.
- **MM 4.7-6:** A qualified paleontologist or designated monitor shall monitor all ground-disturbing activity (with the exception of vibratory or hydraulic installation of tracking or mounting structures and foundations or supports) that occurs at a depth of 12 feet or deeper below ground surface in areas mapped as younger Quaternary alluvium and for all ground disturbance within the mapped older Quaternary Alluvium.
 - a. The duration and timing of monitoring shall be determined by the qualified paleontologist in consultation with the Kern County Planning and Natural Resources Department, and shall be based on a review of geologic maps and grading plans.
 - 1. During the course of monitoring, if the paleontologist can demonstrate based on observations of subsurface conditions that the level of monitoring should be reduced, the paleontologist, in consultation with the Kern County Planning and Natural Resources Department, may adjust the level of monitoring to circumstances, as warranted.
 - b. Paleontological monitoring shall include inspection of exposed rock units during active excavations within sensitive geologic sediments. The qualified paleontologist shall have authority to temporarily divert excavation operations away from exposed fossils to collect associated data and recover the fossil specimens if deemed necessary.
 - c. Following the completion of construction, the paleontologist shall prepare a report documenting the absence or discovery of fossil resources onsite. If fossils are found, the report shall summarize the results of the inspection program, identify those fossils encountered, recovery and curation efforts, and the methods used in these efforts, as

well as describe the fossils collected and their significance. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to an appropriate repository such as the Natural History Museum of Los Angeles County.

MM 4.7-7: If a paleontological resource is found, the project contractor shall cease ground-disturbing activities within 50 feet of the find. The qualified paleontologist shall evaluate the significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials. Accompanying notes, maps, and photographs shall also be filed at the repository.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.7-5 through MM 4.7-7, impacts would less than significant.

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 Chapter 3, *Project Description*, Table 3-9, *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 project, with implementation of the regulatory requirements discussed above, would result in less-than-significant impacts related to fault rupture. Although the entire region is a seismically active area, geologic and soil conditions vary widely within a short distance, making the cumulative context for potential impacts resulting from exposing people and structures to related risks one that is more localized or even site-specific. Similar to the project, other projects in the area would be required to adhere to the same California and Kern County Building Codes which would reduce the risk to people and property to less-than-significant levels. While future seismic events cannot be predicted, adherence to all federal, State, and local programs, requirements and policies pertaining to building safety and construction would limit the potential for loss injury or death to a less-than-significant level. Cumulative projects would also implement similar mitigation as required under the project which would require conducting a full geotechnical study to evaluate soil conditions and geologic hazards on the project site as well as retaining a California registered and licensed geotechnical engineer to design the project facilities. Therefore, with implementation of Mitigation Measures MM 4.7-1 and MM 4.7-2, the project, combined with past, present, and other foreseeable development in the area, would not result in a cumulatively significant impact by directly or indirectly causing potential substantial adverse effects including fault rupture, strong seismic ground shaking, seismic-related ground failure including liquefaction, and landslides. Cumulative impacts would be less than significant.

Surficial deposits, namely erosion and sediment deposition, can be cumulative in nature, depending on the type and amount of development proposed in a given geographical area. The cumulative setting for soil erosion consists of existing, planned, proposed, and reasonably foreseeable land use conditions in the region. However, construction constraints are primarily based on specific sites within a proposed development and on the soil characteristics and topography of each site. Individual projects are required to comply with applicable codes, standards, and permitting requirements (e.g., preparation of a SWPPP) to mitigate erosion impacts. The proposed project's compliance with these codes, standards and permitting requirements are required by Mitigation Measures MM 4.7-3 and MM 4.7-4. Other cumulative scenario projects would be required to adhere to similar requirements, thereby minimizing cumulative scenario erosion impacts. Specifically, all planned projects in the vicinity of the project are subject to environmental review and would be required to conform to the Kern County General Plan and Building Code and would implement additional mitigation of seismic hazards to ensure soil stability, especially related to seismically induced erosion. With implementation of Mitigation Measures MM 4.7-3 and MM 4.7-4, the project would not contribute to any cumulative impacts related to substantial soil erosion or loss of topsoil. Cumulative impacts would be less than significant.

The potential for liquefaction and other geologic hazards related to liquefaction, including lateral spreading, are considered low as historic groundwater levels in the area of the project site have been recorded at a depth greater than 100 feet bgs. With regard to subsidence, as the project would not obtain water from an underground aquifer, development of the project would not lead to subsidence on the project site or in the area. In addition, cumulative projects would be expected to use water supply canals and water pumping facilities in the project vicinity rather than pumping from underground aquifers. Areas where natural slope is over-steepened by the construction of access roads, structure formations or other excavated areas would have the potential for landslide susceptibility, lateral spreading, and collapse as a result of the project or other cumulative projects. However, as with the project, cumulative projects would likely implement mitigation similar to Mitigation Measure 4.7-1, which would require a design level geotechnical investigation, which would include further pre-construction subsurface exploration to confirm the subsurface conditions. With implementation of Mitigation Measure MM 4.7-1, the project would not contribute to any cumulative impacts related to on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. Cumulative impacts would be less than significant.

With regard to expansive soils, the project would implement Mitigation Measure MM 4.7-1, which requires that a geotechnical study to evaluate soil conditions and geologic hazards be performed by a qualified geotechnical engineer on the project site and would include evaluation for expansive soils and provide recommendations consistent with CBC requirements to reduce potential adverse effects from expansive soils. Cumulative projects would implement similar measures to address any potential for expansive soils. With implementation of Mitigation Measure MM 4.7-1, the project would not contribute to any cumulative impacts related to expansive soils. Cumulative impacts would be less than significant.

As discussed above, the project would use portable bathroom facilities to accommodate onsite workers and no wastewater disposal facilities including septic systems would be necessary. Therefore, impacts related to the onsite soils ability to support a septic system would have no impact. The project would not have any cumulative impacts related to soils stability to support a septic system.

The geographic scope for cumulative effects to paleontological resources includes the southern portion of the San Joaquin Valley that surrounds the area of the project site. 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 Mitigation Measure MM 4.7-5 requires paleontology sensitivity training for construction workers and Mitigation Measure MM 4.7-6 requires appropriate monitoring of construction activities for potential paleontological resources that may be encountered. Although project construction has the potential to disturb paleontological resources, the implementation of Mitigation Measure MM 4.7-7 would ensure the appropriate protocol is followed with regard to identifying and handling remains. Implementation of these mitigation measures would reduce potential impacts to paleontological resources to a less-than-significant level. With implementation of Mitigation Measures MM 4.7-5 through MM 4.7-7, 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 Southern San Joaquin Valley, project's incremental effect is not cumulatively considerable when viewed in connection with the effects of other closely related past projects, the effects of other current projects and the effects of probable future projects and thus cumulative impacts to paleontological resources would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.7-1 through MM 4.7-7.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.7-1 through MM 4.7-7, cumulative impacts would be less than significant.

4.8.1 Introduction

This section of the EIR describes the affected environment and regulatory setting relating to greenhouse gases (GHGs) for the project. This section also describes the impacts associated with GHGs that would result from implementation of the project, and, as necessary, mitigation measures that would reduce these impacts.

Information in this section is based primarily on the project's air quality and greenhouse gas technical memorandum, *Raceway 2.0 Solar Project: Air Quality and Greenhouse Gas Technical Memorandum* (Ecology and Environment, Inc., 2020), located in Appendix C-1 of this EIR and incorporated by reference herein. The impact assessment for the project is also based upon a review of relevant literature and technical reports that include, but are not limited to, information and guidelines by the California Air Resources Board (CARB), U.S. Environmental Protection Agency (USEPA), and the applicable provisions of the California Environmental Quality Act (CEQA).

4.8.2 Environmental Setting

GHGs and climate change are a cumulative global issue. CARB and USEPA regulate GHG emissions within the state of California and the United States, respectively. While CARB has the primary regulatory responsibility within California for GHG emissions, local agencies can also adopt policies for GHG emissions reduction. CARB has divided California into regional air basins. The project site is located in the northwestern portion of the Mojave Desert Air Basin (MDAB) and is under the jurisdiction of the Eastern Kern Air Pollution Control District (EKAPCD).

Greenhouse Gases

GHGs refer to gases that absorb and re-emit infrared radiation in the atmosphere. Many chemical compounds found in Earth's atmosphere act as GHGs, which allow sunlight to enter the atmosphere freely. When sunlight strikes Earth's surface, some of it is reflected back toward space as infrared radiation (heat). GHGs, however, absorb some of this infrared radiation and trap the heat in the atmosphere. Over time, the amount of energy sent from the sun to Earth's surface should be about the same as the amount of energy radiated back into space, leaving the temperature of Earth's surface roughly consistent. However, many gases exhibit the "greenhouse" properties. Some of them occur in nature (water vapor, carbon dioxide, methane, and nitrous oxide) while others are exclusively human-made (e.g., gases used for aerosols). The principal GHGs are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs), are listed below (USEPA, 2017).

• **Carbon dioxide:** CO₂ enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and chemical reactions (e.g., the manufacture of cement). CO₂ is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.

- Methane: CH₄ is emitted during the production and transport of coal, natural gas, and oil. CH₄ emissions also result from livestock and agricultural practices and the decay of organic waste in municipal solid waste landfills.
- Nitrous oxide: N₂O is emitted during agricultural and industrial activities and during combustion of fossil fuels and solid waste.
- **Fluorinated gases:** HFCs, PFCs, and SF₆ are synthetic, powerful climate-change gases emitted from a variety of industrial processes. Fluorinated gases are often used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). These gases are typically emitted in minute quantities, but because they are potent climate-change gases, they are sometimes referred to as high Global Warming Potential (GWP) gases.
- Sulfur hexafluoride: SF₆ is a colorless, odorless, nontoxic, nonflammable gas. SF₆ is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity, including equipment such as electrical circuit breakers, which may be used for the project. The California Climate Action Registry (Registry) lists SF₆ as a potential source of fugitive emissions from electrical transmission and distribution equipment. Fugitive emissions are unintentional leaks of GHGs from equipment such as joints, seals, and gaskets.

Because different GHGs have different GWPs and CO_2 is the most common reference gas for climate change, GHG emissions are often quantified and reported as CO_2 equivalents (CO_2e). Carbon dioxide equivalent (CO_2e) is a metric used to compare the emissions from various GHGs based on their global warming potential. For instance, over a 100-year period, the global warming potential of CH_4 is estimated to be about 25 times greater than CO_2 , so its CO_2e is 25. The CO_2e of N_2O is 298. Large emissions sources are reported in million MT (MMT) of CO_2e (MMTCO₂e).

Greenhouse Gas Emissions Inventories

California produced approximately 425.3 gross MMTCO₂e in 2018, which is below the State's GHG reduction target of 1990 level GHG emissions (i.e., 431 MMTCO₂e) by 2020. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2018, accounting for approximately 40 percent of total GHG emissions in the state. This sector was followed by the industrial sector at approximately 21 percent and the electric power sector (including both in-state and out-of-state sources) at approximately 15 percent (CARB, 2020). CARB has projected that, unregulated, statewide GHG emissions for the year 2020 will be approximately 509 MMTCO₂e (CARB, 2014b). These projections represent the emissions that would be expected to occur in the absence of any GHG reduction actions. California GHG emissions by economic sector from 2009 to 2018 are summarized in **Table 4.8-1**, *California Greenhouse Gas Emissions (MMTCO₂e)*.

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).

Emission Inventory										
Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Transportation	168.0	165.1	161.8	161.4	161.2	162.6	166.2	169.8	171.0	169.5
Electric Power	101.3	90.3	89.2	98.2	91.4	88.9	84.8	68.6	62.1	63.1
Industrial	87.2	91.0	89.3	88.9	91.6	92.4	90.1	88.9	88.7	89.2
Commercial & Residential	44.5	45.9	46.0	43.5	44.2	38.2	38.8	40.6	41.3	41.4
Agriculture	32.9	33.7	34.4	35.5	33.8	34.8	33.4	33.2	32.3	32.6
High Global Warming Potential	12.3	13.5	14.5	15.5	16.8	17.7	18.6	19.3	20.0	20.5
Recycling and Waste	8.5	8.7	8.7	8.7	8.7	8.8	8.8	8.9	9.0	9.1
Total Gross Emissions	454.6	448.2	443.9	451.6	447.6	443.4	440.8	429.2	424.5	425.3
SOURCE: California Air Resources Board (2020). California Greenhouse Gas Emission Inventory - 2020 Edition.										

 TABLE 4.8-1:
 CALIFORNIA GREENHOUSE GAS EMISSIONS (MMTCO2E)

SOURCE: California Air Resources Board (2020). California Greenhouse Gas Emission Inventory - 2020 Edition Data available at: https://ww3.arb.ca.gov/cc/inventory/data/data.htm

According to CARB, the potential impacts in California due to global climate change may include: loss in snow pack; sea level rise; more extreme heat days per year; more high ozone days; larger forest fires; more drought years; increased erosion of California's coastlines and seawater intrusion into the Sacramento and San Joaquin Deltas and associated levee systems; and increased pest infestation (CalEPA, 2006). Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. As evident from the Mauna Loa CO2 monitor in Hawaii, the CO2 record shows an approximately 70 percent increase in atmospheric CO2 concentrations since pre-industrial times.

The Intergovernmental Panel on Climate Change has predicted that the average global temperature rise between 1990 and 2100 could be as great as 5.8 degrees Celsius (10.4°F), which could have massive deleterious impacts on the natural and human environments (California Climate Change Center 2006). Globally, the average annual temperature has risen since 1900 by about 1.5°F and is expected to rise another 2 to 10°F by 2100. The average annual temperature in the United States has risen by a comparable amount over the same time period but is expected to rise more than the global average over this century

Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, ocean acidification (including coral bleaching), impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood, the potential for substantial environmental, social, and economic consequences over the long-term may be great.

4.8.3 Regulatory Setting

Federal

The principal air quality regulatory mechanism at the federal level is the federal Clean Air Act (CAA) and in particular, the 1990 amendments to the CAA and the National Ambient Air Quality Standards (NAAQS) that it establishes. The federal CAA does not specifically regulate GHG emissions; however, the U.S. Supreme Court has determined that GHGs are pollutants that can be regulated under the CAA. There are currently no federal regulations that set ambient air quality standards for GHGs. USEPA regulations applicable to the project are described below.

Federal Clean Air Act

USEPA is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO₂ gases, agricultural practices, and implementation of technologies to achieve GHG reductions. USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR[®] labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

The EPA gained authority to regulate GHG emissions through the Clean Air Act (CAA) in the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). In 1999, 12 states petitioned the EPA to regulate GHGs from new motor vehicles, and the Supreme Court ruled that GHGs meet the definition of air pollutants under the CAA. Since GHGs pose a threat to public health and welfare, six GHGs are now regulated under the CAA (Center for Climate and Energy Solutions, 2017).

In 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the federal CAA. USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO_2 , CH_4 , N_2O , HFCs, PFCs, and SF₆). The Endangerment Finding was required before USEPA could regulate GHG emissions under Section 202(a)(1) of the CAA. USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found that GHG emissions from new motor vehicle and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. These findings do not themselves impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

The sections of the CAA that are most applicable to the proposed project include Title I (Air Pollution Prevention and Control), Title II (Emission Standards for Mobile Sources), and Title V (Permits).

Title I of the CAA requires establishment of NAAQS, air quality designations, and attainment plan requirements for nonattainment areas. Each state is required to submit a state implementation plan to the EPA for areas in nonattainment for NAAQS. The state implementation plan, which is reviewed and approved by the EPA, must demonstrate how state and local regulatory agencies will institute rules, regulations, and/or other programs to achieve attainment of NAAQS.

Title II of the CAA contains a number of provisions regarding mobile sources, including requirements for reformulated gasoline, new tailpipe emission standards for cars and trucks, standards for heavy-duty vehicles, and a program for cleaner fleet vehicles.

Title V of the CAA requires an operating permit program for larger industrial and commercial sources that release pollutants into the air. Operating permits include information on which pollutants are being released, how much may be released, and what steps the source's owner or operator is required to take to reduce the pollutants. Permits must include plans to measure and report the air pollutants emitted.

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 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO_2 per mile. According to the EPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle. In 2017, the EPA recommended no change to the GHG standards for light-duty vehicles for model years 2022-2025 (USEPA, 2018). In August 2018, the EPA and NHTSA proposed the Safer Affordable Fuel-Efficient Vehicles Rule that would maintain the CAFE and CO₂ standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO₂ standards for model year 2020 are 43.7 mpg and 204 g/mi for passenger cars and 31.3 mpg and 284 grams of CO₂ per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. The proposal also excluded CO₂-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). In September 2019, the NHTSA and EPA established the One National Program Rule, which withdrew California's waiver of preemption under Section 209 of the Clean Air Act, and finalized NHTSA's regulatory text relating to preemption under 49 U.S.C. 32919 (NHTSA, https://www.nhtsa.gov/corporate-average-fuel-economy/safe, 2020). In March 2020, the NHTSA and EPA finalized the CAFÉ and CO_2 emissions standards model for 2021-2026 for passenger cars and light trucks. The final rule will increase stringency of CAFE and CO2 emissions standards by 1.5% each year through model year 2026, as compared with the standards issued in 2012, which would have required about 5% annual increases. This is a change from the proposal issued in 2018 (NHTSA, 2020).

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 heavyduty 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 MTCO₂e emissions per year (USEPA, 2011). The project would not be expected to trigger GHG reporting according to the rule; however, GHG emissions of the project are quantified in this EIR.

40 CFR Part 52. Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule

USEPA mandated to apply Prevention of Significant Deterioration (PSD) requirements to facilities whose stationary source CO₂e emissions exceed 75,000 tons per year (USEPA 2010). The project would not be expected to trigger PSD permitting as required by this regulation; however, GHG emissions of the project are quantified in this EIR.

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 MMTCO₂e by 2020. The LCFS is designed to reduce California's dependence on petroleum, create a lasting market for clean transportation technology, and stimulate the production and use of alternative, low-carbon fuels in California. The LCFS is designed to provide a durable framework that 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, Assembly Bill (AB) 32 (codified in the California Health and Safety Code [HSC], Division 25.5 – California Global Warming Solutions Act of 2006) focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines GHGs as CO_2 , CH_4 , N_2O , HFCs, PFCs, and 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, and is required to adopt rules and regulations directing State actions that would reduce GHG emissions to 1990 levels by 2020.

In 2016, Senate Bill (SB) 32 and its companion bill, AB 197, 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 (CARB, 2014b). CARB revised the projected statewide 2020 emissions estimate of 509.4 MMTCO₂e using the GWP values from the IPCC AR4 509.4 MMTCO₂e (CARB, 2014b). Therefore, the emission reductions necessary to achieve the 2020 emissions target of 431 MMTCO₂e would be 78.4 MMTCO₂e, or a reduction of GHG emissions by approximately 15.4 percent. In 2017, the 2017 Scoping Plan established a 2030 GHG reduction target of 40 percent emissions reductions below 1990 levels (CARB, 2017).

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).

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 Renewables Portfolio Standard

First established in 2002 under SB 1078, California's Renewables Portfolio Standard (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent by 2020 and 50 percent by 2030 (California Energy Commission, 2019). In 2018, SB 100 further increased California's RPS and required retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by the end of 2024, 52 percent by the end of 2027, and 60 percent by the end of 2030; and that CARB should plan for 100 percent eligible renewable energy resources and zero-carbon resources by the end of 2045. The California Public Utilities Commission (CPUC) and the CEC jointly implement the RPS program. The CPUC's responsibilities include: (1) determining annual procurement targets and enforcing compliance; (2) reviewing and approving each investor-owned utility's renewable energy procurement plan; (3) reviewing contracts for RPS-eligible energy; and (4) establishing the standard terms and conditions used in contracts for eligible renewable energy.

Senate Bill 100

SB 100 (De León, also known as the "California Renewables Portfolio Standard Program: emissions of greenhouse gases") was approved by the California legislature and signed by Governor Brown in September 2018. The bill increases RPS in 2030 from 50 percent to 60 percent and establishes a goal of 100 percent RPS by 2045.

Senate Bill 1368

SB 1368 requires the CPUC to establish a baseload generation standard for publicly owned or leased facilities which generate electricity at a GHG Emissions Performance Standard (EPS) of 1,100 pounds of CO₂e per megawatt-hour. SB 1368 also requires the posting of notices of public deliberations by publicly owned companies on the CPUC website and establishes a process to determine compliance with the EPS.

Advanced Clean Cars Program and Assembly Bill 1493

In 2002, the California legislature adopted regulations to reduce GHG emissions in the transportation sector, the state's largest source of GHG emissions. In September 2004, pursuant to AB 1493, CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. In September 2009, CARB adopted amendments to the Pavley regulations to reduce GHGs from 2009 to 2016.

In January 2012, CARB approved the Advanced Clean Cars program, a new emissions-control program for model years 2015 through 2025. The program combined the control of smog- and soot- causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2019c). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75 percent less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the EPA 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 for the region (Kern COG 2018). The 2018 RCP is a long-term (24 year) general plan for the region's transportation network, and encompasses projects for all types of travel, including aviation and freight movement. The plan assesses environmental impacts of proposed projects.

The Kern COG 2018 RTP includes an SCS component in accordance with SB 375, the Sustainable Communities and Climate Protection Act of 2008. The Kern COG board of directors adopted its first SCS on June 19, 2014, and made a determination that, if implemented, the SCS would achieve the per capita passenger vehicle GHG emissions targets established by the board of directors. The 2020 target is a 5% per capita reduction and the 2035 target is a 10% per capita reduction from the 2005 base year.

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, 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.

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 and to ensure the compatibility of land uses, 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.

Land Use Element

Policies

Encourage only those industries that do not significantly increase air pollution levels.

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.

Retain vegetation until actual construction begins

Implementation Measures

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.

Air Quality Element

Goal

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

Compliance with the Mitigation/Implementation Measures and enactment of an approved Air Quality Attainment Plan.

Implementation Measures

(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.

(2) During construction, all grading activities shall be ceased during periods of high winds (i.e., greater than 30 miles per hour). To assure compliance with this measure, grading activities are subject to periodic inspections by County staff.

(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.

(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.

(5) and (6) Not applicable to the Project.

(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.

(8) through (10) Not applicable to the Project

Eastern Kern Air Pollution Control District

In 2012, EKAPCD adopted an addendum to its CEQA Guidelines to address GHG impacts, including quantitative thresholds for determining significance for GHG emissions for new stationary sources where EKAPCD serves as the lead CEQA review agency. A project is considered to have a significant project or cumulative considerable impact if it generates 25,000 metric tons or more of CO_2e per year. This impacts would be considered to be fully reduced to below the significance level if it meets one of the following conditions:

- The project demonstrates to EKAPCD that it is in compliance with a state GHG reduction plan such as AB 32 or future GHG reduction plan 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 project's potential impacts to GHGs have been evaluated using a variety of resources, including the project's air quality and greenhouse gas technical memorandum, *Raceway 2.0 Solar Project: Air Quality and Greenhouse Gas Technical Memorandum* (Ecology and Environment, Inc., 2020), which is provided in Appendix C-1 of this EIR, and relevant literature including information and guidelines by CARB, EPA, and the applicable provisions of CEQA. Additionally, the GHG savings from a 291 MW solar project were estimated. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described in the Thresholds of Significance section.

Construction

According to the 2018 *Final Air Quality and Greenhouse Gas Report* for the Raceway Solar Project, construction of the project is anticipated to occur over an approximately 10 to 12-month period beginning in June 2019 and ending in June 2020. Construction emissions were estimated based on a total land area of 1,854 acres. As most of the project area is located on flat terrain, the modeling assumptions considered a site preparation and grading area of 93 acres for estimating equipment and fugitive dust emissions. Emissions from interconnection lines are anticipated to be minimal as the project would utilize existing electric infrastructure to the extent possible and connect to a previously approved substation. Long-term operational emissions were estimated assuming a first full operational year in 2021 and would consist of vehicle and equipment operations associated with washing of solar panels.

The 2020 *Raceway 2.0 Solar Project: Air Quality and Greenhouse Gas Technical Memorandum* updated the construction phasing, but did not remodel the air quality and GHG emissions. Site grading and earthwork is anticipated to begin during the fourth quarter of 2021, with operations beginning in the third or fourth quarter of 2022. While the proposed project area reduced by approximately 30 percent to 1,330 acres between the 2018 *Final Air Quality and Greenhouse Gas Report* and the 2020 *Raceway 2.0 Solar Project: Air Quality and Greenhouse Gas Technical Memorandum*, the modeling assumptions used in 2018 was deemed conservative and are reported in this section. The air quality and GHG emissions are calculated using CalEEMod version 2016.3.2, which is applicable since November 9, 2017. Emission sources include construction off-road equipment, haul-truck trips, on-road worker trips, vehicle travel on paved and unpaved roads, and fugitive dust during three main phases (site preparation, grading, and solar array installation). No demolition, paving or architectural coating activities are anticipated during construction.

The new proposed project would use the same listed equipment and vehicle types and trips used in the 2018 modeling assumptions, as well as the same equipment usage and schedule durations. Construction emissions for the proposed project (years 2021–2022) are anticipated to be lower than those presented in the 2018 Report since combustion engine emission factors for off-road equipment and vehicles would be higher for years 2019 and 2020 compared to future years. In addition, fugitive dust emissions from site preparation and grading over 93 acres would still be considered a reasonable and conservative assumption, even though the total project area would be 30 percent smaller than the original project. Emissions from installation of gen-tie lines to local substations are anticipated to be minimal.

The Project would utilize existing electric infrastructure (poles) to the extent possible to install additional electric cable. The project would tie into a previously approved substation.

Operation

Long-term operational emissions associated with the Project were also calculated using CalEEMod version 2016.3.2. The first full operational year, as modeled in the 2018 Report, would be 2021. Per the 2020 update, the first full operational year would be 2023. The Project would operate unattended, and no emergency use diesel electric generator is planned. The largest operational emissions are anticipated to occur during panel washing, with emissions from water truck engines and engines powering the panel washing equipment. Emission estimates included vehicle/equipment operations associated with the washing of solar panels. Other categories of operation emissions in CalEEMod such as painting, use of consumer products, indoor water use rate, and solid waste generation were assumed to be zero.

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 CO₂e per year

The above impact would be considered to be fully reduced to below the significance level if it meets one of the following conditions:

- The project demonstrates to EKAPCD that it is in compliance with a State GHG reduction plan such as AB 32 or future federal GHG reduction plan if it is more stringent than the State plan; or
- Project GHG emissions can be reduced by at least 20 percent below BAU through implementation of one or more of the following strategies:
 - a. Compliance with a Best Performance Standard (BPS);
 - b. Compliance with GHG Offset; and/or
 - c. Compliance with an Alternative GHG Reduction Strategy.

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 and routine operational and maintenance 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*. The Project would contribute to achieving GHG reduction goals adopted by the State of California through generation of electricity from a renewable non-fossil fuel source. In addition, construction and operation GHG emissions shown in Table 4.8-2 would be offset by the inherently clean power produced by the Project. The CalEEMod model estimates an annual operation unmitigated emission of 97 MT of CO₂e. Operation of the facility would generate emission-free electricity during the highest electricity daily demand time periods. After accounting for the 2020 update where total acreage was reduced by 30 percent, it is anticipated that construction emissions would remain temporary and operational and maintenance emissions, primarily from equipment use and trucks for panel washing, would remain similar.

The Project would offset approximately 809,658 MT of CO₂e annually that would have resulted from producing an equivalent amount of electricity utilizing generators powered by fossil fuels. Refer to Appendix C-1, of this EIR, for further detail on energy displacement calculations. Such a reduction would assist in the attainment of the State's goal to reduce GHG emissions. Therefore, operation of the project would result in a substantial net reduction in GHG emissions, even when accounting for the very minimal operational GHG emissions of the project from a relatively small number of periodic maintenance and vehicle trips.

Phase	GHG Emissions (MTCO ₂ e)
Construction 2019	2,284
Construction 2020	1,472
Amortized (35 year) Annual Construction	107
Operational 2021 and beyond	97
Total Emissions	204
EKCAPCD Threshold	25,000
Exceed Threshold?	No

 TABLE 4.8-2:
 ESTIMATED PROJECT GREENHOUSE GAS EMISSIONS

NOTE:

See Appendix C-1 for GHG emissions calculations. Note that the numbers have been rounded to the nearest metric ton and therefore values may not add exactly. SOURCE: Ecology and Environment, Inc., 2020. As shown in Table 4.8-2, *Estimated Project Greenhouse Gas Emissions*, the total construction-related CO₂e emissions annualized over a default project lifetime (35 years) is equivalent to 107 MTCO₂e per year of CO₂e. When combined with operations, emissions for the proposed project would total 204 MTCO₂e annually. This value is below the EKAPCD threshold of 25,000 MTCO₂e per year. Therefore, the project's contribution to climate change would not be cumulatively considerable and the project would not conflict with the State's goal to reduce GHG emissions to 1990 levels by 2020.

Given that the project would result in a net decrease of CO_2e emissions, impacts related to the generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment would be considered less than significant.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.8-2: The project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gas.

As discussed above, impacts were evaluated based on whether the project would be consistent with the State's applicable GHG reduction goals, plans, policies, and regulatory requirements as well as other federal, state, and local policies, as provided in the following analyses.

CARB Climate Change Scoping Plan

The project would comply with the strategies recommended by the State of California, the EPA, and the Climate Change Scoping Plan, as shown in **Table 4.8-3**, *California Greenhouse Gas Emission Reduction Strategies*. In order to meet the AB 32 GHG emissions reduction mandate, the Climate Change Scoping Plan relies on achievement of the 100 percent RPS by 2045 as well as the other measures listed in **Table 4.8-4**, *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.

Strategy	Project Design/Mitigation to Comply with Strategy
Vehicle Climate Change Standards: AB 1493 (Pavley) required the State to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by CARB in September 2004.	These are CARB enforced standards; vehicles that access the project and are required to comply with the standards would comply with these strategies.
Other Light Duty Vehicle Technology: New standards would be adopted to phase in beginning in the 2017 model.	_
Heavy-Duty Vehicle Emission Reduction Measures: Increased efficiency in the design of heavy-duty vehicles and an education program for the heavy-duty vehicle sector.	
Diesel Anti-Idling: In July 2004, CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	Project would be subject to State law.
Hydrofluorocarbon Reduction: (1) Ban retail sale of HFC in small cans; (2) Require that only low global warming potential refrigerants be used in new vehicular systems; (3) Adopt specifications for new commercial refrigeration; (4) Add refrigerant leak tightness to the pass criteria for vehicular Inspection and Maintenance programs; (5) Enforce federal ban on releasing HFCs.	This measure applies to consumer products. When CARB adopts regulations for these reduction measures, any products that the regulations apply to would comply with the measures. The project is assumed to not require use of any consumer products during operation.
Transportation Refrigeration Units (TRU), Off-Road Electrification, Port Electrification: Strategies to reduce emissions from TRUs, increase off-road electrification, and increase use of shore-side/port electrification.	Not applicable
Manure Management: Reduction of volatile organic compounds from confined animal facilities through implementation of control options.	Not applicable
Alternative Fuels – Biodiesel Blends: CARB would develop regulations to require the use of one to four percent biodiesel displacement of California diesel fuel.	Not applicable
Alternative Fuels – Ethanol: Increased use of ethanol fuel.	Not applicable
Achieve 50 percent Statewide Recycling Goal: Achieving the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48 percent has been achieved on a Statewide basis. Therefore, a two percent additional reduction is needed.	The project would comply with the 1989 California Integrated Waste Management Act and the California Solid Waste Reuse and Recycling Access Act of 1991, as amended. Operational solid waste was assumed to be zero for this project.
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. Operational solid waste was assumed to be zero for this project.

TABLE 4.8-3: CALIFORNIA GREENHOUSE GAS EMISSION REDUCTION STRATEGIES

Strategy	Project Design/Mitigation to Comply with Strategy
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.	Not applicable
Building Energy Efficiency Standards in Place and in Progress: Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions to and alterations to existing buildings).	The project would be consistent with State law. The project would not construct any buildings.
Appliance Energy Efficiency Standards in Place and in Progress: Public Resources Code 25402 authorizes the Energy Commission to adopt and periodically update its appliance energy efficiency standards (that apply to devices and equipment using energy that are sold or offered for sale in California).	The project would be consistent with State law.
Cement Manufacturing: Cost-effective reductions to reduce energy consumption and to lower carbon dioxide emissions in the cement industry.	Not applicable
Smart Land Use and Intelligent Transportation Systems (ITS): Smart land use strategies encourage jobs/housing proximity, promote transit oriented development, and encourage high-density residential/commercial development along transit corridors. ITS is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services.	Not applicable
Smart land use, demand management, ITS, and value pricing are critical elements for improving mobility and transportation efficiency. Specific strategies include: promoting jobs/housing proximity and transit-oriented development; encouraging high density residential/commercial development along transit/rail corridor; valuing and congestion pricing; implementing intelligent transportation systems, traveler information/traffic control, incident management; accelerating the development of broadband infrastructure; and comprehensive, integrated, multimodal/intermodal transportation planning.	Not applicable
Enteric Fermentation: Cattle emit methane from digestion processes. Changes in diet could result in a reduction in emissions.	Not applicable

TABLE 4.8-3: CALIFORNIA GREENHOUSE GAS EMISSION REDUCTION STRATEGIES

Strategy	Project Design/Mitigation to Comply with Strategy
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 291 MW. Therefore, the project would help support and not conflict with this strategy.

TABLE 4.8-3: CALIFORNIA GREENHOUSE GAS EMISSION REDUCTION STRATEGIES

TABLE 4.8-4:	APPLICABLE SCOPING PLAN STRATEGIES FOR PROJECT
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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
SOURCE: CARB 2014c.		

Action T-1 relates to the Advanced Clean Cars program, in which the project's employees would purchase vehicles in compliance with the CARB vehicle standards that are in effect at the time of the vehicle purchase. In addition, as it related to Low Carbon Fuel Standards, under Action T-2, motor vehicles driven by the project's employees would use compliant fuels.

Action E-3 relates to renewable energy and the RPS, which is intended to increase California's renewable energy production to 20 percent by 2010, to 33 percent by 2020 and up to 100 percent by 2045, pursuant to SB 100. The CPUC estimates that the utilities are on track to meet the RPS requirement of 25 percent renewables by 2016 and are well-positioned to meet the 33 percent requirement by 2020 (California Energy Commission, 2019). Utilities would also be required to meet the updated RPS goals of 60 percent by 2030, and 100 percent by 2045, pursuant to SB 100. A key prerequisite to reaching a target of 100 percent RPS 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 291 MW. Therefore, the project would be consistent with Action E-3.

Action E-4 aims to install 3,000 MW of solar energy capacity under the Million Solar Roofs Program. This measure would offset electricity from the grid, thereby reducing GHG emissions. By requiring greater energy efficiency for projects that seek solar incentives, the State would be able to reduce both electricity

and natural gas needs and their associated GHG emissions. The project would result in an electric power generating capacity of approximately 291 MW. Therefore, the project would not conflict with Action E-4.

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. 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.

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,* below, evaluates project consistency with other applicable federal, State and local policies regarding GHG emissions. As shown in the table below, the project would fall below the annual emission triggers for compliance with federal regulations; therefore, federal regulations would not be applicable to the project. As a renewable energy project, the project would be exempt from State annual GHG reporting requirements and would be considered consistent with California's Emission Performance Standard and RPS requirements (described above under Section 4.8.3, "Regulatory Setting," of this EIR).

Overall, because the main objectives of the project are to assist California Investor-Owned utilities municipalities, community choice aggregators, or other purchasers 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.

Consideration of Mitigation Measures

The Office of the California Attorney General maintains a website with a list of CEQA mitigation measures for global climate change impacts. The Attorney General has listed some examples of types of mitigation measures that local agencies may consider to offset or reduce global climate change impacts from a project. The Attorney

General assures that the presented lists are examples and not intended to be exhaustive, but instead provide measures and policies that could be undertaken. Moreover, the measures cited may not be appropriate for every project, so the Attorney General suggests that the lead agency should use its own informed judgment in deciding which measures it would analyze, and which measures it would require, for a given project.

The Attorney General suggests measures that could be undertaken or funded by a diverse range of projects, related to energy efficiency; renewable energy; water conservation and efficiency; solid waste measures; land use measures; transportation and motor vehicles; and carbon offsets. However, most of the suggested measures from the Attorney General's office would not be applicable to the project, since they are more appropriate and applicable measures to reduce long-term operational GHG emissions, and the majority of emission sources from the project are short-term in nature. Long-term operational emissions would be minimal and more than offset by the renewable energy production.

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 is not expected to significantly contribute to global warming or climate change.

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.

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
SB 100. 60% Standard by 2030 and 100% 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.

TABLE 4.8-5: PROJECT CONSISTENCY WITH AN APPLICABLE PLAN, POLICY, OR REGULATION FOR GHG EMISSIONS

Furthermore, as the project would have an electric power generating capacity of approximately 291 MW, the project would be consistent with the Attorney General's recommended measures to reduce GHG emissions. Specifically, the project complies with the Attorney General's Recommended Measure to "Install solar and wind power systems, solar and tankless hot water heaters, and energy-efficient heating ventilation and air conditioning." Therefore, the project would be compliant with the Attorney General's Recommended Measure regarding renewable energy. Because the project is below regional regulatory thresholds and would result in a reduction of GHG emissions, no mitigation measures would be required.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Emissions of GHGs and their contribution to global climate change are considered a cumulative impact by definition. Therefore, the geographic extent of the project's cumulative area of impact would be worldwide.

The adopted *CEQA Guidelines* provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and global climate change impacts. Quantitative significance thresholds for this impact area have not been adopted by the State of California. In addition, Kern County has not adopted quantitative thresholds for determining significance of GHG emissions at the time of this writing. However, EKAPCD has recently adopted an addendum to its *CEQA Guidelines* titled: "Addressing GHG Emission Impacts for Stationary Source Projects When Serving as the Lead CEQA Agency." This addendum is the policy that EKAPCD will use when it is the lead agency for CEQA to determine the project-specific and cumulative significance of GHG emissions from new and modified stationary source (industrial) projects. Under this policy, a project is considered to have a cumulatively considerable impact if it generates 25,000 metric tons or more of CO₂e per year.

Total annual GHG emissions of 204 MTCO₂e for the project are shown in Table 4.8-2, Estimated Project Greenhouse Gas Emissions. In addition to these project GHG emissions, other cumulative projects in the vicinity of the project site were identified in the 2018 Report (Table 12, Cumulative Operational Emissions of the 2018 Report). A search of the Kern County Planning Department Renewable Energy Projects list was done for projects proposed within a 1-mile and a 6-mile radius of the original project area; no projects were found that would have concurrent construction in the year 2018. A total of 11 operational projects were found within a 6-mile radius and two projects within a 1-mile radius. These projects largely consist of other utility-scale solar facilities, which would be consistent with 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 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% carbon-free by 2045. The project and other similar projects are essential to achieving the RPS. Concurrent long-term emissions were found below EKAPCD significance thresholds, minimizing the potential for cumulative effects. The 2020 update conducted a new search of the Renewable Energy Projects list for year 2019 showed additional projects with anticipated construction in Kern County in year 2020; however, none of these projects would be located within a 1-mile or 6-mile radius from the proposed project area. Since both short-term and long-term cumulative emissions are not expected to exceed significance thresholds, it is not anticipated that there would be a significant cumulative impact to regional air quality.

Although the project would result in a short-term contribution to cumulative GHG emissions in California during construction, operation of the project would offset emissions from the electricity generation sector. It is estimated that the project would displace approximately 809,658 MT of CO₂e annually over the project's 35-year lifespan. Therefore, the total GHG construction emissions that would be associated with the project would likely be offset by less than one month of operations. Overall, the project would provide electric power with negligible operational GHG emissions over the long term when compared to traditional

fossil-fueled generation technologies. Thus, the project would not have a cumulatively considerable impact on global climate change, and cumulative impacts would therefore be less than significant.

CEQA Guidelines Section 15130 notes that sometimes the only feasible mitigation for cumulative impacts may be to adopt ordinances or regulations rather than impose conditions on a project-by-project basis. Global climate change is this type of issue. GHG impacts are considered to be exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA, 2008). Causes and effects are not just regional or Statewide, they are worldwide. Because the project's construction and operational GHG emissions would be offset by renewable power generation and no mitigation is required, any other feasible reductions would be accomplished through CARB regulations adopted pursuant to AB 32 and SB 32. Cumulative impacts of the project on global climate change would be less than significant.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

Cumulative impacts would be less than significant.

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4.9.1 Introduction

This section of the EIR describes the affected environment and regulatory setting for hazards and hazardous materials in the study area. It also describes the project's potential impacts on residences and other sensitive receptors that could be exposed to these hazards (other than geologic hazards; see Section 4.7, *Geology and Soils*, of this EIR for discussion on geologic hazards) and presents mitigation measures where applicable. Information in this section is based primarily on the *Phase I Environmental Site Assessment* (Terracon 2020; Appendix H).

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), noise (also addressed in Section 4.12, *Noise*, of this EIR), wildfires (also addressed in Section 4.17, *Wildfire*, of this EIR). Residences and other sensitive receptors such as schools are also described as their proximate location to the project site affect 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.

As described in Chapter 3, *Project Description*, the project includes the development of a solar facility and associated infrastructure with the capacity to generate up to 291 MW of electricity through solar power on 1,330 acres of privately-owned land. The facility would include solar panels, gen-tie lines, an electrical collection system, battery storage, and a substation. The energy would be ultimately transferred to the Southern California Edison (SCE) transmission system.

Existing Setting

The project site consists of approximately 1,330 acres of mostly vacant scrubland and paved/unpaved roads. Site improvements consist of two dilapidated residential dwellings and an abandoned barn located in the northeast corner of Site 4, two metal roofed previous hay storage structures located in the northwest corner of Site 4, two metal rectangular warehouse buildings, one corrugated metal roof awning structure and a shed located on Site 2, and three pole-mounted transformers and thirteen groundwater wells (Terracon 2020)

The area surrounding the project site has similarly undeveloped with scattered residential land uses and is surrounded by various solar and wind developments in the immediate vicinity. The closest school to the project site is Tropico Middle School, located approximately 1.57 miles northeast of the project site in the community of Willow Springs. The nearest public airstrip is the Rosamond Skypark, located approximately three miles to the east of the project site. State Route (SR) 14 is located approximately 3.8 miles east of the project site.

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. As part of the site reconnaissance completed for the Phase I environmental site assessment of the site, no hazardous materials were observed on the project site, only non-hazardous household waste (Terracon 2020).

Photovoltaic Solar Panels and Cadmium Telluride

The photovoltaic (PV) solar panels that would be installed on the project site are made from polycrystalline silicon or thin-film technology. Polycrystalline silicon PV panels may include small amounts of solid materials that are considered to be hazardous. Because such materials are in a solid and non-leachable state, broken polycrystalline silicon PV panels would not be a source of pollution to surface water, stormwater, or groundwater. Polycrystalline silicon panels removed from the site would be recycled or otherwise disposed at an appropriate waste disposal facility.

The thin-film PV solar modules that could be installed on the project site use Cadmium Telluride (CdTe) technology. The semiconductor layer in the modules is in the environmentally stable form of a compound rather than the leachable form of a metal. The CdTe compound is encapsulated in the PV module with the PV module containing less than 0.1 percent Cd content by weight. Because of optimal optical properties, only a 3-micron-thin layer of CdTe is used to absorb incident sunlight, with Cd content per 8 square feet of PV module less than that of one C-size flashlight NiCd battery.

It has been demonstrated that standard operation of CdTe PV systems does not result in cadmium emissions to air, water, or soil. During the PV module manufacturing process, CdTe is bound under high temperature to a sheet of glass by vapor transport deposition, coated with an industrial laminate material, insulated with solar edge tape, and covered with a second sheet of glass. The module design results in the encapsulation of the semiconductor material between two sheets of glass thereby preventing the exposure of CdTe to the environment.

Several peer-reviewed studies have evaluated the environmental, health, and safety aspects of CdTe PV modules. These studies have consistently concluded that during normal operations, CdTe PV modules do not present an environmental risk. CdTe releases are also unlikely to occur during accidental breakage or fire due to the high chemical and thermal stability of CdTe. Disposal risks of end-of-life CdTe PV modules are minimized because of the low solubility of CdTe and because the modules can be effectively recycled

at the end of their approximately 30-year life. The PV module manufacturer provides CdTe module collection and recycling services. Since 2005, the end-of-life CdTe PV modules are currently characterized as federal non-hazardous waste, and as a California-only hazardous waste. Solar equipment and infrastructure would be recycled as practical or disposed of in compliance with applicable laws. CdTe PV modules are an article of commerce, and are not classified as a hazardous material for shipping purposes under either federal or state law.

Historical Property Use

As part of the Phase I Environmental Site Assessment, historical aerial photographs were reviewed in an attempt to establish a history of land uses at the site (Terracon 2020). The historical aerial photographs depict the project site as largely undeveloped land going back to 1948, the oldest aerial photograph reviewed (Terracon 2020). No additional historical data was available for the site including fire insurance maps, city directories or other environmental reports (Terracon 2020). Additionally, no known recognized environmental concerns were identified in the Phase I ESA; the project site is not listed on any hazardous materials database (Terracon 2020).

Electromagnetic Fields

EMFs are associated with electromagnetic radiation, which is energy in the form of photons. Radiation energy spreads as it travels and has many natural and human-made sources. The electromagnetic spectrum, the scientific name given to radiation energy, includes light, radio waves, and x-rays, among other energy forms. Electric and magnetic fields are common throughout nature and are produced by all living organisms. Concern over EMF exposure, however, generally pertains to human-made sources of electromagnetism and the degree to which they may have adverse biological effects or interfere with other electromagnetic systems.

Commonly known human-made sources of EMF are electrical systems, such as electronics and telecommunications, as well as electric motors and other electrically powered devices. Radiation from these sources is invisible, non-ionizing, and of low frequency. Generally, in most environments, the levels of such radiation added to natural background sources are low.

Electric voltage (electric field) and electric current (magnetic field) from transmission lines create EMFs. Power-frequency EMF is a natural consequence of electrical circuits and can be either directly measured using the appropriate measuring instruments or calculated using appropriate information.

The power generated from the site would ultimately connect to the existing SCE Big Sky North substation. The alignment is discussed 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.

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) that 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 PV panels mounted on aluminum and steel support structures. The support structures have little or no exposure to sunlight. The project site would not be covered entirely with solar panels. The amount of the sun's heat absorbed by a solar panel is similar to the amount of the sun's heat absorbed by open land. However, solar panels store less heat than the earth because they consist of a thin, lightweight glass that is surrounded by airflow. Therefore, heat dissipates quickly from a solar panel compared with solid earth, which dissipates heat slowly. The project would have energy-consuming devices (e.g., inverters). Therefore, the project would generate marginal amounts of waste heat on the project site. However, there is nothing in the record to date that would indicate that the project would increase ambient air temperatures at or around the project site.

Increased Noise

Noise from construction would be temporary over a period of up to 10 to 14 months for the project. The ambient noise regime in the project vicinity consists of undeveloped, wind farm, and agricultural uses and is a relatively quiet noise environment. The nearest sensitive noise receptors to the project are isolated residential land uses. 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 would not disrupt or otherwise adversely affect residential uses in the area.

Hazardous Materials Transportation

SR-14 is approximately 3.8 miles east of the site and is the closest significant transportation route. 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 is designated as an adopted commercial hazardous materials shipping route.

Airports

The project site is located approximately 1.7 miles southeast of the Rosamond Skypark, a privately owned and operated residential skypark, and 5.8 miles northwest of the General William J. Fox Airfield, the closest publicly owned airport. The project is not located within an Airport Influence Area, per the Kern County Airport Land Use Compatibility Plan.

Fire Hazard Areas

The California Department of Forestry and Fire Prevention requires counties within the state to develop fire protection management plans that address potential threats of wildland fires. The Kern County Wildland Fire Management Plan identifies federal, state, and local responsibility areas for the entire County to facilitate coordination efforts for fire protection services. The project site is sparsely covered by desert vegetation and not within an area identified by the California Department of Forestry and Fire Protection as having substantial or very high fire risk, as determined by the Kern County General Plan or CAL FIRE (Kern County 2009 and CAL FIRE 2007).

4.9.3 Regulatory Setting

Federal

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (USEPA) 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 USEPA's mission is to protect human health and to safeguard the natural environment—air, water, and land—upon which life depends. The USEPA works to develop and enforce regulations that implement environmental laws enacted by Congress, is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for using permits and for monitoring and enforcing compliance. Where national standards are not met, the USEPA can issue sanctions and take other steps to assist the states and tribes in reaching the desired levels of environmental quality.

Federal Toxic Substances Control Act/Resource Conservation and Recovery Act/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 USEPA to regulate the generation, transportation,

treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act, 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 USEPA oversees and enforces the Oil Pollution Prevention regulation contained in 40 CFR 112, which is often referred to as the "SPCC rule" because the regulations describe the requirements for facilities to prepare, amend, and implement spill prevention, control, and countermeasure (SPCC) plans. A facility is subject to SPCC regulations if a single oil storage tank has a capacity greater than 660 gallons, or the total aboveground oil storage capacity exceeds 1,320 gallons, or the underground oil storage capacity exceeds 42,000 gallons, and if, due to its location, the facility could reasonably be expected to discharge oil into or upon the "navigable waters" of the United States.

Other Regulations

Other federal regulations overseen by the USEPA relevant to hazardous materials and environmental contamination include 40 CFR Parts 100 to 149 – Water Programs, 40 CFR Parts 239 to 259 – Solid Wastes, and 40 CFR Parts 260 to 279 – Hazardous Waste. These regulations designate hazardous substances under the CWA; 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:

- GO 95: 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 230kiloVolt (kV) lines.
- GO 95: 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)

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 nonexempt utility poles. The project structures would be exempt from the clearance requirements, with the exception of cable poles and dead-end structures.

The firebreak clearances required by 14 CCR 1254 are applicable within an imaginary cylindrical space surrounding each pole or tower on which a switch, fuse, transformer, or lightning arrester is attached and surrounding each dead-end or corner pole, unless such pole or tower is exempt from the minimum clearance requirements by the provisions of 14 CCR 1255 or PRC 4296. The radius of the cylindroid is 10 feet, which is measured horizontally from the outer circumference of the specified pole or tower, with the height equal to the distance from the intersection of the imaginary vertical exterior surface of the cylindroid to an intersection with a horizontal plane passing through the highest point at which a conductor is attached to such pole or tower. Flammable vegetation and materials located wholly or partially within the firebreak space would be treated as follows:

- At ground level: Remove flammable materials, including ground litter, duff, and dead or desiccated vegetation that would propagate fire.
- From 0 to 8 feet above ground level: Remove flammable trash, debris, or other materials, grass, and herbaceous and brush vegetation. Remove all limbs and foliage of living trees up to a height of 8 feet.
- From 8 feet to the horizontal plane of highest point of the conductor attachment: Remove dead, diseased, or dying limbs and foliage from living sound trees and any dead, diseased, or dying trees in their entirety.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The Hazardous Materials Release Response Plans and Inventory Act, also known as the Hazardous Materials 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.

Hazardous Waste Control Act

The Hazardous Waste Control Act created the state hazardous waste management program, which is similar to but more stringent than the federal RCRA program. The act is implemented by regulations contained in Title 26 CCR, which describes the following required aspects for the proper management of hazardous waste:

- Identification and classification
- Generation and transportation

- Design and permitting of recycling, treatment, storage, and disposal facilities
- Treatment standards
- Operation of facilities and staff training
- Closure of facilities and liability requirements

These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the California Department of Toxic Substances and Control (DTSC).

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

Senate Bill 1082 (1993) created the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program), which requires the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a 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
- 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.

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, State Water Resource Control Board (SWRCB), Regional Water Quality Control Board, CalRecycle, DTSC, Office of Environmental Health Hazard Assessment, and Department of Pesticide Regulation 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, U.S. 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

To protect public health and safety, and the environment, the California Office of Emergency Services (OES) is responsible for establishing and managing statewide standards for business and area plans relating to the handling and release, or threatened release, of hazardous materials. The OES requires that basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and health risks) be available to firefighters, public safety officers, and regulatory agencies. Typically, this information should be included in business plans to prevent or mitigate damage to the health and safety of persons and the environment from the release or threatened release of these materials into the workplace and environment. These regulations are covered under Chapter 6.95 of the California Health and Safety Code, Article 1 – Hazardous Materials Release Response and Inventory Program (Sections 25500 to 25520) and Article 2 – Hazardous Materials Management (Sections 25531 to 25543.3).

Title 19 CCR, Public Safety, Division 2, Office of Emergency Services, Chapter 4 – Hazardous Material Release Reporting, Inventory, and Response Plans, Article 4 (Minimum Standards for Business Plans) establishes minimum statewide standards for 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. Hazardous materials 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
- Hazardous waste in any quantity

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 337–340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

California Highway Patrol

A valid Hazardous Materials Transportation License, issued by the CHP, is required by the laws and regulations of State of California Vehicle Code Section 3200.5 for transportation of either:

- Hazardous materials shipments for which the display of placards is required by state regulations
- 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 and Willow Springs Specific 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 citymaintained 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 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.

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.

Policies

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

Goals

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 Measures

- 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 latest Kern County Multi-Hazard Mitigation Plan was developed in 2014. The Plan was developed by a Hazard Mitigation Planning Committee and identifies goals, objectives and actions pertaining to mitigating impacts from identified natural hazards. Kern County along with 62 other participating jurisdictions, will develop an update to the 2012-14 Kern Multi-Jurisdiction Hazard Mitigation Plan to reduce losses resulting from natural disasters. The goal of the planning effort is to revisit natural hazard information to account for changes in population and occurrences of natural disaster in the planning area.

This effort would include assistance in reduction of repetitive damages to community infrastructure, and the County will maintain eligibility for grants under the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Assistance program. A public draft of the 2020 Plan is now available for review in the County website. The public at large has an opportunity to comment prior to the completion of the Plan's final draft. FEMA realizes the importance of mitigation planning and offers incentives to communities that develop one. Hazard mitigation is the use of sustained, long-term actions to reduce the loss of life, personal injury, and property damage that can result from a disaster. By following FEMA guidelines for approval of this plan, Kern County can be eligible for grant funding intended for mitigation projects (KCFD, 2020).

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 Department of Environmental Health Services Division

The County of Kern Environmental Health Services Department is the CUPA for the project area, which provides site inspections of hazardous materials programs (above ground storage tanks, USTs, hazardous waste treatment, hazardous waste generators, hazardous materials management and response plans, and the California Fire Code). This Department also provides emergency response to hazardous materials events, performing health and environmental risk assessment and substance identification.

Kern County Fire Code

Chapter 17.32 of the Kern County Municipal Code details the Kern County Fire Code, which is an adoption of the 2016 California Fire Code and the 2015 International Fire Code with some amendments. The purpose of the Kern County Fire Code is to regulate the safeguarding of life, property, and public welfare to a reasonable degree from the hazards of fire, hazardous materials release and/or explosion due to handling of dangerous and hazardous materials, conditions hazardous to life or property in the occupancy and use of buildings and premises, the operation, installation, construction, and location of attendant equipment, the installation and maintenance of adequate means of egress, and providing for the issuance of permits and collection of fees.

Kern County Fire Department Unit Strategic Fire Plan

The KCFD Unit Strategic Fire Plan, adopted in March of 2018 is the most current document that assesses the wildland fire situation throughout the SRA within the County. Similar to other plans, this document includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan provides for a comprehensive analysis of fire hazards, assets at risk, and level of services to systematically assess the existing levels of wildland protection services and identifies high-risk and high-value areas that are potential locations for costly and damaging wildfires. Additionally, the plan provides an annual report of unit accomplishments, which, in 2017, included completion of a number of fuel reduction projects, hosted three wildfire safety expos in battalions 1,5, and 7, and the award of three SRA fuel reduction grants for a total of \$500,000. The plan gives an overview of KCFD Battalions and ranks these areas in terms of priority needs as well as identifies the areas of SRA. According to the plan, 69 percent of Kern County areas are within a SRA. The County is broken up into six different fuel management areas, Tehachapi, Western Kern, Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley.

Fire Prevention Standard No. 503-507 Solar Panels

The Kern County Fire Department Fire Prevention Division adopted Standard No. 503-507 Solar Panels (Ground Mounted, Commercial & Residential) on March 27, 2019. The standard is implemented in accordance with the 2016 CFC and Kern County Ordinance and is an official interpretation of the Kern County Fire Marshal's Office. The standard outlines installation requirements for photovoltaic ground-mounted and roof-mounted solar panels. The proposed project would mount systems for the modules on steel support posts that would be pile driven into the ground and would therefore comply with the ground mounted requirements of this fire prevention standard. Ground mounted solar panel requirements of this standard include water supply, clearance and combustibles, stationary storage battery/energy storage systems, clean agent system permits, fire extinguisher placement, and emergency vehicle access (KCFD, 2019c).

Kern County Department of Environmental Health Services Division

The County of Kern Environmental Health Services Department is the CUPA for the project area, which provides site inspections of hazardous materials programs (above ground storage tanks, USTs, hazardous waste treatment, hazardous waste generators, hazardous materials management and response plans, and the California Fire Code). This Department also provides emergency response to hazardous materials events, performing health and environmental risk assessment and substance identification.

Kern County and Incorporated Cities Hazardous Waste Management Plan

In response to the growing public concern regarding hazardous waste management, State Assembly Bill 2948 enacted legislation authorizing local governments to develop comprehensive hazardous waste management plans. The intent of each plan is to ensure that adequate treatment and disposal capacity is available to manage the hazardous wastes generated within the local government's jurisdiction.

The Kern County and Incorporated Cities Hazardous Waste Management Plan (Hazardous Waste Plan) was first adopted by Kern County and each incorporated city before September 1988 and was subsequently approved by the State Department of Health Services. The Hazardous Waste Plan was updated and incorporated by reference into the Kern County General Plan in 2004 as permitted by Health and Safety Code Section 25135.7(b) and, thus, must be consistent with all other aspects of the Kern County General Plan.

The Hazardous Waste Plan provides policy direction and action programs to address current and future hazardous waste management issues that require local responsibility and involvement in Kern County. In addition, the Hazardous Waste Plan discusses hazardous waste issues and analyzes current and future waste

generation in the incorporated Cities, County, and State and federal lands. The purpose of the Hazardous Waste Plan is to coordinate local implementation of a regional action to affect comprehensive hazardous waste management throughout Kern County. The action program focuses on development of programs to equitably site needed hazardous waste management facilities; to promote onsite source reduction, treatment, and recycling; and to provide for the collection and treatment of hazardous waste from small-quantity generators. An important component of the Hazardous Waste Plan is the monitoring of hazardous waste management facilities to ensure compliance with federal and State hazardous waste regulations.

Kern County Zoning Ordinance

The Kern County Zoning Ordinance has regulations regarding maximum permitted heights, both within specific zone districts and in districts with the H (Airport Approach Height) Combining District. The purpose of the H Combining District is to minimize aviation hazards by regulating land uses, restricting the height of buildings and vegetation, and specifying design criteria necessary to promote aviation safety. Structure height is restricted to prevent aesthetic impacts and to provide privacy for neighboring properties. Height limits are also established for structures within the Joint Service Restricted R-2508 Complex (which is part of a Special Use Airspace) that require written concurrence from the military authorities responsible for operations in the area.

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 could have a significant impact related to hazards and hazardous materials if it would:

- a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- c. Emit hazardous emissions or involves handling hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school.

- d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
- e. For a project located within the adopted Kern County Airport Land Use Compatibility Plan, would the project result in a safety hazard or excessive noise for people residing or working in the project area.
- f. Impair implementation of, or physically interferes with, an adopted emergency response plan or emergency evacuation plan.
- g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.
- h. Implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, would the project exceed the following qualitative threshold.

The presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors:

- i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment.
- ii. Are associated with design, layout, and management of project operations.
- iii. Disseminate widely from the property.
- iv. Cause detrimental effects on the public health or well-being of the majority of the surrounding population.

Project Impacts

Impact 4.9-1: The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Construction

Construction of the project, including the solar facilities and associated improvements (e.g., energy storage, access roads), would not involve the routine transport, use, or disposal of significant (i.e., bulk) quantities of hazardous materials. Construction would however, require the use of limited quantities of hazardous materials such as fuels, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, dust palliative, pesticides, herbicides, and welding materials/supplies. Most of the hazardous waste generated by the project would occur during the temporary construction period and would consist of liquid waste, including cleaning fluids, dust palliative, herbicides, and solvents. Some solid hazardous waste, such as welding materials and dried paint, may also be generated during construction. Any hazardous materials that would be transported to the project site during construction, and any hazardous materials that are produced as a result of the construction of the project would be collected and transported away from the site in accordance with best management practices (BMPs) (see further discussion of BMP requirements in Section 4.10, *Hydrology and Water Quality*, of this EIR). During construction of the project, material safety

data sheets for all applicable hazardous materials present at the site would be made readily available to onsite personnel. During construction of the facilities, non-hazardous construction debris would be generated and disposed of in local landfills. Sanitary waste would be managed using portable toilets located at a reasonably accessible on-site location.

Fuels and lubricants used on field equipment would be subject to the Material Disposal and Solid Waste Management Plan, and SPCC plan and other measures to limit releases of hazardous materials and wastes. Recyclable materials including wood, shipping materials, and metals would be separated when possible for recycling. Liquids and oils in the transformer and other equipment would be used in accordance with applicable regulations. The disposal of all oils, lubricants, and spent filters would be performed in accordance with all applicable regulations including the requirements of licensed receiving facilities. Overall, the relatively limited use of hazardous materials during construction would be controlled through compliance with applicable regulations and would result in a less-than-significant impact.

Operation

O&M activities associated with a PV solar facility are relatively minor when compared to other land uses such as conventional power plants, and would require limited use of hazardous materials. Any hazardous materials that would be used would be stored on-site and in designated areas. The site would be fenced to prevent public access to hazardous materials and the PV panels.

Operational activities are limited to monitoring plant performance, conducting scheduled maintenance for on-site electrical equipment, and responding to utility needs for plant adjustment. No heavy equipment would be used during normal project operation. O&M vehicles would include trucks (pickup, flatbed), forklifts, and loaders for routine and unscheduled maintenance, and water trucks for solar panel washing. Large heavy-haul transport equipment and cranes may be brought to the project site infrequently for equipment repair or replacement. Long-term maintenance and equipment replacement would be scheduled in accordance with manufacturer recommendations. Solar panels are warranted for 25 years or longer and are expected to have a life of 30 or more years. Moving parts, such as motors and tracking module drive equipment, motorized circuit breakers and disconnects, and inverter ventilation equipment, would be serviced on a regular basis, and unscheduled maintenance would be conducted as necessary. Mitigation Measure MM 4.9-1 would ensure that all handling, storage, and disposal of hazardous materials would be conducted in accordance with proven practices to minimize exposure to workers or the public.

The PV modules that would be installed on the project site use CdTe thin-film technology. 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. The modules meet rigorous performance testing standards demonstrating durability in a variety of environmental conditions. The PV modules 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. Studies indicate that unless the PV module is purposefully ground to a fine dust, use of CdTe in PV modules do not generate any emissions of CdTe (Fthenakis 2003). The project includes operational and maintenance protocols that would be used to identify and remove damaged or defective PV modules during annual inspections. The PV industry in 2005.

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 in accordance with the hazardous materials business plan required by Mitigation Measure MM 4.9-1.

Project operations could require the use of hazardous materials at the energy storage facility which would contain battery acids, as well as 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. There are no designated routes for the transport of hazardous materials located on or immediately adjacent to the project site; the closest route is SR-14. In addition, implementation of Mitigation Measure MM 4.9-1, which requires the preparation of a hazardous materials business plan that would describe proper handling, storage, transport, and disposal techniques and methods to be used to avoid spills and minimize impacts in the event of a spill, would further reduce impacts related to hazards to a less-than-significant level.

Further, implementation of the project would not result in the significant risk of EMFs associated with overhead power lines, as the project would ultimately connect into the existing infrastructure (i.e., the Big Sky North substation). In addition, the project would not construct sensitive uses under the existing lines. As the state has not adopted any specific limits or regulations regarding EMF levels from electric power facilities, impacts in this regard would be less than significant.

Decommissioning and Disposal

During the decommissioning and disposal process, it is anticipated that all project structures would be fully removed from the ground. Above-ground equipment that would be removed would include electrical wiring, equipment on the inverter pads, transformer pads, telecommunications equipment and other 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 off-site. Removal of the solar modules would include removal of the racks on which the solar panels are attached, and their placement in secure transport crates and a trailer for storage, for ultimate transportation to another facility.

Once the solar modules have been removed, the racks would be disassembled, and the structures supporting the racks would be removed. All other associated site infrastructure would be removed, including fences, concrete pads that may support the inverters, transformers and related equipment, and underground conduit/electrical wiring. The fence and gate would be removed, and all materials would be recycled to the extent feasible. The area would be thoroughly cleaned and all debris removed. As discussed above, most panel materials would be recycled, with minimal disposal to occur in landfills in compliance with all applicable laws. The PV module manufacturer would likely provide CdTe module collection and recycling services. In any case, current CdTe PV modules pass federal leaching criteria for non-hazardous waste, due in part to the low solubility of CdTe, which means they would not pose a significant risk for cadmium leaching if they reached a landfill.

Several peer-reviewed studies have evaluated the environmental, health, and safety aspects of CdTe PV modules. These studies have consistently concluded that during normal operations, CdTe PV modules do
not present an environmental risk. CdTe releases are also unlikely to occur during accidental breakage or fire due to the high chemical and thermal stability of CdTe.

As described in Section 4.16, *Utilities and Service Systems*, Mitigation Measure MM 4.16-1 requires that an on-site recycling coordinator be designated by the project proponent to facilitate recycling of all waste through coordination with the on-site contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. The on-site recycling coordinator shall also be responsible for ensuring that wastes requiring special disposal are handled according to state and county regulations that are in effect at the time of disposal. The name and phone number of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits.

Mitigation Measures

- **MM 4.9-1:** Prior to the issuance of grading or building permits, the project proponent shall prepare a hazardous materials business plan and submit it to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval.
 - a. The hazardous materials business plan shall:
 - 1. Delineate hazardous material and hazardous waste storage areas.
 - 2. Describe proper handling, storage, transport, and disposal techniques.
 - 3. Describe methods to be used to avoid spills and minimize impacts in the event of a spill.
 - 4. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction.
 - 5. Establish public and agency notification procedures for spills and other emergencies, including fires.
 - 6. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site.
 - b. The project proponent shall provide the hazardous materials business plan to all contractors working on the project and shall ensure that one copy is available at the project site at all times.
 - c. A copy of the approved hazardous materials business plan shall be submitted to the Kern County Planning and Natural Resources Department.

Implement Mitigation Measure MM 4.16-1.

Level of Significance after Mitigation

With the implementation of Mitigation Measures MM 4.9-1 and MM 4.16-1, impacts would be less than significant.

Impact 4.9-2: The project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Construction

Construction activities required for the project would involve trenching, excavation, grading, and other ground-disturbing activities. Construction activities would temporarily require use of equipment, such as trucks, excavators, and other powered equipment, and would use potentially hazardous materials such as fuels (gasoline and diesel) and lubricants (oils and greases). In addition, construction may use hazardous materials such as glues, solvents, paints, thinners, or other chemicals. Such materials would be used in quantities typically associated with construction of PV solar facilities and would be transported, handled, stored, and disposed of in accordance with applicable laws and regulations and manufacturers' instructions. An accidental release of hazardous materials could result in a significant hazard to the public or the environment. Implementation of Mitigation Measure MM 4.9-1 and the Hazardous Materials Business Plan, which would provide methods to be used to avoid spills and minimize impacts in the event of a spill by providing procedures for shandling 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.

According to CalGEM, the project site is not located within a known active oil production field, but does include six plugged exploratory oil wells located within the project boundary (CalGEM, 2019).

Despite the relatively open spaces surrounding the project site, nearby sensitive receptors could be exposed to pollutant emissions during construction of the project, resulting in a potentially significant impact. An adverse risk related to exposure to hazardous materials could result from the installation and use of transformers, grading of the site, the application of herbicides, or other construction or operation processes if hazardous materials are not used appropriately during construction. Implementation of Mitigation Measure MM 4.9-2, which regulates the use of herbicides as described below, as well as Mitigation Measures MM 4.9-1 and MM 4.16-1, would reduce impacts related to sensitive receptors to a less-thansignificant 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 stated in the environmental setting above, it has been demonstrated that standard operation of polycrystalline silicon PV systems does not result in pollution emissions to air, water, or soil. Polycrystalline silicon panels removed from the site would be recycled or otherwise disposed at an appropriate waste disposal facility. Hazardous materials are unlikely to occur during accidental breakage of the polycrystalline silicon solar panels. Similarly, fire damage would not result in the release of hazardous materials. The polycrystalline silicon PV panel does not pose a threat to residences in the vicinity of the site for these reasons.

CdTe or other materials releases are unlikely to occur from accidental breakage of or fires involving the PV modules. CdTe is a highly stable semiconductor compound due to strong chemical bonding that translates to extremely low solubility in water, low vapor pressure, and a melting point greater than 1,000 degrees Celsius (°C). Potential impacts to soil, air, and groundwater quality from broken CdTe PV modules are highly unlikely to pose a potential health risk as they are below both human health screening levels and background levels (Sinha et al., 2012).

Potential CdTe emissions from fire are unlikely to occur at the project site because of the lack of fuel to support a sustained wildfire. Grass fires are the most likely fire exposure scenario for ground-mounted PV systems, and these fires tend to be short-lived due to the thinness of grass fuels. As a result, these fires are unlikely to expose PV modules to prolonged fire conditions or to temperatures high enough to volatilize CdTe, which has a melting point of 1,041°C. Moreover, even if a desert wildfire could reach that temperature, the actual CdTe emissions from a PV module would be insignificant (~0.04 percent) due to encapsulation in the molten glass matrix (Fthenakis et al., 2003).

Potential CdTe emissions from broken PV modules exposed to precipitation are also unlikely. Based on warranty return data, the breakage rate of CdTe PV modules is low, one percent over 25 years, which translates to an average of 0.04 percent per year. This breakage rate is an overestimate because over one-third of PV module breakage occurs during shipping and installation. Modules that break during shipping and installation are removed from the construction site and returned to a manufacturing facility for recycling. Even if the CdTe semiconductor layer becomes exposed to the environment, it strongly resists being released from the PV module into the environment, and CdTe has an extremely low solubility in water.

The CdTe PV modules do not pose a threat to nearby residences. The use of CdTe PV modules at the project site would not result in human or aquatic exposure of cadmium. A recent research article, Fate and Transport Evaluation of Potential Leaching Risks from Cadmium Telluride Photovoltaics (Sinha et al, 2012), further substantiates that during operation, CdTe PV modules do not pose a threat to human health or the environment due to its construction. The study evaluates the worst-case scenario to estimate potential exposures to CdTe compounds in soil, air or groundwater. The results show that exposure point concentrations in soil, air, and groundwater are one to six orders of magnitude below human health screening levels and below background levels, indicating that it is highly unlikely that exposures would pose potential health risks to onsite workers or offsite residents.

In addition, the hazardous materials that would be present in the energy storage facility would be contained within specifications that follow applicable federal, State, and local requirements. OSHA requirements call for the inclusion of appropriate ventilation, acid resistant materials, and presence of spill protection supplies.

Removal and/or maintenance of vegetation may require 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 herbicides to a less-than-significant level.

As noted above, the project would not involve the routine transport, use, or disposal of substantive quantities of hazardous materials, as defined by the Hazardous Materials Transportation Uniform Safety Act. The closest designated route for the transport of hazardous materials is I-5, which is located approximately 4.3 miles from 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 Measures MM 4.9-1, MM 4.9-2, and 4.16-1 would minimize or reduce potential impacts related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials, to a less-than-significant level.

Decommissioning and Disposal

The decommissioning and disposal process is described under Impact 4.9-1, above. Most panel materials would be recycled to the extent feasible, with minimal disposal to occur in landfills in compliance with all applicable laws. The PV module manufacturer provides 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. Batteries within the energy storage facility 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 waste through coordination with the onsite contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. The onsite recycling coordinator shall also be responsible for ensuring that wastes requiring special disposal are handled according to State and County regulations that are in effect at the time of disposal. The name and phone number of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits.

Mitigation Measures

Implementation of Mitigation Measures MM 4.9-1, as provided above, and MM 4.16-1 would be required (see Section 4.16, *Utilities and System Services*, for full mitigation measure text).

MM 4.9-2: The project proponent/operator shall continuously comply with the following:

- a. The construction contractor or project personnel shall use herbicides that are approved by the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service 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.

Impact 4.9-3: The project would emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.

The nearest school to the project is Tropico Middle School, located approximately 1.57 miles northeast in the community of Willow Springs. The project would not emit hazardous materials or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Project-related infrastructure would not emit hazardous materials or involve handling hazardous or acutely hazardous materials, substances, or waste within a quarter mile of an existing or proposed school. Therefore, there would be no impact.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impact.

Impact 4.9-4: The project would be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.

As discussed above, the project site is not identified in any of the California hazardous materials databases. Searches were completed for the parcels within the project site in the following hazardous materials lists: 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 (DTSC, 2020; SWRCB, 2020). Finally, there are no active Cease and Desist Orders or Clean Up and Abatement Orders for hazardous materials/facilities in the immediate project vicinity of the project site (SWRCB, 2020). Due to the project not being located on a site that is included

on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, no potential of creating a significant hazard to the public or the environment as a result are possible and, therefore, no impact.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impact.

Impact 4.9-5: The project would result in a safety hazard or excessive noise for people residing or working in the project area, for a project located within the adopted Kern County Airport Land Use Plan.

The nearest public airport identified by the Kern County ALUCP is the Rosamond Skypark, located approximately 3 miles northeast of the project site. Given this distance, the project site is not within the sphere of influence (SOI) of any airport identified by the Kern County ALUCP. Therefore, there are no impacts.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impact.

Impact 4.9-6: The project would impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

As discussed in Section 4.14, *Traffic and Transportation*, of this EIR, the project site is located in a rural area with various access roads allowing adequate egress/ingress to the site in the event of an emergency. Additionally, as part of the project, additional onsite access roadways (internal to the site) would be constructed. Therefore, the development of the proposed project would not physically interfere with emergency vehicle access or personnel evacuation from the site.

As further described in Section 4.14, *Traffic and Transportation*, of this EIR, increased project-related traffic would not cause a significant increase in congestion and or significantly worsen the existing service levels at intersections on area roads; therefore, project-related traffic would not affect emergency access to the project site or any other surrounding location. The proposed project would not require closures of public roads, which could inhibit access by emergency vehicles. For these reasons construction and operation would have a less-than-significant impact on emergency access.

While impacts would be less than significant, Mitigation Measure MM 4.14-1 would provide further assurances for emergency access. Mitigation Measure MM 4.14-1 requires the preparation of a Construction Traffic Control Plan that considers access for emergency vehicles to the project site. During project

operation, Mitigation Measure MM 4.14-1 requires the project operator obtain Kern County approval of all proposed access road designs prior to construction, further ensuring onsite emergency access is adequate.

Mitigation Measures

Implementation of Mitigation Measure MM 4.14-1 would be required (see Section 4.14, *Transportation*, for full mitigation measure text).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.14-1, impacts would be less than significant.

Impact 4.9-7: The project would expose people or structures either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

The project site is not located within a high fire hazard severity zone (CAL FIRE, 2007a; CAL FIRE, 2007b). However, there is sparse vegetation onsite and site preparation would involve the removal of additional vegetation, although natural vegetation may be maintained if it does not interfere with project construction or the health and safety of onsite personnel. The project would also include a Battery Energy Storage System (BESS), which has a very low likelihood of producing a fire (generally a result of thermal runaway event from an internal short with cascading events) and a very low likelihood of catching fire (due to the non-flammable material that are used for the structure and absence of flammable vegetation or other materials nearby). However, BESS still have the possibility of catching fire under the right circumstances (which are rare) or being damaged by fire and may generate fumes and gases that are extremely corrosive in those instances. Dry chemical, carbon dioxide, and foam are the preferred methods for extinguishing a fire involving batteries as water is not useful in extinguishing battery fires.

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 energy storage facility, and would include BMPs to reduce the potential for fire and extinguishment techniques if a fire were to occur. As discussed in more detail in Section 4.17, *Wildfire*, the project would not place the gen-tie and electrical collection system, energy storage facility, or internal/perimeter dirt maintenance roads within a high fire hazard zone, and would clear all necessary vegetation, which would reduce fire risks. Mitigation Measure MM 4.13-1 would be implemented to ensure a fire safety plan for construction and operation of the project is incorporated as part of the project. With mitigation, potential impacts from wildland fires 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

Implementation of Mitigation Measure MM 4.13-1, would be required (see Section 4.13, *Public Services*, for full mitigation measure text).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.13-1, impacts would be less than significant.

Impact 4.9-8: The project would generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, the proposed project would not exceed the following qualitative threshold: the presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the proposed project is significant when the applicable enforcement agency determines that any of the vectors:

- i. occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; or
- ii. are associated with design, layout, and management of proposed project operations; or
- iii. disseminate widely from the property; or
- iv. cause detrimental effects on the public health or well-being of the majority of the surrounding population.

Project-related infrastructure is not expected to result in features or conditions that could potentially provide habitat for vectors such as mosquitoes, flies, cockroaches, or rodents (such as standing water, agricultural products, or agricultural waste). The project site would produce a small amount of solid waste from construction activities. This may include paper, wood, glass, plastics from packing material, waste lumber, insulation, scrap metal and concrete, empty nonhazardous containers, and vegetation waste. These wastes would be segregated, where practical, for recycling. Non-recyclable wastes would be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill. Construction and operation of the proposed solar arrays and associated facilities would not produce excessive wastes, standing water, or other features that would attract nuisance pests or vectors. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

As described in Chapter 3, *Project Description*, a limited number of industrial/utility projects are proposed in the project vicinity in addition to a large mixed-use specific plan which proposes the development of residential and commercial uses. The geographic scope of impacts associated with hazardous materials generally encompasses the project site and a 0.25-mile-radius area around the site. A 0.25-mile-radius area allows for a conservative cumulative analysis because, 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. 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.

Impacts regarding the handling, use, and/or storage of hazardous materials would be project specific and would not cumulatively contribute to impacts. An accident involving a hazardous material release during project construction or operation through upset or accident conditions including site grading and the use and transport of petroleum-based lubricants, solvents, fuels, batteries, herbicides, and pesticides to and from the project site would be location specific. Conformance with existing State and County regulations, as well as project safety design features and the implementation of Mitigation Measures MM 4.9-1 and MM 4.9-2, identified above, would further reduce cumulative impacts. In addition, implementation of appropriate safety measures during construction of the project, as well as other cumulative projects, would reduce the impact to a level that would not contribute to cumulative effects. Given the minimal risks of hazards at the project site, cumulative impacts are unlikely to occur. Therefore, impacts would not be cumulatively significant.

Hazardous materials to be used during decommissioning and removal activities are of low toxicity and would consist of fuels, oils, and lubricants. Because these materials are required for operation of construction vehicles and equipment, BMPs would be implemented to reduce the potential for or exposure to accidental spills or fires involving the use of hazardous materials. Impacts from minor spills or drips would be avoided by thoroughly cleaning up minor spills as soon as they occur. While foreseeable projects have the potential to cause similar impacts, it is assumed these projects would also implement similar BMPs. Conformance with existing State and County regulations, as well as implementation of Mitigation Measures MM 4.9-1 MM 4.9-2, and MM 4.13-1, 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.

As discussed above, the nearest school to the project is Tropico Middle School, located approximately 1.57 miles northeast in the community of Willow Springs. Project-related infrastructure would not emit hazardous materials or involve handling hazardous or acutely hazardous materials, substances, or waste within a quarter mile of an existing or proposed school, and impacts would be less than significant. Given that the project is not in proximity to a school, cumulative impacts are unlikely to occur. Therefore, impacts would not be cumulatively significant.

As discussed above, the project site is not identified in any of the California hazardous materials databases. As such, development of the project would not create a significant hazard to the public or environment. Cumulative impacts are unlikely. Therefore, impacts would not be cumulatively significant.

The nearest public airport identified by the Kern County ALUCP is the Rosamond Skypark, located approximately three miles east of the project site. Given that the project is not in proximity to a public airport, cumulative impacts are unlikely to occur. Therefore, impacts would not be cumulatively significant.

With regard to an adopted emergency response, as analyzed above, the development of the project would not physically interfere with emergency vehicle access or personnel evacuation from the site. In addition, while impacts would be less than significant, Mitigation Measure MM 4.14-1, which requires the preparation of a Construction Traffic Control Plan, and Mitigation Measure MM 4.14-1, which requires the project operator obtain Kern County approval of all proposed access road designs prior to construction, would be implemented which would further ensure onsite emergency access is adequate during construction and operation. Cumulative projects are likely to implement similar mitigation measures. Therefore, impacts would not be cumulatively significant.

As analyzed above, to reduce potential impacts to people or structures due to a wildland fire, the project 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. In addition, as discussed in more detail in Section 4.17, *Wildfire*, the project would not place the gen-tie and electrical collection system, energy storage facility, or internal/perimeter dirt maintenance roads within a high fire hazard zone, and would clear all necessary vegetation, which would reduce fire risks. Mitigation Measure MM 4.13-1 would be implemented to ensure a fire safety plan for construction and operation of the project is incorporated as part of the project. With mitigation, potential impacts from wildland fires would be reduced to a less-than-significant level. Cumulative projects located in less developed and urbanized areas would likely implement similar mitigation measures to reduce any potential impacts from wildland fires. Therefore, impacts would not be cumulatively significant.

Project-related infrastructure is not expected to result in features or conditions that could potentially provide habitat for vectors such as mosquitoes, flies, cockroaches, or rodents (such as standing water, agricultural products, or agricultural waste). Other cumulative projects, which include a mixed-use specific plan development and a surface mine use, would also not be expected to result in providing habitat for vectors. Therefore, project's incremental effect is not cumulatively considerable when viewed in connection with the effects of other closely related past projects, the effects of other current projects and the effects of probable future projects and thus potential for cumulative impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.13-1, 4.14-1 and MM 4.16-1 would be required (see Section 4.13, *Public Services*, Section 4.14, *Transportation*, 4.16, *Utilities and System Services*, respectively, for full mitigation measure text).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.13-1, 4.14-1 and MM 4.16-1, cumulative impacts would be less than significant.

4.10.1 Introduction

This section of the EIR describes the hydrological environmental and regulatory settings, addresses potential impacts of the project on hydrology and water quality, and discusses mitigation measures to reduce impacts, where applicable. The information in this section is based on numerous available sources, as well as the Preliminary Drainage Study (Appendix I; Kimley Horn, 2020), the Water Supply Evaluation Technical Memorandum (Appendix J, Ecology and Environment Inc., 2020a), and the Soils Technical Memorandum (Appendix G, Ecology and Environment, Inc., 2020b) prepared for the project.

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 (IRWM, 2019). The Antelope Valley Region is a triangular-shaped, topographically closed basin bordered on the southwest by the San Gabriel Mountains, on the northwest by the Tehachapi Mountains, and on the east by a series of hills and buttes that generally follow the Los Angeles/San Bernardino County line.

Antelope Valley Hydrologic Unit (No. 626.00-626.80)

The project site is located within 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. Bounded by the San Gabriel Mountains to the south and southwest, the Tehachapi Mountains to the northwest, and a series of hills and buttes that generally follow the San Bernardino County Line to the east, the Antelope Valley HU forms a well-defined triangular point at its western edge. 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. 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) within the Tehachapi mountain range in Kern County, where two drainage areas develop separately. 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 9.5 miles from 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 community of Mojave range from a low of 33° Fahrenheit (F) in December to highs of 98° F in July and August (Western Regional Climate Center 2020a). 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.

 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 2020a, 2020b.				

Site Hydrology

Surface Hydrology and Drainage

The proposed project consists of six individual solar sites (project site) that span a total of approximately 1,330 acres in Antelope Valley along the southern edge of Kern County (Kimley Horn, 2020). The project is bound by W Avenue A to the south, 90th Street W to the west, Rosamond Boulevard to the north, and 70th Street to the east and is approximately 5 miles west of State Route (SR) 14. The project site is undeveloped desert land that is relatively flat, sloping gently from northwest to southeast. The topography is such that runoff will not be directed towards Rosamond Lake as most rainfall infiltrates into the immediate surrounding soils (Kimley Horn, 2020). The project site is located at the base of the Tehachapi Mountains on an alluvial fan where runoff flows from the upper mountain regions across the alluvial fan as sheet or shallow flows in drainage channels that are not well defined due to low precipitation and sporadic flows. According to the Preliminary Drainage Study, the onsite drainage generally flows towards the east and the offsite drainage flows from the Willow Springs HU within the Tehachapi mountain range in Kern

County where there are two separate drainage areas. Runoff is conveyed from the two drainage areas across, alluvial fans and into the Antelope Valley water basin through existing creeks that travel through the project site and towards Willow Springs Butte. Willow Springs Butte splits into two flowpaths: one that runs along the east side of this Butte and west of Tropico Hill, which proceeds across Raceway 6.0 Solar Site, and another that is directed around the north side of Tropico Hill, which does not cross the project site (Kimley Horn, 2020).

Floodplains

The entire project site is located within the Federal Emergency Management Agency's (FEMA's) Flood Zone A which is defined as an area subject to the one percent annual chance for flooding. With this classification, there are no specific requirements for non-occupied structures and base flood elevations are not calculated (Kimley Horn, 2020).

Soil Types and Erosion

Soil types were taken from the published survey by the National Resources Conservation Service (NRCS) Soils Survey for the Antelope Valley Area. According to the soils memorandum, the USDA soil units identified on the project site include the Adelanto coarse sandy loam, Cajon loamy sand, Dune lands, Greenfield sandy loam, Hanford coarse sandy loam, Hesperia loamy fine sand, Hesperia fine sandy loam, Rosamond fine sandy loam, Ramona coarse sandy loam, Rock land, Rosamond loamy fine sand and fine sandy loam, Rosamond loam, Rosamond loam, saline-alkali, Rosamond silty clay loam, Rosamond silty clay loam, Rosamond loam, and Tray loam, saline-alkali (Ecology and Environment, Inc., 2020b). These soils are well drained or excessively drained loams with moderate to high infiltration rates. Sandy soils typically have low cohesion and have a relatively higher potential for erosion when exposed to wind or moving water. Surface soils with higher amounts of clay tend to be less erodible as the clay acts as a binder to hold the soil particles together. See also Section 4.7-2, *Geology and Soils*, for more information on soil erosion potential.

Groundwater Resources

Antelope Valley Groundwater Basin

The project site is situated 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 to 3,500 feet amsl. The basin is bounded on the northwest by the Garlock fault zone at the base of the Tehachapi Mountains, approximately 14 miles northeast of the project site, and on the southwest by the San Andreas fault zone at the base of the San Gabriel Mountains, approximately 12 miles south of the project site. The basin is bounded on the east by ridges, buttes, and low hills that form a surface and groundwater drainage divide and on the north by Fremont Valley Groundwater Basin at a groundwater divide approximated by a southeastward-trending line 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 basin is divided by the U.S. Geological Survey (USGS) into 12 subunits based on differential ground flow patterns, recharge characteristics, and geographic location, as well as by controlling geologic structures. The basin's 12 subunits include Finger Buttes, West Antelope, Neenach, Willow Springs,

Gloster, Chaffee, Oak Creek, Pearland, Buttes, Lancaster, North Muroc, and Peerless. The USGS describes groundwater levels in these subunits as having rebounded from previous draw-down levels in some areas due to the importation of State Water Project water to the Antelope Valley region, and declined in others due to increased groundwater pumping.

Groundwater in the 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 and septic systems.

As described above, the project site is located within the Willow Springs subunit of the basin, northeast of the Neenach subunits, which reportedly has groundwater wells that draw from depths ranging between 200 to 300 feet below surface level. Based on well data reviewed by the Watermaster Engineer for Antelope Valley, groundwater level data in the Willow Springs subunit was sparse but showed no significant change in water levels between 2018 and 2019 (Todd Engineer, 2020). Groundwater in the project site vicinity appears to flow to the southeast toward Rosamond Lake. Water supply for the project would be sourced from a local water purveyor that primarily accesses groundwater from within the Antelope Valley Groundwater Basin (Appendix J, Ecology and Environment Inc., 2020a).

According to the USGS, groundwater extraction in the basin prior to 1972 provided more than 90 percent of the total water supply in Antelope Valley. Some areas experienced groundwater level declines of up to 200 feet and land subsidence of more than 6 feet in some areas. The groundwater basin is primarily recharged by deep percolation of precipitation and runoff from the surrounding mountains and hills. Other sources of recharge to the basin include artificial recharge and return flows from agricultural irrigation and urban irrigation.

The basin has been identified as being in a state of overdraft and as a result a Judgement for adjudication was finalized in December 2015(see additional discussion below under *Regulatory Setting*). As a result of the court decision, the court directed appointment of a Watermaster (a five-member board) to monitor the groundwater basin in accordance with court requirements. The Watermaster Board was tasked with arriving at a unanimous decision to hire the engineer to serve as Watermaster Engineer (Todd Groundwater) and assign pumping allocations per user that will be metered and monitored on an annual basis. It is expected that there will be no charge for pumpage that does not exceed the assigned allocation. Pumping in excess of the allocation will require payment of a replenishment fee to the Watermaster for acquisition of additional supplies.

4.10.3 Regulatory Setting

Federal

Clean Water Act

The Clean Water Act (CWA) (33 U.S. Code Section 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA required states to set standards to protect,

maintain, and restore water quality through the regulation of point-source and certain nonpoint-source discharges to surface water. Those discharges are the regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCBs). The project site is within the Lahontan RWQCB. Projects that disturb 1 or more acres, including the proposed project, are required to obtain NPDES coverage under the Construction General Permits.

Section 401, Water Quality Certification. Section 401 of the CWA requires that, prior to issuance of any federal permit or license, any activity, including river or stream crossing during road, pipeline, or transmission line construction, which may result in discharges into waters of the U.S., must be certified by the state, as administered by the RWQCB. This certification ensures that the proposed activity does not violate state and/or federal water quality standards.

Section 402, National Pollutant Discharge Elimination System. Section 402 of the CWA authorizes the State Water Resources Control Board (SWRCB) to issue 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. Projects that disturb 1 or more acres, including the proposed project, are required to obtain NPDES coverage under the Construction General Permit.

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 Act

FEMA is responsible for managing the National Flood Insurance Program (NFIP), which makes federally backed flood insurance available for communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. The NFIP, established in 1968 under the National Flood Insurance Act, requires that participating communities adopt certain minimum floodplain management standards, including restrictions on new development in designated floodways, a requirement that new structures in the 100-year flood zone be elevated to or above the 100-year flood level (known as base flood elevation), and a requirement that subdivisions be designed to minimize exposure to flood hazards.

To facilitate identifying areas with flood potential, FEMA has developed Flood Insurance Rate Maps (FIRMs) that can be used for planning purposes, including floodplain management, flood insurance, and enforcement of mandatory flood insurance purchase requirements. Kern County is a participating jurisdiction in the NFIP and, therefore, all new development must comply with the minimum requirements of the NFIP.

State

Department of Water Resources

The major responsibilities of the California Department of Water Resources (DWR) include preparing and updating the California Water Plan to guide development and management of the state's water resources; planning, designing, constructing, operating, and maintaining the State Water Resources Development System; regulating dams; providing flood protection; assisting in emergency management to safeguard life and property; educating the public; and serving local water needs by providing technical assistance. In addition, DWR cooperates with local agencies on water resources investigations, supports watershed and river restoration programs, encourages water conservation, explores conjunctive use of ground and surface water, facilitates voluntary water transfers, and, when needed, operates a state drought water bank.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Sections 13000 et seq.), passed in 1969, requires protection of water quality by appropriate designing, sizing, and construction of erosion and sediment controls. The Porter-Cologne Act established the SWRCB and divided California into nine regions, each overseen by a RWQCB. The SWRCB is the primary state agency responsible for protecting the quality of the state's surface and groundwater supplies and has delegated primary implementation authority to the nine RWQCBs. The Porter-Cologne Act assigns responsibility for implementing CWA 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 three 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 2020).

Streambed Alteration Agreement (California Fish and Game Code)

Section 1602 of the California Fish and Game Code protects the natural flow, bed, channel, and bank of any river, stream, or lake designated by the California Department of Fish and Wildlife (CDFW) in which there is, at any time, any existing fish or wildlife resources, or benefit for the resources. Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state, and requires any person, state or local governmental agency, or public utility to notify the CDFW before beginning any activity that will:

- Substantially divert or obstruct the natural flow of any river, stream or lake;
- Substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

During final engineering and design of a project, if it is determined that any project-related actions would have the potential to necessitate a streambed alteration agreement, such an agreement would be prepared and implemented prior to construction of the project, thus maintaining compliance with Section 1602 of the California Fish and Game Code. A streambed alteration agreement is required if the CDFW determines the activity could substantially adversely affect an existing fish and wildlife resource. The agreement includes measures to protect fish and wildlife resources while conducting the project. The CDFW must comply with CEQA before it may issue a final lake or streambed alteration agreement; therefore, the CDFW must wait for the lead agency to fully comply with CEQA before it may sign the draft lake or streambed alteration agreement, thereby making it final.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) requires the formation of local-controlled groundwater sustainable agencies in high- and medium-priority groundwater basins. These groundwater sustainability agencies are responsible for developing and implementing a Groundwater Sustainability Plan (GSP) to ensure the basin is operated within its sustainable yield without causing undesirable results. The Judgment of adjudication for the Antelope Valley Groundwater basin was entered in December 2015. To administer the Judgment, the Court directed appointment of the Watermaster (a five-member board). In 2016, the Watermaster Board and an Advisory Committee were formed. The Board finalized the hiring of a Watermaster Engineer 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 and California DWR in accordance with SGMA (California Water Code section 10720.8). The first annual report to the Court was completed June 26, 2017. In 2018, the Watermaster Board requested and was granted a permanent filing date of August 1st for submittal of the annual report to the Court covering the previous calendar year. The 2018 Annual Report was provided to the Court in compliance with the August 1, 2019 deadline. The most recent report to date is the 2019 Annual Report prepared in July of 2020 (Todd Groundwater, 2020).

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 and Willow Springs Specific Plan are incorporated by reference.

Kern County General Plan

Land Use, Open Space, and Conservation Element

1.3 Physical and Environmental Constraints

Policies

Policy 1:	Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained (Map Code 2.1 [Seismic Hazard], Map Code 2.2 [Landslide], Map Code 2.3 [Shallow Groundwater], Map Code 2.5 [Flood Hazard], Map Codes from 2.6 – 2.9, Map Code 2.10 [Nearby Waste Facility], and Map Code 2.11 [Burn Dump Hazard]) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.
Policy 8:	Encourage the preservation of the floodplain's flow conveyance capacity, especially in floodways, to be open space/passive recreation areas throughout the County.
Policy 9:	Construction of structures that impede water flow in a primary floodplain will be discouraged.
Policy 10:	The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan.
D.1	

Policy 11: Protect and maintain watershed integrity within Kern County.

Implementation Measures

- Measure F: The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.
- Measure H: Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.
- Measure J: Compliance with the Floodplain Management Ordinance prior to grading or improvement of land for development or the construction, expansion, conversion or substantial improvements of a structure is required.
- Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.

1.9 Resources

Policy

Policy 11: Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.

1.10 General Provisions

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.

1.10.6 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 constructionrelated and urban pollutants, as well as alterations of flow patterns and introduction of impervious surfaces as required by the California Environmental Quality Act (CEQA), to prevent the degradation of the watershed to the extent practical.

Implementation Measure

Measure Y: Promote efficient water use by utilizing measures such as:

- (i) Requiring water-conserving design and equipment in new construction;
- (ii) Encouraging water-conserving landscaping and irrigation methods; and
- (iii) Encouraging the retrofitting of existing development with water conserving devices.

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.

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 9Comply with the requirements of the National Flood Insurance Program Regulations, Parts59 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 the following uses in the Floodplain Combining District, as applicable to the proposed project:

Implementation Measures

- Measure B: All uses that will likely increase the flood hazard or affect the water-carrying capacity of the floodplain beyond the limits resulting from encroachment as specified in Section 19.70.130.
- Measure C: Dumping, stockpiling, or storage of floatable substances or other materials which, in the opinion of the Kern County and Survey Services Department, will add to the debris loads of the stream or watercourse, unless protected by flood control devices approved by the Kern County Public Works Department and constructed in accordance with Section 19.70.130.
- Measure F: Individual sewage disposal systems (e.g., septic tank systems), unless protected by flood control devices approved by the Kern County Public Works Department and constructed in accordance with the requirements of the Kern County Health Department so as to minimize infiltration of floodwaters into the systems and discharges from the systems into the floodwaters.
- Measure G: Sources of water supply (e.g., wells, springs) unless protected by flood control devices approved by the Kern County Public Works Department and constructed in accordance with the requirements of the Kern County Health Department so as to minimize infiltration of floodwaters.

Kern County 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.

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 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.

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 1 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 project (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 basin through the Antelope Valley Integrated Regional Water Management Plan, 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. 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 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. Impacts were evaluated based on a review of available data and information, which is summarized above, and consideration of changes that would occur as a result of project implementation, in comparison to existing conditions.

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 adverse effect on hydrology and water quality if the project 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 on site or off site;
 - ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off site;

- 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 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 groundwater quality.

Construction

The project site is relatively flat open space where runoff occurs as overland sheet or shallow-concentrated flow (Kimley Horn, 2020). Project construction would include the following construction activities: grading for access roads; stationary ground-mounted photovoltaic (PV) module foundations; a temporary concrete batch plant; inverters and transformers; an on-site collector substation, underground and overhead fiber optics, a battery storage facility; and underground electrical collection systems. Construction would also require areas for material laydown and equipment staging. Conventional grading would be performed selectively throughout the project site. However, because the project area is relatively flat, it is anticipated that grading would be limited in most areas. Grading and excavation would also be required for the proposed foundations. These activities would affect current drainage patterns and erosion on the project site; however, designing the site grading and access roads in compliance with County standards would prevent substantial alterations to drainage patterns and erosion within the project site. The amount of impervious surfaces from construction of access roads, PV module foundations, substations, and other improvements would be relatively limited compared to the overall perviousness of the project site and spread out across the approximately 1,330-acre project area.

Potential impacts on water quality from erosion and sedimentation are expected to be localized and temporary during construction. The Kern County Public Works Department requires the completion of an NPDES applicability form for projects with construction activities that would disturb 1 or more acre within Kern County. Because stormwater runoff does not discharge to waters of the United States (i.e., the project area drains to a terminal basin that is not hydrologically connected to a navigable waterway), obtaining coverage under the General Construction NPDES permit for stormwater is not required. However, because the project would disturb more than 1 acre of land area and stormwater would not be contained on site or discharge into a terminal drainage facility, the County would require the project proponent to prepare and implement a SWPPP for the project. The SWPPP would include BMPs to be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby drainages, and would be applicable to all areas of the project, including the solar fields and the gen-tie line.

Per Mitigation Measure MM 4.10 1, the SWPPP would include BMPs designed to prevent the occurrence of soil erosion and discharge of other construction-related pollutants that could contaminate water quality, and would be applicable to all areas of the project, including the solar fields and the gen-tie line. In addition,

prior to the commencement of construction activities, the project proponent would be required to adhere to the requirements of the Kern County Grading Code. This includes implementation of various measures designed to prevent erosion and control drainage onsite, thereby further preventing the potential sedimentation and subsequent degradation of stormwater.

During project construction, any activity that results in the accidental release of hazardous or potentially hazardous materials could result in water quality degradation. Materials that could contribute to this impact include diesel fuel, gasoline, lubricant oils, hydraulic fluid, antifreeze, transmission fluid, lubricant grease, cement slurry, and other fluids used by construction and maintenance vehicles and equipment. Motorized equipment could leak hazardous materials, such as motor oil, transmission fluid, or antifreeze, due to inadequate or improper maintenance, unnoticed or unrepaired damage, improper refueling, or operator error. As noted in Section 4.9, Hazards and Hazardous Materials, of this EIR, Mitigation Measure MM 4.9-1 would require the project proponent to provide a Hazardous Materials Business Plan (HMBP) 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. The project proponent would provide the HMBP to all contractors working on the project and would ensure that one copy is available at the project site at all times. Implementation of the HMBP would ensure that all hazardous materials are handled, stored, and disposed of in a manner that is protective of water quality in stormwater runoff such that potential impacts during construction would be less than significant.

Operation

The solar facilities would require limited use of certain hazardous materials for routine daily operations and maintenance. Accidental release of such materials could include fuels, paints, coatings, lubricants, and transformer oil, which would result in water quality degradation if the materials were to become entrained in stormwater. This would result in a potentially significant impact on water quality. However, implementation of Mitigation Measure MM 4.9-1 would require the project proponent to prepare and implement a Hazardous Materials Business Plan, which would minimize this impact by ensuring safe handling of hazardous materials on site, and providing for cleanup in the event of an accidental release.

In addition to accidental releases of potential hazardous materials, during project operations, water quality could also be degraded as a result of increases in pollutants washed from impervious surfaces on the project site. Briefly, during dry periods, impervious surfaces (i.e., hardscape surfaces such as proposed collector substation, inverters and other hardscape like the gravel roads which because of compaction are effectively impervious) can collect greases, oils, and other vehicle-related pollutants. During storm events, these pollutants can become entrained in surface waters, resulting in water quality degradation. However, per Mitigation Measure MM 4.10-2, when the project is operational, the project would be required to prepare a drainage plan in accordance with 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 off-site discharge. Routine structural BMPs are intended to address water quality impacts related to drainage that are inherent in development. Examples of routine structural BMPs

include filtration, drainage swales, runoff-minimizing landscape for common areas, and retention basins. Adherence to these requirements would minimize potential for the operation period to cause any significant water quality degradation. Apart from infrequent cleaning of panels with water, which is unlikely to result in 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 the project would not violate water quality standards or waste discharge requirements, or otherwise degrade water quality in surface water or groundwater.

Mitigation Measure

Implementation of Mitigation Measure MM 4.9-1 would be required (Section 4.9, *Hazards and Hazardous Materials*, for text of Mitigation Measure MM 4.9-1).

- **MM 4.10-1:** Prior to issuance of a grading permit, the project proponent/operator shall submit a Stormwater Pollution Prevention Plan (SWPPP) for review and approval by the Kern County Planning and Natural Resources Department and/or Kern County Public Works Department. The SWPPP shall be designed to minimize runoff and shall specify best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sediment or any other pollutants from moving offsite and into receiving waters. The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Recommended best management practices to be incorporated in the SWPPP may include the following:
 - a. Minimization of vegetation removal;
 - b. Implementing sediment controls, including silt fences a necessary;
 - c. Installation of a stabilized construction entrance/exit and stabilization of disturbed areas;
 - d. Properly containing and disposing of hazardous materials used for construction onsite;
 - e. Properly covering stockpiled soils to prevent wind erosion;
 - f. Proper protections and containment for fueling and maintenance of equipment and vehicles; and
 - g. Appropriate disposal of demolition debris, concrete and soil, and aggressively controlling litter.
 - h. Cleanup of silt and mud on adjacent street due to construction activity.
 - i. Checking all lined and unlined ditches after each rainfall.
 - j. Restore all erosion control devices to working order to the satisfaction of the Kern County Planning and Natural Resources Department and/or Kern County Public Works Department after each rainfall run-off.
 - k. Install additional erosion control measures as may be required due to uncompleted grading operations or unforeseen circumstances which may arise.

- **MM 4.10-2:** Prior to the issuance of a grading permit, the project proponent/operator shall complete a hydrologic study and final drainage plan designed to evaluate and minimize potential increases in runoff from the project site. The study and plan shall include 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. An assessment of the 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 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 on-site or off-site.
 - d. A specification that the final design of the solar arrays shall include 1 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 (1) foot or as required by Kern County's Floodplain Ordinance.
 - e. The hydrologic study and drainage plan shall be prepared in accordance with the Kern County Grading Code and Kern County Development Standards, and approved by the Kern County Public Works Department prior to the issuance of grading permits.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-1 and MM 4.10-1, and MM 4.10-2, impacts would be less than significant.

Impact 4.10-2: The project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

The project area is located on mostly undeveloped land in an area that does not currently have any waterdemanding activities. Records indicate that the groundwater basin underlying the project site has been in a state of overdraft for over 50 years. In 2011, Superior Court Judge Jack Komar issued an official decision that the basin is in a state of overdraft and that the safe yield of this basin is 110,000 AFY. This amount accounts for imported water that is used to recharge the basin in addition to natural recharge from infiltration of precipitation and snowmelt. The judgment requires the Watermaster engineer (currently Todd Engineers) to monitor components of the total safe yield in the basin and to present those data sets to the court in an annual report (Todd Groundwater 2020). According to the 2019 Annual Report, the Willow Springs subbasin did not indicate significant water level changes from 2018 to 2019. The basin as a whole is still in an overdraft condition, and the project site is located in the western portion of the basin in the Willow Springs subbasin, where groundwater levels indicate a slight decline (Todd Groundwater, 2020). The proposed project would require an estimated 500 AF of water during construction for dust suppression, concrete manufacturing, truck wheel washing, equipment washing, and fire safety across the six sites. Water required during construction could be supplied from the Antelope Valley – East Kern Water Agency (AVEK) water purveyor. On January 9, 2020, it was confirmed that AVEK has sufficient water supply to meet the needs of the proposed project (Ecology and Environment, Inc., 2020). Therefore, the proposed water suppliers have adequate adjudicated supplies to serve the project.

Due to existing overdraft conditions within the Antelope Valley groundwater basin, any use of on-site groundwater would potentially contribute to existing overdraft conditions. Groundwater levels in the Willow Springs subbasin, where the project is located, is still in an overdraft condition, indicating that localized overdraft continues. According to the 2019 Annual Report, AVEK will be supplying the Watermaster with technical documents for its banking locations for development of a Storage Agreement, which includes the Willow Springs Water Bank. The need and format for a Storage Agreement for pre-existing banks is currently being discussed along with the potential fees associated with this review and development of the Storage Agreements (Todd Groundwater, 2020). In addition, construction water requirements would be temporary, lasting approximately 10 to 12 months, after which time project water usage would drop substantially.

The project's operational water requirements of approximately 19 AFY, primarily for washing of the modules once a year, would be relatively small, and as water use in the basin is managed along with trends of higher water-intensive uses such as agricultural production converting to less-demanding water uses such as renewable energy projects, water in storage appears to be recovering. The project's demands would represent a small portion of the established safe yield of the basin (110,000 AFY), and would not substantially deplete groundwater levels in comparison to existing conditions of the groundwater basin. Water supply management strategies suggest that water supply availability in the Antelope Valley region would continue and reductions in groundwater pumping following the judgement resulted in reported lower extractions in 2019 compared to previous years and bringing the Basin closer to its target safe yield of 110,000 AFY (Todd Groundwater 2020). As previously mentioned, AVEK confirmed that existing supplies are sufficient to meet the requirements of the project (Ecology and Environment, Inc., 2020).

For additional discussion of the effects of adjudication on the availability of water supply for the project, please refer to Section 4.17, *Utilities and Service Systems*, of this EIR.

The project would result in an increase in impervious surfaces on the project site from the equipment foundations, substation, and compacted gravel roads. The panels, which would cover the largest area of the project site, 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. 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. Construction and operation of the project would have a less than significant impact on groundwater supplies and groundwater recharge.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Impact 4.10-3: The project would substantially alter the existing drainage patterns of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion and/or sedimentation on-site or off-site.

The current drainage patterns at the project site are characterized as overland sheet or shallow-concentrated flow that occurs from northwest to southeast. Under existing conditions, during small events, rainfall is generally quickly absorbed into sandy and silty soils on site, and does not run off. During larger events, runoff occurs primarily within poorly defined drainages on site.

The project would include limited grading such that off-site flow that enters the project site would continue to flow south through the project site much as it does currently. However, installation of the proposed facilities discussed in Chapter 3, *Project Description*, of this EIR would alter existing on-site drainage patterns and flowpaths to some degree, and could alter the way that stormwater from upgradient flows across the project site during major events. Given the unconsolidated and erosive nature of soils within the project area and its vicinity, these changes could result in increased erosion on site. Additionally, if the project controls stormwater run-on to the project site through berms or other engineered channels, increased concentration of flows could cause head cutting, scour, and other erosional processes. Increases in erosion could result in sedimentation downstream. Finally, the new impervious surfaces created by development of the project would generate additional stormwater runoff on site. This could exacerbate potential erosion and sedimentation on site or downstream.

As described above, the proposed project would implement a SWPPP that would require preservation of existing vegetation and topography to the maximum extent feasible, as well as include erosion and sediment control BMPs designed to prevent erosion and sedimentation from occurring during project construction. Compliance with the Kern County Grading Code requires erosion prevention measures be implemented. With regard to erosion and sedimentation during project operation caused by increased runoff from impervious surfaces, large amounts of pervious ground surface would remain during project operation that would continue to absorb the majority of surface flows

Further, Mitigation Measure MM 4.10-2 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.

Mitigation Measures

Implementation of Mitigation Measure MM 4.10-1 and MM 4.10-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.10-1 and MM 4.10-2, impacts would be less than significant.

Impact 4.10-4: 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 which would substantially increase the rate or amount of surface runoff which would result in flooding on- or off site.

As discussed above in Impact 4.10-3, installation of the project facilities would alter existing on-site drainage patterns and flowpaths compared to existing conditions and include the introduction of new impervious surfaces. These changes could cause localized flooding during major events along the margins of the project area, or within the project area, depending upon how stormwater is managed under final project design. Changes in drainage patterns on site that relate to the installation of new facilities, especially changes that result in flow concentration, could increase the occurrence of localized flooding on site or downstream. Finally, proposed new impervious surfaces would generate additional stormwater runoff on site. This could exacerbate potential increases in localized flooding on site or downstream.

The entire project site is located within Zone A, an area that is subject to inundation from a 100-year flood event. However, the amount of new impervious surfaces would be less than one percent of the entire project area and not anticipated to substantively increase the rate or amount of surface runoff (Kimley Horn, 2020). In addition, as described above, a final drainage plan would be completed for the project site, which would include calculations, in accordance with Kern County requirements. As described in Mitigation Measure MM 4.10-2, the final drainage plan will be required to ensure appropriate drainage of the project site. This final drainage plan will ensure that design of the solar arrays shall include 1 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 1 foot or as required by Kern County's Floodplain Ordinance. With implementation of Mitigation Measure MM 4.10-2, final design of proposed stormwater management facilities including the retention basins would be required. The final design would determine the appropriate sizing and location of the retention basins to ensure that flooding on- or off site is reduced to less than significant levels.

Mitigation Measures

Implementation of Mitigation Measure MM 4.10-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.10-2, impacts would be less than significant.

Impact 4.10-5: The project would create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

The project site is located in a remote, rural region with no existing or planned stormwater infrastructure. As described above, 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. During operation, most of the project site would remain as pervious surfaces, allowing infiltration of the runoff produced by the new minor impervious surfaces. The project would not exceed the capacity of any existing or planned infrastructure and the implementation of Mitigation Measure MM 4.10-2 would minimize potential increases in stormwater flow and other project-induced changes to drainage patterns to less than significant levels.

Mitigation Measures

Implementation of Mitigation Measure MM 4.10-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.10-2, impacts would be less than significant.

Impact 4.10-6: The project would be placed within a 100-year flood hazard area structures that would impede or redirect flood flows.

The project sites are located within a 100-year flood zone (Kimley Horn, 2020). The project would introduce structures on the project site such as the solar panels mounted on elevated single-axis tracker racking systems, at-grade compacted native access roads, and the associated electrical equipment that, as noted above would have a minor effect on flood elevations. Therefore, impacts related to flooding would be less than significant. In addition, 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. Additionally, per Mitigation Measure MM 4.10-2, grading for the project would be designed so that water surface elevations during flood events would not be increased by more than one foot.

Mitigation Measures

Implementation of Mitigation Measure MM 4.10-2 would be required.

Level of Significance

With implementation of Mitigation Measure MM 4.10-2, impacts would be less than significant.

Impact 4.10-7: The project would contribute to inundation by a flood hazard, tsunami, or seiche zones, that would result in risk of release of pollutants.

As described above, the project sites are located within a 100-year flood zone (Kimley Horn, 2020). As noted above, implementation of the drainage plan required by Mitigation Measure MM 4.10-2 would ensure that improvements that would include the storage of hazardous materials would be required to have at least one foot of freeboard above the calculated flood depth. As discussed more thoroughly in Section 4.9, *Hazards and Hazardous Materials*, the project would not include the use, storage, or disposal of significant quantities of hazardous materials. In addition, the project site is located well inland and far from the ocean or any enclosed or semi-enclosed water body such that there would be no potential threat from tsunami or seiche hazards. Therefore, considering the limited area of the site that is in the flood hazard area, the limited

amount of storage of hazardous materials at the site, and with the implementation of the drainage plan required by Mitigation Measure MM 4.10-2, which would provide flood protection measures, the potential for release of pollutants due to project inundation would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure MM 4.10-2 would be required.

Level of Significance

With implementation of Mitigation Measure MM 4.10-2, impacts would be less than significant.

Impact 4.10-8: The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

As noted above, the project site is located within the South Lahonton RWQCB and is subject to the applicable requirements of the Basin Plan administered by the RWQCB in accordance with the Porter-Cologne Water Quality Control Act. The proposed project 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 not conflict with or obstruct implementation of the Basin Plan and the potential impacts would be less than significant.

As noted above, the project site is located within the Antelope Valley Groundwater Basin, most of which is in an adjudicated area for groundwater management. 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. The board hired Todd Groundwater as Watermaster engineer (required by the judgment) 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 2020 for the 2019 water year. The project would require water for construction and operation phases that would be obtained from AVEK and trucked onto the project site. The water purveyor, AVEK, is a party to the adjudication and would provide water in compliance with 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.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope considered for the cumulative analysis is the Antelope Valley HU for surface water and the Antelope Valley Groundwater Basin for groundwater. As described in Chapter 3, *Project Description*, of this EIR, multiple projects, including several utility-scale solar and wind energy production facilities, are proposed throughout the Western Antelope Valley in both Kern and Los Angeles Counties. The Antelope Valley HU is a closed basin with no outlets to the ocean. The Antelope Valley is a recognized groundwater basin, and use of the basin as the geographic scope allows for analysis of impacts to the local groundwater supply. The related projects listed in Table 3-9, *Cumulative Projects List*, all reside in a somewhat smaller geographic scope than the Antelope Valley HU, but this smaller area is likely experiencing development, particularly development of renewable energy, of a type and density that is representative of the hydrological unit as a whole.

With regard to water supply, the cumulative scenario projects, including solar energy projects, would require water for construction and operation. The Santa Clara Superior Court has established a safe threshold for water extraction from the Antelope Valley Groundwater Basin to be 110,000 acre-feet per year. As noted above for the proposed project, related projects in the Antelope Valley Groundwater Basin would also be required to adhere to the adjudication judgement. Water suppliers that are providing water supply to the related projects are parties subject to the requirements of the adjudication basin management overseen by the Watermaster. Therefore, the incremental water use of the project, along with the other similar cumulative projects that are being managed by the Watermaster, during construction and operations would not result in a significant cumulative impact to the basin. Hence, cumulative impacts related to water supplies are less than significant.

Similar to the proposed project, all cumulative projects would not discharge to waters of the United States due to their location within the Antelope Valley, which is a closed basin with no outlet to the Pacific Ocean. Regardless, Mitigation Measure MM 4.10-1 would require the project to prepare and implement a SWPPP in accordance with County requirements. Similarly, all projects that would not retain all runoff onsite would be required to prepare a SWPPP, which would include BMPs designed to prevent the mixture of sediment and other pollutants with stormwater and degrading water quality. Furthermore, the proposed project would implement a Hazardous Materials Business Plan as part of Mitigation Measure MM 4.9-1 that would require appropriate handling of hazardous materials onsite to ensure they do not come into contact with stormwater and affect water quality. All other projects in the vicinity that would handle hazardous materials would be required to comply with hazardous material regulations. Therefore, cumulative scenario impacts associated with water quality degradation would not be cumulatively considerable, and the project would not contribute to a cumulative impact on water quality.

With respect to erosion, drainage, and flooding, the project would implement Mitigation Measure MM 4.10-2, which would minimize direct impacts on erosion, drainage, and flooding. Other cumulative scenario projects would be required to implement similar measures, in order to minimize erosion, drainage, and flooding related impacts. Additionally, drainage related impacts from cumulative scenario projects would be primarily localized. Therefore, cumulative scenario impacts on erosion, drainage, and flooding are not anticipated to be cumulatively considerable, and the project would not contribute to a cumulative impact on flooding, erosion, or drainage.

Mitigation Measures

Implementation of Mitigation Measures MM 4.9-1, MM 4.10-1, and MM 4.10-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-1, MM 4.10-1, and MM 4.10-2 cumulative impacts would be less than significant.

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4.11.1 Introduction

This section of the Draft 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 1,330 acres of undeveloped, privately owned land located in the western extent of the Mojave Desert, approximately 5.5 miles west of the unincorporated community of Rosamond, California. The proposed project consists of six (6) discontinuous sites in the western extent of the Mojave Desert near Rosamond, California between Rosamond Boulevard and Avenue A, and between 70th Street West and 90th Street West. Development in the area surrounding the project sites include rural residences, recreational uses, 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 airports to the proposed project are the Rosamond Skypark located 3 miles to the northeast and the Mojave Air and Space Port located 14.5 miles to northeast. Private airstrips include the Lloyd's Landing airport, located approximately 3.5 miles north, and the Little Buttes Antique Airfield, located approximately 2.5 miles south of the project in Los Angeles County.

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) 7.1 (Light Industrial), 7.1/4.4 (Light Industrial/ Comprehensive Plan Required), 7.2 (Service Industrial), 7.2/4.4 (Service Industrial/ Comprehensive Plan Required), 5.5 (Residential, Maximum 1 units/net acre), 5.5/2.85 (Residential, Maximum 1 units/net acre/Noise Management Area), 5.6 (Residential, Maximum 2.5 gross acres/unit), 5.6/2.85 (Residential, Maximum 2.5 gross acres/unit/Noise Management Area), 5.3 (Residential, Maximum 10 units/net acre), 5.3/4.4 (Residential, Maximum 10 units/net acre/Noise Management Area/Comprehensive Plan Required), 5.4 (Residential, Maximum 10 units/net acre/Noise Management Area/Comprehensive Plan Required), 5.4 (Residential, Maximum 10 units/net acre/Noise Management Area/Comprehensive Plan Required), 5.4 (Residential, Maximum 4 units/net acre) and 5.4/2.85 (Residential, Maximum 4 units/net acre/Noise Management Area).

As shown in **Table 4.11-1**, *Project Site and Surrounding Land Use Designations and Zoning Classifications*, below, the project site's zoning classification is A FPS (Exclusive Agriculture - Floodplain Secondary Combining), E (2.5) Estate, E (2.5) RS MH FPS (Estate– Residential Suburban Combining – Mobile Home Combining – Floodplain Secondary Combining), E (2.5) RS FPS (Estate– Residential Suburban Combining – Floodplain Secondary Combining), and OS (Open Space).

	Existing Land Use	Existing Willow Springs Map Code Designation	Existing Zoning Classification
Raceway 2.0 Solar 1	Undeveloped, disturbed land	7.1/4.4, 7.2/4.4	E (2.5) RS MH FPS
North	Undeveloped, sparse residential dwellings, dirt roads	7.2	E (2.5)
East	Undeveloped, sparse residential dwellings, dirt roads	7.1; 7.2	E (2.5)
South	Undeveloped, agriculture	N/A (Los Angeles County)	N/A
West	Undeveloped, sparse residential dwellings, dirt roads	7.1; 7.2	E (2.5)
Raceway 2.0 Site 2	Undeveloped, disturbed land	7.1 /4.4, 7.2/4.4	E (2.5) RS FPS and E (2.5) RS MH FPS
North	Undeveloped, sparse residential dwellings, dirt roads	5.5/2.85	E (2.5)
East	Undeveloped, sparse residential dwellings, dirt roads	5.6	E (2.5)
South	Undeveloped, sparse residential dwellings, dirt roads	7.2	E (2.5)
West	Undeveloped, sparse residential dwellings, dirt roads	7.1; 7.2	E (2.5)
Raceway 2.0 Site 3	Undeveloped, disturbed land	5.6; 5.6/2.85; 7.1/4.4; 7.2/4.4	E (2.5) RS FPS
North	Undeveloped, sparse residential dwellings, dirt roads	5.6	E (2.5)
East	Undeveloped, sparse residential dwellings, dirt roads	5.5; 5.6/2.85	E (2.5)
South	Undeveloped, agriculture	7.1	E (2.5)
West	Undeveloped, sparse residential dwellings, dirt roads	7.1; 7.2	E (2.5)

TABLE 4.11-1: PROJECT SITE AND SURROUNDING LAND USES AND ZONING CLASSIFICAT	TIONS
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	Existing Land Use	Existing Willow Springs Map Code Designation	Existing Zoning Classification
Raceway 2.0 Site 4	Undeveloped, disturbed land	5.5, 5.6/2.85	A FPS
North	Undeveloped, sparse residential dwellings, dirt roads	5.6	E (2.5)
East	Undeveloped, sparse residential dwellings, dirt roads	5.5; 5.6/2.85	E (2.5)
South	Undeveloped, sparse residential dwellings, dirt roads	5.6/2.85	E (2.5)
West	Undeveloped, sparse residential dwellings, dirt roads	5.6; 5.6/2.85	E (2.5)
Raceway 2.0 Site 5	Undeveloped, disturbed land	5.3/4.4; 5.3/2.85/4.4	E (2.5) RS MH FPS and E (2.5) RS FPS
North	Undeveloped, sparse residential dwellings, dirt roads	5.3	E (2.5)
East	Undeveloped, sparse residential dwellings, dirt roads	5.3/2.85; 5.4	E (2.5)
South	Undeveloped, agriculture	5.3/2.85	E (2.5)
West	Undeveloped, sparse residential dwellings, dirt roads	5.5/5.6/2.85	E (2.5)
Raceway 2.0 Site 6	Undeveloped, disturbed land	5.3/4.4; 7.1	OS, E (2.5) RS FPS
North	Undeveloped, sparse residential dwellings, dirt roads	5.4/2.85	E (2.5)
East	Undeveloped, sparse residential dwellings, dirt roads	5.6/2.8	E (2.5)
South	Undeveloped, sparse residential dwellings, dirt 5.3/2.85 roads	N/A (Los Angeles County)	N/A
West	Undeveloped, sparse residential dwellings, dirt roads	5.6/2.8	E (2.5)
Willow Springs Spe	ecific Plan Map Code Designations	Physical Constraints Overlay	
5.3 = Residential, Maximum 10 units/net acre		2.8 = Military Flight Operations	
5.5 = Residential Maximum 1 units/net acre		2.85 = Noise Management Area	
5.6 = Residential, Maximum 2.5 gross acres/unit			
7.1 = Light Industrial		Kern County Zone Districts	
7.2 = Service Indus	trial	A = (Exclusive Agriculture) MH = Mobile Home Combining	
4.4 = Comprehensiv	ve Plan Required	E (2.5) = Estate (2.5 acre minimum) RS = Residential Suburban Combining	FPS = Floodplain Combining

TABLE 4.11-1: PROJECT SITE AND SURROUNDING LAND USES AND ZONING CLASSIFICATIONS

Surrounding Land Uses

The proposed project is located in the western extent of the Mojave Desert, approximately 5.5 miles west of the unincorporated community of Rosamond, California. As described in **Table 4.11-1**, *Project Site and Surrounding Land Use Designations and Zoning Classifications*, above, surrounding land uses are composed primarily of undeveloped land, sparse residences homes, and agriculture. 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 planned/existing met towers. A portion of the Pacific Crest Trail (PCT) is approximately 14 miles southwest of Raceway Solar Site 1 and approximately 16 miles northwest of the Raceway Solar Site 4.

Surrounding land uses are classified 3.3 (Other Facilities), 4.4 (Comprehensive Planning Area), 5.3/4.4 (Maximum 10 units/net acre), 5.4 (Maximum 4 units/net acre), 5.5 (Maximum 1 unit/net acre), 5.6 (Minimum 2.5 gross acres/unit), 5.7 (Minimum 5 gross acres/unit), 6.2 (General Commercial), 6.3 (Highway Commercial), 7.1 (Light Industrial), 7.1/4.4 (Light Industrial), 7.2/4.4 (Service Industrial), 8.5 (Resources Management, Minimum 20 or 80-acre parcel size), and includes the following overlays: 2.8 (Military Flight Operations [60dB] Overlay), and 2.85 (Noise Management Area [65dB] Overlay).

Surrounding land uses are located within the zoning designations of A FPS (Exclusive Agriculture -Floodplain Secondary Combining), E (2.5) Estate, E (2.5) RS MH FPS (Estate– Residential Suburban Combining – Mobile Home Combining – Floodplain Secondary Combining), Estate, E (2.5) RS MH (Estate– Residential Suburban Combining – Mobile Home Combining), E (2.5) RS FPS (Estate– Residential Suburban Combining – Floodplain Secondary Combining), M-1 PD (Light Industrial – Precise Development Combining), M-1 PD FPS (Light Industrial – Precise Development Combining – Floodplain Secondary Combining), and OS (Open Space).

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.

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) 7.1 (Light Industrial), 7.1/4.4 (Light Industrial/ Comprehensive Plan Required), 7.2 (Service Industrial), 7.2/4.4 (Service Industrial/ Comprehensive Plan Required), 5.5 (Residential, Maximum 1 units/net acre), 5.5/2.85 (Residential, Maximum 1 units/net acre/Noise Management Area), 5.6 (Residential, Maximum 2.5 gross acres/unit), 5.6/2.85 (Residential, Maximum 2.5 gross acres/unit/Noise Management Area), 5.3 (Residential, Maximum 10 units/net acre), 5.3/4.4 (Residential, Maximum 10 units/net acre/ Comprehensive Plan Required), 5.4 (Residential, Maximum 4 units/net acre) and 5.4/2.85 (Residential, Maximum 4 units/net acre/Noise Management Area).

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 prohibit, if necessary, future development when physical hazards exist.
- Policy 8: Encourage the preservation of the floodplain's flow conveyance capacity, especially in floodways, to be open space/passive recreation areas throughout the County.
- Policy 9: Construction of structures that impede water flow in a primary floodplain will be discouraged.
- Policy 10: The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan.
- Policy 11: Protect and maintain watershed integrity within Kern County.

Implementation Measures

- Measure D: Review and revise the County's current Grading Ordinance as needed to ensure that its standards minimize permitted topographic alteration and soil erosion while maintaining soil stability.
- Measure F: The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.
- Measure H: Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.
- Measure J: Compliance with the Floodplain Management Ordinance prior to grading or improvement of land for development or the construction, expansion, conversion or substantial improvements of a structure is required.

Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.

1.4 Public Facilities and Services

Goals

- Goal 1: Kern County residents and businesses should receive adequate and cost effective public services and facilities. The County will compare new urban development proposals and land use changes to the required public services and facilities needed for the proposed project.
- Goal 5: Ensure that adequate supplies of quality (appropriate for intended use) water are available to residential, industrial, and agricultural users within Kern County.

Policies

- Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.
- Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.
- Policy 6: The County will ensure adequate fire protection to all Kern County residents.
- Policy 7: The County will ensure adequate police protection to all Kern County residents.
- Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the CEQA documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.

Implementation Measures

- Measure B: Determine local costs of County facility and infrastructure improvements and expansion which are necessitated by new development of any type and prepare a schedule of charges to be levied on the developer at the site of approval of the Final Map. This implementation can be effectuated by the formation of a County work group.
- Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.
- Measure D: Involve utility providers in the land use and zoning review process.
- Measure J: Ensure that the Superintendent of Schools and the respective school districts are informed of development proposals and are afforded the opportunity of evaluating their potential effect on the physical capacity of school facilities.
- Measure L: Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in the County shall not be approved unless adequate fire protection facilities and resources can be provided.

1.9 Resource

Goals

- Goal 1: To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations which will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources, or diminish the other amenities which exist in the County.
- Goal 2: Protect areas of important mineral, petroleum, and agricultural resource potential for future use.
- Goal 3: To ensure that the development of resource areas minimizes effects of neighboring resource lands.
- 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.

- 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 5: Areas of low intensity agriculture use (Map Code 8.2 (Resource Reserve), Map Code 8.3 (Extensive Agriculture), Map Code 8.5 (Resource Management)) should be of an economically viable size in order to participate in the State Williamson Act Program/Farmland Security Zone Contract.
- Policy 7: Areas designated for agricultural use, which include Class I and II and other enhanced agricultural soils with surface delivery water systems, should be protected from incompatible residential, commercial, and industrial subdivision and development activities.
- Policy 11: Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.
- Policy 12: Areas identified by the Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service) as having high range-site value should be conserved for Extensive Agriculture uses or as Resource Reserve, if located within a County water district.
- Policy 13: Any property in an Agriculture Preserve proposing to be subject to a Williamson Act Contract or Farmland Security Zone Contract must have a Resource 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.

Implementation Measures

- Measure B: Areas designated as Resource Reserve (Map Code 8.2), Extensive Agriculture (Map Code 8.3), Resource Management (Map Code 8.5) that are under Williamson Act Contracts or Farmland Security Zone Contracts will have a minimum parcel size of 80 acres until such time as a contract is expired or is cancelled, at which time the minimum parcel size will become 20 acres.
- Measure G: Property placed under the Williamson Act/Farmland Security Zone Contract must be in a Resource designation.

1.10 General Provisions

Goal

Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

1.10.1 Public Services and Facilities

Policies

- Policy 9: New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure which it generates and upon which it is dependent.
- Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.
- Policy 16: The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to serve the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.

Implementation Measures

- Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.
- Measure D: Involve utility providers in the land use and zoning review process.
- Measure E: All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply and Preservation of Environmental Health Rules and Regulations administered by the County's Public Health Services Department. Those projects having percolation rates of less than five minutes per inch shall provide a preliminary soils study and site specific documentation that characterize the quality of upper groundwater in the alternative septic systems would adversely impact groundwater quality. If the evaluation

indicated that the uppermost groundwater at the proposed site already exceeds groundwater quality objectives of the Regional Water Quality Control Board or would if the alternative septic system is installed, the applicant would be required to supply sewage collection, treatment, and disposal facilities.

1.10.2 Air Quality

Policies

- Policy 18: The air quality implications of new discretionary land use proposals shall be considered in approval of major developments. Special emphasis will be placed on minimizing air quality degradation in the desert to enable effective military operations and in the valley region to meet attainment goals.
- Policy 19: In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision making body, as part of its deliberations, will ensure that:
 - (1) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and
 - (2) The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.

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

- 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.
- Measure S: Pursue the development and implementation of conservation programs with State and federal wildlife agencies for property owners desiring streamlined endangered species mitigation programs.

1.10.6 Surface Water and Groundwater

Policies

- Policy 34: Ensure that water quality standards are met for existing users and future development.
- Policy 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 constructionrelated and urban pollutants, as well as alterations of flow patterns and introduction of impervious surfaces as required by the California Environmental Quality Act (CEQA), to prevent the degradation of the watershed to the extent practical.

Implementation Measure

Measure Y: Promote efficient water use by utilizing measures such as: (i) Requiring water-conserving design and equipment in new construction; (ii) Encouraging water-conserving landscaping and irrigation methods; and (iii) Encouraging the retrofitting of existing development with water conserving devices.

1.10.7. Light and Glare

Policies

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

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

Implementation Measure

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

Chapter 2. Circulation Element

2.1 Introduction

Goals

- Goal 4: Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.
- Goal 5: Maintain a minimum [level of service] LOS D for all roads throughout the County 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

Goals

Goal 5: Maintain a minimum Level of Service (LOS) D.

- Policy 1: Development of roads within the County shall be in accordance with the Circulation Diagram Map. The charted roads are usually on section and mid-section lines. This is because the road center line can be determined by an existing survey.
- Policy 2: This plan requires, as a minimum, construction of local road widths in areas where the traffic model estimates little growth through and beyond 2010. Where the Kern County Planning and Natural Resources Department's growth estimates indicate more than a local road is required, expanded facilities shall be provided. The timing and scope of required facilities should be set up and implemented through the Kern County Land Division Ordinance. However, the County shall routinely protect all surveyed section lines in the Valley and Desert regions for arterial right-of-way. The County shall routinely protect all midsection lines for collector highways in the same regions. The only possible exceptions shall be where the County adopts special studies and where Map Code 4.1 (Accepted County Plan) areas occur. In the Mountain Region where terrain does not allow construction on surveyed section and midsection lines, right-of-way width shall be the size shown on the diagram map. No surveyed section and midsection "grid" will comprehensively apply to the Mountain Region.

- Policy 3: This plan's road-width standards are listed below. These standards do not include state highway widths that would require additional right-of-way for rail transit, bike lanes, and other modes of transportation. Kern County shall consider these modifications on a case-by-case basis.
 - Expressway [Four Travel Lanes] Minimum 110-foot right-of-way;
 - Arterial [Major Highway] Minimum 110-foot right-of-way;
 - Collector [Secondary Highway] Minimum 90-foot right-of-way;
 - Commercial-Industrial Street Minimum 60-foot right-of-way; and
 - Local Street [Select Local Road] Minimum 60-foot right-of-way.

Implementation Measure

Measure A: The Planning Department shall carry out the road network Policies by using the Kern County Land Division Ordinance and Zoning Ordinance, which implements the Kern County Development Standards that includes road standards related to urban and rural planning requirements. These ordinances also regulate access points. Planning Department can help developers and property owners in identifying where planned circulation is to occur.

2.3.4 Future Growth

Goal

Goal 1: To provide ample flexibility in this plan to allow for growth beyond the 20-year planning horizon.

- 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 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.

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.

- 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 "landlock" 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,

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.

Caltrans, and the air pollution control district.

Measure B: The elements within the Kern Congestion Management Program are to be implemented by each incorporated city and the County of Kern. Specifically, the land use analysis program, including the preparation and adoption of deficiency plans is required. Additionally, the adoption of trip reduction and travel demand strategies are required in the Congestion Management Program.

2.5.1 Trucks and Highways

The Kern County road network handles a high ratio of heavy truck traffic. State highways carry most of this traffic. Most of the trucks are interstate carriers. As such, interstate trucking is not under the direct control of County officials. In as much as this traffic affects County residents and taxpayers, they need actions to guarantee State highways in Kern County receive a fair share of California's transportation investment.

Goals

Goal 1:	Provide for Kern County's heavy truck transportation in the safest way possible.	
Goal 2:	Reduce potential overweight trucks.	
Goal 3:	Use State Highway System improvements to prevent truck traffic in neighborhoods.	
Policies		
Policy 1:	Caltrans should be made aware of the heavy truck activity on Kern County's roads.	
Policy 2:	Start a program that monitors truck traffic operations.	
Policy 3:	Promote a monitoring program of truck lane pavement condition.	

2.5.4 Transportation of Hazardous Materials

Goal

Goal 1:	Reduce risk to	public health from	transportation	of hazardous materials.
		1	1	

Policy

- Policy 1: The commercial transportation of hazardous material, identification and designation of appropriate shipping routes will be in conformance with the adopted Kern County and Incorporated Cities Hazardous Waste Management Plan.
- Policy 2: Kern County and affected cities should reduce use of County-maintained roads and citymaintained streets for transportation of hazardous materials.

Chapter 3. Noise Element

3.3 Sensitive Noise Areas

Goals

- Goal 1: Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.
- Goal 2: Protect the economic base of Kern County by preventing the encroachment of incompatible land uses near known noise producing roadways, industries, railroads, airports, oil and gas extraction, and other sources.

Policies

Policy 1:	Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.
Policy 3:	Encourage vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise
Policy 4:	Utilize good land use planning principles to reduce conflicts related to noise emissions.
Policy 7:	Employ the best available methods of noise control.

Implementation Measures

- Measure A: Utilize zoning regulations to assist in achieving noise-compatible land use patterns.
- Measure C: Review discretionary development plans, programs and proposals, including those initiated by both the public and private sectors, to ascertain and ensure their conformance to the policies outlined in this element.
- Measure F: Require proposed commercial and industrial uses or operations to be designed or arranged so that they will not subject residential or other noise sensitive land uses to exterior noise levels in excess of 65 dB L_{dn} and interior noise levels in excess of 45 dB L_{dn}.
- Measure G: At the time of any discretionary approval, such as a request for a General Plan Amendment, zone change or subdivision, the developer may be required to submit an acoustical report indicating the means by which the developer proposes to comply with the noise standards. The acoustical report shall:
 - a) Be the responsibility of the applicant.
 - b) Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.
 - c) Be subject to the review and approval of the Kern County Planning Department and the Environmental Health Services Department. All recommendations therein shall be complied with prior to final approval of the project.
- Measure I: Noise analyses shall include recommended mitigation, if required, and shall:
 - a) Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.
 - b) Include estimated noise levels, in terms of CNEL, for existing and projected future (10 20 years hence) conditions, with a comparison made to the adopted policies of the Noise Element.
 - c) Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.
 - d) Include estimates of noise exposure after the prescribed mitigation measures have been implemented. If compliance with the adopted standards and policies of the Noise Element will not be achieved, a rationale for acceptance of the project must be provided.

Measure J: Develop implementation procedures to ensure that requirements imposed pursuant to the findings of an acoustical analysis are conducted as part of the project permitting process.

Chapter 4. Safety Element

4.1 Introduction

Goal

Goal 1: Minimize injuries and loss of life and reduce property damage.

4.2 General Policies and Implementation Measures, Which Apply to More Than One Safety Constraint

Implementation Measures

Measure F: The adopted multi-jurisdictional Kern County, California Multi-Hazard Mitigation Plan, as approved by the Federal Emergency Management Agency (FEMA), shall be used as a source document for preparation of environmental documents pursuant to the California Environmental Quality Act (CEQA), evaluation of project proposals, formulation of potential mitigation, and identification of specific actions that could, if implemented, mitigate impacts from future disasters and other threats to public safety.

4.3 Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure

Policy

Policy 1: The County shall require development for human occupancy to be placed in a location away from an active earthquake fault in order to minimize safety concerns.

Implementation Measure

- Measure B: Require geological and soils engineering investigations in identified significant geologic hazard areas in accordance with the Kern County Code of Building Regulations.
- Measure C: The fault zones designated in the Kern County Seismic Hazard Atlas should be considered significant geologic hazard areas. Proper precautions should be instituted to reduce seismic hazard, whenever possible in accordance with State and County regulations.

4.5 Landslides, Subsidence, Seiche, and Liquefaction

Policies

Policy 1: Determine the liquefaction potential at sites in areas of shallow groundwater (Map Code 2.3) prior to discretionary development and determine specific mitigation to be incorporated into the foundation design, as necessary, to prevent or reduce damage from liquefaction in an earthquake.

Policy 3: Reduce potential for exposure of residential, commercial, and industrial development to hazards of landslide, land subsidence, liquefaction, and erosion.

4.6 Wildland and Urban Fire

Policies

- Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.
- Policy 3: The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.
- Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.
- Policy 6: All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.

Implementation Measures

Measure A: Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities.

4.9 Hazardous Materials

Implementation Measure

Measure A: Facilities used to manufacture, store, and use of hazardous materials shall comply with the Uniform Fire Code, with requirements for siting or design to prevent onsite hazards from affecting surrounding communities in the event of inundation.

Chapter 5. Energy Element

5.2 Importance of Energy to Kern County

- 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

Cool 1.	Encourses acts and and and	reasonancial color development
Goal I.	Encourage sale and order	v 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.

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.

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.

Biological Resources

Policy 3: Initial development within the Update area shall, when possible, be directed towards previously impacted areas (i.e., agricultural fields).

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 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 4: 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.
- 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 50foot 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 17: 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 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.

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, maybe found within the study area and shall require more intensive investigation and more complete preservation.

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.

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.
- 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.
- Policy 5: Operation of any solid waste facility shall comply with standards provided by the Kern County Solid Waste Management Plan.

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.
- 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.

- 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:
 - The slope and foundation designs for all structures shall be based on detailed soils and engineering studies

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.

Regional Transportation Plan

The latest Regional Transportation Plan (RTP) was prepared by the Kern Council of Governments (COG), and was adopted in August 16, 2018. The 2018 RTP is a 24-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County. It was developed through a continuing, comprehensive, and cooperative planning process, and provides for effective coordination between local, regional, State, and federal agencies. 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 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. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

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

A project could have a have a significant adverse effect on land use if the project would:

- a. Physically divide an established community;
- b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Project Impacts

Impact 4.11-1: The project would 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 desert, permitted solar energy generating facilities, or land in agricultural production. There are scattered residentially developed properties surrounding the project site. The nearest community (Rosamond) is located approximately 5.5 miles to the east of the project site. The project is not anticipated to physically divide or restrict access to the Community of Rosamond or any other community. Therefore, impacts related to the physical division of an established community would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.11-2: The project would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The Kern County General Plan, 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 Conditional Use Permits (CUPs) No. 116, Map 231, No. 117, No. 118, No. 119; Map 231-20, No. 4; Map 231-21, No. 3, No.4; and Map 231-28, No. 7 from the Kern County Planning Commission for construction and operation of a solar facility and associated infrastructure with the capacity to generate up to 291 MW of renewable electric energy, including energy storage capacity.

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 Draft 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 Draft 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 A FPS (Exclusive Agriculture - Floodplain Secondary Combining), E (2.5) Estate, E (2.5) RS MH FPS (Estate– Residential Suburban Combining – Floodplain Secondary Combining), E (2.5) RS FPS (Estate– Residential Suburban Combining – Floodplain Secondary Combining), and OS (Open Space).

The project is requesting a Zone Change for all parcels with existing zone designations of E (2.5) and OS (Open Space), to be re-zoned A (Exclusive Agriculture). Pursuant to Section 19.12.030 G of Kern County Zoning Ordinance, solar facilities are permitted on areas zoned Exclusive Agriculture (A) are subject to securing a Conditional Use Permit. The project proponent is requesting eight CUPs to allow for the construction and operation of a 291 MW solar facility, as well as ancillary structures within the aforementioned Zoning Districts in Maps 231, 231-20, 231-21 and 231-28. 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.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

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 3-9**, *Cumulative Projects List*, of this Draft EIR, there are 19 past, present, and reasonably foreseeable projects within the geographic scope, including 7 within 1-mile and 12 within 6 miles of the Project Site. 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. Therefore, as proposed the project would be consistent with the goals and policies of the Kern County Zoning Ordinance and would therefore not contribute to a cumulatively considerable impact regarding land use.

Furthermore, all related projects would be required to separate undergo environmental review on a caseby-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 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 not be in operation. The potential for the cumulative effects caused by the abandonment of multiple solar

facilities in Kern County could result in impacts on surrounding land uses should it be determined that these facilities are no longer viable commercial operations. Therefore, 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 any nearby military installations, such as 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.

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 or a Countycontracted 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 a consecutive period of twelve 12 months that portion of the site shall be deemed abandoned and shall be removed within sixty (60) days from the date a written notice is sent to the property owner and solar field owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project operator may provide the director of the Kern County Planning and Natural Resources Department a written request and justification for an extension for an additional twelve (12) months. The Kern County Planning and Natural Resources Director shall consider any such request at a Director's Hearing as provided for in Section 19.102.070 of the Kern County Zoning Ordinance. In no case shall a solar field that has been deemed abandoned be permitted to remain in place for more than forty-eight (48) months from the date, the solar facility was first deemed abandoned.

MM 4.11-2: Prior to the operation of the solar facility, the operator shall consult with the Department of Defense 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.

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.

Goals and Policies	Consistency Determination	Project Consistency
KERN COUNTY GENERAL PLAN CHAPT	ER 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 Measures MM 4.10-1.	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, <i>Hazards and Hazardous</i> <i>Materials</i> , of this Draft EIR. As described in Section 4.7, <i>Geology and Soils</i> , of this Draft 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, <i>Hydrology and Water Quality</i> , of this Draft 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 4.10-1 would require preparation of a drainage plan that would design project facilities to have one-foot of freeboard clearance above the calculated maximum flood depths for the solar arrays or the finished floor of any permanent structures and grading for the project would be designed so that water surface elevations during flood events would not be increased by more than one foot. Further, the project would be developed in accordance with the General Plan and Eloodplain Management Ordinance T

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE
Goals and Policies	Consistency Determination	Project Consistency
		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, <i>Physical and Environmental Constraints</i> , Goal 1, of the Kern County General Plan, above.
Policy 3: Zoning and other land use controls will be used to regulate, and prohibit, if necessary, future development when physical hazards exist.	Consistent.	Hazards and hazardous materials impacts are evaluated in Section 4.9, <i>Hazards and Hazardous Materials</i> , of this EIR. Consistent with this policy, the project would comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.
Policy 8: Encourage the preservation of the floodplain's flow conveyance capacity, especially in floodways, to be open space/passive recreation areas throughout the County.	Consistent with implementation of Mitigation Measure MM 4.10-1.	See Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR. As described therein, project facilities would be designed to maintain clearance above the maximum flood depths and grading would not substantially increase flooding depths. Further, the project would be developed in accordance with the Kern County General Plan, Floodplain Management Ordinance and would implement Mitigation Measure MM 4.10-1, as described above. Therefore, the project would be consistent with this policy.

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 4.10-1.	See Section 4.10, <i>Hydrology and Water Quality</i> , of this Draft EIR. As described therein, project facilities would be designed to maintain clearance above the maximum flood depths and grading would not substantially increase flooding depths. Further, the project would be developed in accordance with the General Plan and Floodplain Management Ordinance and would implement Mitigation Measure MM 4.10-1, as described above. Therefore, the proposed project would be consistent with this policy.
Policy 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 4.10-1.	See Section 4.10, <i>Hydrology and Water Quality</i> , of this Draft 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 substantial 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 4.10-1, 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.	As discussed in Section 4.10, <i>Hydrology and Water Quality</i> , of the Draft EIR, the project site would implement BMPs during construction to avoid impacts to water quality. As described in Section 4.9, <i>Hazards and Hazardous Materials</i> , of this Draft 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.

Goals and Policies	Consistency Determination	Project Consistency
Measure D: Review and revise the County's current Grading Ordinance as needed to ensure that its standards minimize permitted topographic alteration and soil erosion while maintaining soil stability.	Consistent with implementation of Mitigation Measure MM 4.10-1 and MM 4.10-2.	The project would implement Mitigation Measure MM 4.10-1 which would require the preparation of a hydrologic study and drainage plan. The hydrologic study and drainage plan shall be prepared in accordance with the Kern County Grading Code and Kern County Development Standards. Since project construction would disturb well over an acre of ground, the project would implement Mitigation Measure MM 4.10-2, 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, <i>Hydrology and Water Quality</i> , 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 4.10-1	See Section 4.10, <i>Hydrology and Water Quality</i> , of this Draft EIR. The project facilities would be designed to maintain clearance above the maximum flood depths and grading would not substantially increase flooding depths. Further, the project would be developed in accordance with the General Plan, Floodplain Management Ordinance and Mitigation Measure MM 4.10-1. Therefore, the proposed project would be consistent with this measure.

Goals and Policies	Consistency Determination	Project Consistency
Measure H: Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.	Consistent with implementation of Mitigation Measure MM 4.10-1.	As described in Section 4.10, <i>Hydrology and Water Quality</i> , of this Draft 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.
Measure J: Compliance with the Floodplain Management Ordinance prior to grading or improvement of land for development or the construction, expansion, conversion or substantial improvements of a structure is required.	Consistent with implementation of Mitigation Measure MM 4.10-1.	See 1.3, <i>Physical and Environmental Constraints</i> , Measure H, of the Kern County General Plan, above.
Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.	Consistent with implementation of Mitigation Measure MM 4.10-2.	Section 4.10, <i>Hydrology and Water Quality</i> , of this Draft 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 4.10-2 which would include the development of a SWPPP, which includes BMPs consistent with the Regional Water Quality Control Board.
1.4 Public Facilities and Services		
Goal 1: Kern County residents and businesses should receive adequate and cost effective public services and facilities. The County will compare new urban development proposals and land use changes to the required public services and facilities needed for the proposed project.	Consistent with implementation of Mitigation Measure MM 4.13-2 through MM 4.13-4.	As discussed in Section 4.13, <i>Public Services</i> , 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.

Goals and Policies	Consistency Determination	Project Consistency
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, <i>Utilities and Service Systems</i> , of this Draft EIR. As described therein, 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 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 and there would be sufficient water supply for other uses in Kern County. Water supply is discussed in more detail in Section 4.16, <i>Utilities and Service Systems</i> , of this Draft EIR.
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 4.13-2.	The proposed project would construct and operate six combined 291 MW solar facilities. The proposed project would consider several options for gen-tie routes, although only one route would be constructed. All options involve the proposed project connecting to existing solar infrastructure. 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, <i>Public Services</i> , the project would implement Mitigation Measure MM 4.13-2 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 4.14-3 and MM 4.14-4, 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

Goals and Policies	Consistency Determination	Project Consistency
		then a Supplemental Cumulative Impact Charge (SCIC) shall be paid for the difference annually up to \$3,000 per megawatt. The SCIC payments shall be made annually directly to the County Administrative Office Fiscal Division (CAO) and labeled "Supplemental Cumulative Impact Charge (SCIC)" with the project name and phase number.
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, <i>Utilities</i> and Service Systems, of the Draft 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 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.

Goals and Policies	Consistency Determination	Project Consistency
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, Policy 3, 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.
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 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, <i>Utilities and Service Systems</i> , of this Draft 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 291 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.

Goals and Policies	Consistency Determination	Project Consistency
Measure J: Ensure that the Superintendent of Schools and the respective school districts are informed of development proposals and are afforded the opportunity of evaluating their potential effect on the physical capacity of school facilities.	Consistent with implementation of Mitigation Measures MM 4.13-1 and 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 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.
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, <i>Public Services</i> , of this EIR. Mitigation Measure MM 4.14-1 requires implementation of a fire safety plan during project construction and operation that would include notification procedures and emergency fire precautions to help reduce fire risks and the consequential need for fire protection services onsite. 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 and assuring the provision of adequate public services and facilities
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 Draft EIR and would not directly lead to other projects that would result in the loss of grazing land. Direct disturbance related to the project would be approximately 1,330 acres. Therefore, the proposed project would be consistent with this goal.

Goals and Policies	Consistency Determination	Project Consistency
Goal 2: Protect areas of important mineral, petroleum, and agricultural resource potential for future use.	Consistent.	Upon approval of the proposed zone changes, the project site would be located on land that is zoned as A (Exclusive 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 Draft EIR. Direct disturbance related to the project would be approximately 1,330 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.
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 5: Conserve prime agricultural lands from premature conversion	Consistent.	As discussed in Section 4.2, <i>Agriculture and Forestry</i> <i>Resources</i> , of this Draft EIR, although implementation of the project would preclude livestock grazing onsite, it would only result in loss of less than one percent of the grazing land within Kern County. As such, areas designated 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.
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 291 MW of solar power. The project would develop a clean energy source that would create fewer fossil fuel emissions; thus, protecting the environment.
Policy 1: Appropriate resource uses of all types will be encouraged as desirable and consistent interim uses in undeveloped portions of the County regardless of General Plan designation.	Consistent.	Impacts on natural resources are avoided or minimized through the design of the project and would not affect long term use of the site. The project implements the General Plan policy of maximizing utilization of available solar resources.

Goals and Policies	Consistency Determination	Project Consistency
Policy 5: Areas of low intensity agriculture use (Map Code 8.2 (Resource Reserve), Map Code 8.3 (Extensive Agriculture), Map Code 8.5 (Resource Management)) should be of an economically viable size in order to participate in the State Williamson Act Program/Farmland Security Zone Contract.	Consistent.	As discussed in Section 4.2, <i>Agriculture and Forestry</i> <i>Resources</i> , of this Draft EIR, the project site is not under a Williamson Act or Farmland Security Zone Contract. Therefore, the proposed project would be consistent with this measure.
Policy 7: Areas designated for agricultural use, which include Class I and II and other enhanced agricultural soils with surface delivery water systems, should be protected from incompatible residential, commercial, and industrial subdivision and development activities.	Consistent.	See 1.9, <i>Resource</i> , Goal 5, of the Kern County General Plan, above.
Policy 11: Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.	Consistent with implementation of Mitigation Measure MM 4.10-1.	As discussed in Section 4.10, <i>Hydrology and Water Quality</i> , of this Draft 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, <i>Hydrology and Water Quality</i> , of this Draft 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.

Goals and Policies	Consistency Determination	Project Consistency
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 13: Any property in an Agriculture Preserve proposing to be subject to a Williamson Act Contract or Farmland Security Zone Contract must have a Resource designation.	Consistent.	As discussed in Section 4.2, <i>Agriculture and Forestry</i> <i>Resources</i> , of this Draft EIR, the project site is not under a Williamson Act or Farmland Security Zone Contract. Therefore, the proposed project would be consistent with this measure.
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.	Consistent with this policy, the proposed project would develop a solar PV power generating facility designed to produce approximately 291 MW of solar power. The project would develop a clean energy source that would create fewer fossil fuel emissions; thus, protecting the environment.
Measure B: Areas designated as Resource Reserve (Map Code 8.2), Extensive Agriculture (Map Code 8.3), Resource Management (Map Code 8.5) that are under Williamson Act Contracts or Farmland Security Zone Contracts will have a minimum parcel size of 80 acres until such time as a contract is expired or is cancelled, at which time the minimum parcel size will become 20 acres.	Consistent.	As discussed in Section 4.2, <i>Agriculture and Forestry</i> <i>Resources</i> , of this Draft 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, that are under Williamson Act Contracts or Farmland Security Zone Contracts, would be impacted by the proposed project. Therefore, the proposed project would be consistent with this measure.
Measure G: Property placed under the Williamson Act/Farmland Security Zone Contract must be in a Resource designation.	Consistent.	As discussed in Section 4.2, <i>Agriculture and Forestry</i> <i>Resources</i> , of this Draft EIR, the project site is not under a Williamson Act/Farmland Security Zone Contract. Therefore, the proposed project would be consistent with this measure.

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.	See 1.4, <i>Public Facilities and Services</i> , Goal 1, above. Impacts to public services are evaluated in Section 4.13, <i>Public Services</i> , of this Draft EIR. Consistent with this goal, the proposed project requires consideration and approval of a Conditional Use Permit as well as other discretionary actions that ensure compliance with all policies. The project would implement Mitigation Measure MM 4.13-2 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, <i>Public Facilities and Services</i> , Goal 1, above. Impacts to public services are evaluated in Section 4.13, <i>Public Services</i> , of this Draft EIR. The project would implement Mitigation Measure MM 4.13-2 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.	Public service impacts are evaluated in Section 4.13, <i>Public Services</i> , of this Draft EIR. This EIR serves to comply with this policy. The project would implement Mitigation Measure MM 4.13-2, 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 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	Consistent.	See 1.4, <i>Public Facilities and Services</i> , Goal 1 and Policy 1, above.

Goals and Policies	Consistency Determination	Project Consistency
recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.		
Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.	Consistent.	See 1.4, Public Facilities and Services, Policy 3, above.
Measure D: Involve utility providers in the land use and zoning review process.	Consistent.	See 1.4, Public Facilities and Services, Policy 3, above.
Measure E: All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply and Preservation of Environmental Health Rules and Regulations administered by the 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, <i>Hydrology and Water Quality</i> , and Section 4.16, <i>Utilities and</i> <i>Service Systems</i> , of this Draft EIR. The proposed project would require water supply during construction of the proposed project, for dust suppression, concrete manufacturing, truck wheel washing, equipment washing, and fire safety across the six sites, as well as during and operation for washing of the modules once a year. No offsite sewage or disposal connections to a municipal sewer system exist or are proposed. However, 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.

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 of Construction Emissions.	Air quality and GHG impacts are evaluated in Sections 4.3, <i>Air Quality</i> , and 4.8, <i>Greenhouse Gas Emissions</i> , of this Draft EIR. Consistent with this policy, the proposed project would implement Mitigation of Construction Emissions, which would reduce impacts to air quality to the extent feasible. Air quality mitigation includes fugitive dust control measures to reduce emissions of fugitive dust PM_{10} by 70%, as assumed in CalEEMod and consistent with control efficiency values used on previous solar project construction in Kern County and Los Angeles County.
 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 with implementation of Mitigation of Construction Emissions.	See 1.10.2, <i>Air Quality</i> , Policy 18, above. The project cannot reduce cumulative 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 air quality."
Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.	Consistent.	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this Draft 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. 	Consistent.	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this Draft EIR. As discussed in Section 4.3, <i>Air Quality</i> , of this Draft EIR, construction is only expected to last 10 to 12 months, it would be considered temporary and would not result in a

TABLE 4.11-2:	CONSISTENCY ANALYSIS WITH	I KERN COUNTY (General Plan fo	OR LAND USE
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Co	als and Policies	Consistency Determination	Project Consistency
3	h Electrical examinist aluging	Determination	lang term gauges of CO amigging. Therefore, the monogood
2.	b. Electrical overnight plug-ins.		project would be consistent with this measure.
Mo fol	easure H: Discretionary projects may use one or more of the lowing to reduce air quality effects:	Consistent with implementation of	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this Draft EIR. Consistent with this measure, implementation of
1.	Pave dirt roads within the development.	Mitigation of	Mitigation of Construction Emissions would further reduce
2.	Pave outside storage areas.	Construction Emissions.	adverse air quality effects.
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.		
Mo as gra	easure J: The County should include PM10 control measures conditions of approval for subdivision maps, site plans, and ding permits.	Consistent with implementation of Mitigation of Construction Emissions.	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this Draft EIR. As discussed in that section, implementation of Mitigation of Construction Emissions would further reduce PM ₁₀ emissions during construction and operation.
1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation			
Po and cor	licy 25: The County will promote the preservation of cultural d historic resources which provide ties with the past and astitute 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, <i>Cultural Resources</i> , of this Draft 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.

Goals and Policies	Consistency Determination	Project Consistency
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, <i>Cultural Resources</i> , of this Draft EIR. Consistent with this measure, copies of reports will be provided to the Kern County Planning and Natural Resources Department and to the Southern San Joaquin Valley Information Center at California State University, Bakersfield, per Mitigation Measure MM 4.5-3.
Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.	Consistent with implementation of Mitigation Measures Mitigation Measures MM 4.5-1 and MM 4.5-2.	Cultural resource impacts are evaluated in Section 4.5, <i>Cultural Resources</i> , of this Draft 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 4.7-5 through MM 4.7-7.	Paleontological resource impacts are evaluated in Section 4.7, <i>Geology and Soils</i> , of this Draft EIR. Mitigation Measures MM 4.7-5 through MM 4.7-7 which would reduce potential impacts to known 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, <i>Tribal Cultural Resources,</i> of this Draft 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 4.5-3.	Cultural resource impacts are evaluated in Section 4.5, <i>Cultural Resources</i> , of this Draft EIR. This EIR serves to comply with this measure and includes Mitigation Measure MM 4.5-3, 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		
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	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this Draft EIR. This EIR serves to comply with this policy and reduce potential impacts with

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	MM 4.4-1 through MM 4.4-13.	mitigation. Additionally, the project would be developed and operated in accordance with all local, state and federal laws pertaining to the preservation of sensitive species.
Policy 28: County should work closely with State and federal agencies to assure that discretionary projects avoid or minimize impacts to fish, wildlife, and botanical resources.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-13.	Biological Resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this Draft EIR. This EIR serves to comply with this policy and reduce potential impacts with mitigation. As part of the biological resources evaluation and habitat assessment conducted for the project, relevant state and federal agencies were contacted to ensure that appropriate information about the project site were being gathered. Specifically, an NOP of this Draft EIR was sent to state and federal agencies requesting their input on the biological resource evaluation. Similarly, this Draft EIR will also be circulated to these agencies, and staff will have the opportunity to comment on the biological resources evaluation. Therefore, the County is complying with this policy for the project.
Policy 29: The County will seek cooperative efforts with local, State, and federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-13.	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this Draft 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 4.4-13 would further increase cooperative efforts with local, State, and federal agencies to support threatened and endangered plant and wildlife.
Policy 31: Under the provisions of the California Environmental Quality Act, the County, as lead agency, will solicit comments from the California Department of Fish and Game and the U.S. Fish and Wildlife Service when an environmental document is prepared.	Consistent.	See 1.10.5, Threatened and Endangered Species, Policy 28, above.
Policy 32: Riparian areas will be managed in accordance with the USACE and the CDFW rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.	Consistent with implementation of Mitigation Measures	Biological resource impacts and impacts to riparian areas, are evaluated in Section 4.4, <i>Biological Resources</i> , of this Draft EIR. Consistent with this measure, Mitigation Measures MM 4.4-8 and MM 4.4-12 would require consultation with the California

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	MM 4.4-8 and MM 4.4- 12.	Department of Fish and Wildlife. 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, <i>Biological Resources</i> , of this Draft 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 4.4-13.	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this Draft EIR. Consistent with this measure, the project would implement mitigation measures that require consultation with the California Department of Fish and Wildlife. The County has and will respond to all comments from reviewing agencies during the CEQA process.
Measure S: Pursue the development and implementation of conservation programs with State and federal wildlife agencies for property owners desiring streamlined endangered species mitigation programs.	Consistent with implementation of Mitigation Measure MM 4.4-1 through MM 4.4-13.	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this Draft EIR. Consistent with this measure, the project would implement mitigation measures that require consultation with the California Department of Fish and Wildlife. The County has and will respond to all comments from reviewing agencies during the CEQA process.
1.10.6 Surface Water and Groundwater		
Policy 34: Ensure that water quality standards are met for existing users and future development.	Consistent with implementation of Mitigation measures MM 4.9-1.	Water quality impacts are evaluated in Section 4.10, <i>Hydrology</i> and Water Quality, of this Draft EIR. Consistent with this policy, the proposed project would implement best management practices during construction to avoid impacts to water quality. The project would be required by Mitigation Measure MM 4.9- 1 to implement a Hazardous Materials Business Plan to reduce mixing of pollutants with stormwater onsite, thereby maintaining the integrity of the watershed.
Policy 40: Encourage utilization of community water system rather than the reliance on individual wells.	Consistent.	As discussed in Section 4.10, <i>Hydrology and Water Quality</i> , and Section 4.16, <i>Utilities and Service Systems</i> , of this Draft EIR. The proposed project would require water supply during construction of the proposed project, for dust suppression, concrete manufacturing, truck wheel washing, equipment washing, and fire safety across the six sites, as well as during

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		and operation for washing of the modules once a year. No offsite sewage or disposal connections to a municipal sewer system exist or are proposed. The water supply for the project during construction and operations would be supplied from the Antelope Valley-East Kern Water Agency (AVEK) water purveyor from one of the nearby locations owned by AVEK.
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, 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.	Section 4.10, <i>Hydrology and Water Quality</i> , of this Draft 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.
Measure Y: Promote efficient water use by utilizing measures such as: (i) Requiring water-conserving design and equipment in new construction; (ii) Encouraging water-conserving landscaping and irrigation methods; and (iii) Encouraging the retrofitting of existing development with water conserving devices.	Consistent.	See 1.4, Public Facilities and Services, Goal 5, above.
1.10.7 Light and Glare		
Policy 47: Ensure that light and glare from discretionary new development projects are minimized in rural as well as urban areas.	Consistent with implementation of Mitigation Measures MM 4.1-5 through MM 4.1-7.	Aesthetic impacts are evaluated in Section 4.1, <i>Aesthetics</i> , of this Draft EIR. This EIR serves to comply with this policy and reduce potential impacts through implementation of mitigation measures.

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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.	
Measure AA: The County shall utilize <i>CEQA Guidelines</i> 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, <i>Physical and Environmental Constraints</i> , Goal 1, of the Kern County General Plan, above.	
Goal 5: Maintain a minimum [level of service] LOS D for all roads throughout the County.	Consistent.	Traffic impacts are evaluated in Section 4.14, <i>Transportation</i> , of this Draft EIR.	
2.3.3 Highways Plan			
Goal 5: Maintain a minimum LOS D.	Consistent.	Traffic impacts are evaluated in Section 4.14, <i>Transportation</i> , of this Draft EIR.	
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 with implementation of Mitigation Measure MM 41.	Section 4.14, <i>Transportation</i> , of this Draft EIR provides a discussion of County circulation consistency. Implementation of Mitigation Measure MM 4.14-1 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.	

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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	Consistent with implementation of Mitigation Measure MM 41	See 2.3.3, <i>Highway Plan</i> , Policy 1, of the Kern County General Plan, above.
 Policy 3: This plan's road-width standards are listed below. These standards do not include state highway widths that would require additional right-of-way for rail transit, bike lanes, and other modes of transportation. Kern County shall consider these modifications on a case-by-case basis. Expressway [Four Travel Lanes] Minimum 110-foot right-of-way; Arterial [Major Highway] Minimum 110-foot right-of-way; Collector [Secondary Highway] Minimum 90-foot right-of-way; Commercial-Industrial Street Minimum 60-foot right-of-way; and Local Street [Select Local Road] Minimum 60-foot right-of-way. 	Consistent.	Traffic impacts are evaluated in Section 4.14, <i>Transportation</i> , of this Draft EIR. Consistent with this measure, the proposed project would be in compliance with the road network policies and would implement the Kern County Development Standards as they relate to road standards and planning requirements.

Goals and Policies	Consistency Determination	Project Consistency
Measure A: The Planning Department shall carry out the road network Policies by using the Kern County Land Division Ordinance and Zoning Ordinance, which implements the Kern County Development Standards that includes road standards related to urban and rural planning requirements. These ordinances also regulate access points. Planning Department can help developers and property owners in identifying where planned circulation is to occur.	Consistent.	See 2.3.3, <i>Highway Plan</i> , Policy 3, of the Kern County General Plan, above.
2.3.4 Future Growth		
Goal 1: To provide ample flexibility in this plan to allow for growth beyond the 20-year planning horizon.	Consistent.	See 2.3.3, <i>Highway Plan</i> , Policy 3, of the Kern County General Plan, above.
Policy 2: The County should monitor development applications as they relate to traffic estimates developed for this plan. Mitigation is required if development causes affected roadways to fall below Level of Service (LOS) D. Utilization of the CEQA process would help identify alternatives to or mitigation for such developments. Mitigation could involve amending the Land Use, Open Space and Conservation Element to establish jobs/housing balance if projected trips in any traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build offsite transportation facilities. These enhancements would reduce traffic congestion to an acceptable level.	Consistent.	Traffic impacts are evaluated in Section 4.14, <i>Transportation</i> , of this Draft EIR.
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 with implementation of Mitigation Measure MM 41.	See 2.3.3, <i>Highway Plan</i> , Policy 1, above.

Goals and Policies	Consistency Determination	Project Consistency
Policy 5: When there is a legal lot of record, improvement of access to County, city or State roads will require funding by sources other than the County. Funding could be by starting a local benefit assessment district or, depending on the size of a project, direct development impact fees.	Consistent with implementation of Mitigation Measure MM 413-2.	The proposed project would not develop or provide improvements to a County, city or State road. However, consistent with this policy, the project proponent would fund improvements to project-related driveways that provide access to County, city, or State roads, as applicable. The project would implement Mitigation Measure MM 4.13-2, which would require the project operator to provide funding for countywide services. Therefore, the proposed project is consistent with this policy.
Policy 6: The County may accept a developer's road into the county's maintained road system. This is at Kern County's discretion. Acceptance would occur after the developer follows the above requirements. Roads are included in the County road maintenance system through approval by the Board of Supervisors.	Consistent.	The proposed project would not develop a public road. However, consistent with this policy, the project proponent would be required to obtain approval from the County via an encroachment permit where any proposed private access driveways for the project would intersect public right-of-way, as applicable. Therefore, the proposed project is consistent with this policy.
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	Consistent.	Traffic impacts are evaluated in Section 4.14, <i>Transportation</i> , of this Draft EIR.
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, <i>Transportation</i> , of this Draft 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.

Goals and Policies	Consistency Determination	Project Consistency
2.3.6 Vacation of Existing or Recorded Future Streets, High	ways, or Public Easements	
Goal 2: Kern County intends to set up a system maintaining and coordinating road vacation procedures in all elements of the General Plan and the incorporated cities general plans.	Consistent.	As discussed in Chapter 3, <i>Project Description</i> , of this Draft 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; those requests are subject to approval by the Kern County Board of Supervisors. 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 2, above.
Policy 2: A study, prepared at the applicant's expense, shall accompany the road vacation application. The study should provide information that will aid in finding the importance of the entire length of the right-of-way. The study would include a review of existing and proposed land uses and localized traffic modeling. This will help Kern County decide what corresponding changes are needed to the Land Use, Open Space and Conservation Element, or affected specific plan. This also will help Kern County decide if additional public road services or other traffic management are required elsewhere.	Consistent.	See 2.3,6, Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.
Policy 3: If the road vacation applicant is a private entity, all costs for the public hearing shall be borne by the applicant. Also, costs associated with providing any necessary additional public road services or other traffic management caused by the road vacation shall be paid by the applicant.	Consistent.	See 2.3,6, Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.

Goals and Policies	Consistency Determination	Project Consistency
Policy 4: The vacation of a road shall not take away legal access to adjacent properties or "land-lock" any legal lot or parcel of record. Legal access shall be determined through a report submitted with the application for road vacation.	Consistent.	See 2.3,6, Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.
Policy 5: If Kern County determines that the right-of-way is not needed for circulation in the general area, a road vacation may be authorized. An acceptable project shall be determined through a report submitted with the road vacation application and in keeping with traffic modeling parameters of this Plan.	Consistent.	See 2.3,6, Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.
Policy 6: A road vacation may be authorized if physical conditions such as natural, or manmade topography prevent rational extension of the facility. Physical conditions affecting roadways shall be determined through a report submitted with the road vacation application.	Consistent.	See 2.3,6, Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.
Policy 7: A road vacation shall only affect public, recorded rights-of-way or public service easements. The potential effects of a road vacation upon rights-of-way and easements are to be determined by a report submitted with the road vacation application. A vacation of private access or private service easement is not under County jurisdiction. Kern County considers these matters "civil" actions. These civil actions should be acted upon accordingly.	Consistent.	See 2.3,6, Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.
Policy 8: A road vacation may be authorized if the right-of-way is not improved or used for its original purpose. Existing improvements and facility use shall be determined by a report submitted with the road vacation application.	Consistent.	See 2.3,6, Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.
Policy 9: A road vacation may be authorized to remove excess right-of-way caused by relocation, or at the beginning of a general plan amendment proceeding. Excess right-of-way shall be determined through a report submitted with the road vacation application.	Consistent.	See 2.3,6, Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.

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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 2, above.
Policy 11: A road vacation procedure may be used for considering public service easement or utility service easement abandonments. The procedure is the same as any public right-of-way vacation.	Consistent.	See 2.3,6, Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.
Policy 12: A vacation of improved road right-of-way, or public service easement, should not occur until the lead agency makes findings. One important finding is the land is no longer needed for public use. A vacation of improved road right-of-way, or public service easement, should not occur until the right-of-way is superseded by relocation, and improved to acceptable Kern County Development standards. The Board of Supervisors shall have accepted the replacement facility into the maintained road system.	Consistent.	See 2.3,6, Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.
Policy 13: A general vacation proceeding (consistent with State of California Streets and Highway Code) will require a public hearing when the vacation affects existing in place facilities or is a project caused by relocating right-of-way.	Consistent.	See 2.3,6, Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.
Policy 14: A summary vacation shall be consistent with State of California Streets and Highway Code. A summary vacation may be used when the right-of-way does not exist, is unused, or moved. A summary vacation may be used where right-of-way is impassable, unnecessary for present or prospective public use, or is excess or public service easement land.	Consistent.	See 2.3,6, Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.
Measure A: Kern County should require a research fee to determine if a complex vacation application is acceptable.	Consistent.	See 2.3,6, Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.

Goals and Policies	Consistency Determination	Project Consistency
Measure B: In resolving a vacation request, the Board of Supervisors will follow the policies and laws applicable to such vacation request. Before taking final action, the Board of Supervisors may require the applicant to submit additional study(s). Staff shall oversee the applicant's information gathering process and suggest alternatives if necessary.	Consistent.	See 2.3,6, Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, above.
Measure C: The Planning Department shall issue guidelines for applicants to use in the preparation of road vacation applications and attendant reports.	Consistent.	See 2.3,6, Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, 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.	Not Applicable.	Traffic impacts are evaluated in Section 4.14, <i>Transportation</i> , of this Draft EIR. As discussed in Section 4.14, CEQA Guidelines Section 15064.3(b) was adopted in December 2018. It requires lead agencies to evaluate transportation impacts based on VMT, and no longer allows vehicle delay and LOS to be used to determine the significance of a transportation impact for purposes of CEQA. Because the CMP is solely focused on vehicle delay and LOS transportation metrics, it is not discussed further in this EIR.
Goal 2: To coordinate congestion management and air quality requirements and avoid multiple and conflicting requirements.	Not Applicable.	See 2.3,10, Congestion Management Programs, Goal, above.
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).	Not Applicable.	See 2.3,10, Congestion Management Programs, Goal, above.
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.	Not Applicable.	See 2.3,10, Congestion Management Programs, Goal, above.

Goals and Policies	Consistency Determination	Project Consistency
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.	Not Applicable.	See 2.3,10, Congestion Management Programs, Goal, above.
Measure B: The elements within the Kern Congestion Management Program are to be implemented by each incorporated city and the County of Kern. Specifically, the land use analysis program, including the preparation and adoption of deficiency plans is required. Additionally, the adoption of trip reduction and travel demand strategies are required in the Congestion Management Program.	Not Applicable.	See 2.3,10, Congestion Management Programs, Goal, above.
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, <i>Transportation</i> , of this Draft EIR. Consistent with this policy, the proposed project would implement Mitigation Measure MM 4.14-1, which would comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards, which would ensure the provision of heavy truck transportation resulting from project implementation in the safest way possible. Therefore, the proposed project is consistent with this policy.
Goal 2: Reduce potential overweight trucks.	Consistent with Mitigation Measure MM 4.14-1.	See 2.5.1, Trucks and Highways, Goal 1, above.
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.
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.	As discussed in Section 4.14, <i>Transportation</i> of this Draft EIR, coordination and consultation with Caltrans will occur as necessary, consistent with this policy.
Policy 2: Start a program that monitors truck traffic operations.	Consistent with Mitigation Measure MM 4.14-1.	See 2.5.1, Trucks and Highways, Goal 1, above.

Goals and Policies	Consistency Determination	Project Consistency
Policy 3: Promote a monitoring program of truck lane pavement condition.	Consistent with Mitigation Measure MM 4.14-1.	See 2.5.1, Trucks and Highways, Goal 1, above.
2.5.4 Transportation of Hazardous Materials		
Goal 1: Reduce risk to public health from transportation of hazardous materials.	Consistent with implementation of Mitigation Measure MM 4.9-1.	Section 4.9, <i>Hazards and Hazardous Materials</i> , of this Draft EIR provides a discussion of Hazardous Materials Transportation and existing regulatory requirements of the California Vehicle Code that pertain to transport of hazardous materials and wastes. Consistent with this policy, the project would not pose a significant risk to public health from transportation of hazardous materials with implementation of Mitigation Measure MM 4.9-1, which requires the preparation of a Hazardous Materials Business Plan that would describe proper handling, storage, transport, and disposal techniques and methods to be used to avoid spills and minimize impacts in the event of a spill, would ensure that all handling, storage, and disposal of hazardous materials would be conducted in accordance with proven practices to minimize exposure to maintenance workers and/or the public.
Policy 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.	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 materials.	Consistent.	See 2.5.4, Transportation of Hazardous Materials, Goal 1, above.
Measure A: Roads and highways utilized for commercial shipping of hazardous waste destined for disposal will be designated as such pursuant to Vehicle Code Sections 31303 et seq. Permit applications shall identify commercial shipping routes they propose to utilize for particular waste streams.	Consistent with implementation of Mitigation Measure MM 4.9-1.	See 2.5.4, Transportation of Hazardous Materials, Goal 1, above.

Goals and Policies	Consistency Determination	Project Consistency
KERN COUNTY GEN	ERAL PLAN CHAP	TER 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 4.12, <i>Noise</i> , of this Draft EIR. As discussed in that section, the proposed project would not cause significant impacts to sensitive receptors. Thus, the project would be consistent with this goal.
Goal 2: Protect the economic base of Kern County by preventing the encroachment of incompatible land uses near known noise producing roadways, industries, railroads, airports, oil and gas extraction, and other sources.	Consistent	This section of the Draft EIR discusses the land uses proposed by the project. As discussed in this section, the proposed project would be consistent with existing land use designations of the project site.
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, 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, <i>Sensitive Noise Areas</i> , 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, <i>Sensitive Noise Areas</i> , Goal 2, above. Noise-sensitive land uses are evaluated in Section 4.12, <i>Noise</i> , of this Draft EIR.
Policy 7: Employ the best available methods of noise control.	Consistent.	See 3.3, Sensitive Noise Areas, Goal 1, above.
Measure A: Utilize zoning regulations to assist in achieving noise-compatible land use patterns.	Consistent.	This section of the Draft EIR discusses the land uses proposed by the project. As discussed in this section, upon approval of the proposed 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.	Consistent with this measure, the proposed project will be reviewed for conformance with the policies outlined in this element.

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Goals and Policies	Consistency Determination	Project Consistency
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, <i>Sensitive Noise Areas</i> , Goal 1 and Measure A, of the Kern County General Plan.
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:	Consistent.	Consistent with this measure, the proposed project has prepared an acoustical analysis in accordance with the requirements of Chapter 3, <i>Noise Element</i> , Measure G, of the Kern County General Plan.
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:	Consistent.	Consistent with this measure, a noise assessment was conducted for the proposed project and is referenced in Section 4.12,
a) Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.		<i>Noise</i> , of this Draft EIR. In accordance with this measure, the noise assessment includes representative noise measurements, recommended best management practices, estimated noise
 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. 		levels, in terms of CNEL, and estimates of noise exposure.
c) Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.		

Consistency **Goals and Policies** Determination **Project Consistency** 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 Consistent. Consistent with this measure, the recommendations and requirements imposed pursuant to the findings of an acoustical requirements imposed pursuant to the findings of the acoustical analysis are conducted as part of the project permitting process. 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 Consistent. Consistent with this goal, the project would be required to comply with adopted safety regulations, such as the 2019 Fire damage. Code, and related policies in the General Plan. 4.2 General Policies and Implementation Measures, Which Apply to More Than One Safety Constraint Measure F: The adopted multi-jurisdictional Kern County, Consistent. Consistent with this policy, the proposed project would not California Multi-Hazard Mitigation Plan, as approved by the include development for human occupancy, and would not be Federal Emergency Management Agency (FEMA), shall be used located near an active earthquake fault. 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 1:** The County shall require development for human Consistent with this policy, the proposed project would not Consistent. occupancy to be placed in a location away from an active include development for human occupancy, and would not be earthquake fault in order to minimize safety concerns. located near an active earthquake fault

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Measure B: Require geological and soils engineering Consistent. investigations in identified significant geologic hazard areas in accordance with the Kern County Code of Building Regulations.	See 1.3, <i>Physical and Environmental Constraints</i> , Measure D, of the Kern County General Plan, above.

Goals and Policies	Consistency Determination	Project Consistency
Measure C: The fault zones designated in the Kern County Seismic Hazard Atlas should be considered significant geologic hazard areas. Proper precautions should be instituted to reduce seismic hazard, whenever possible in accordance with State and County regulations.	Consistent.	See 1.3, <i>Physical and Environmental Constraints</i> , Goal 1, of the Kern County General Plan, above.
4.5 Landslides, Subsidence, Seiche, and Liquefaction		
Policy 1: Determine the liquefaction potential at sites in areas of shallow groundwater (Map Code 2.3) prior to discretionary development and determine specific mitigation to be incorporated into the foundation design, as necessary, to prevent or reduce damage from liquefaction in an earthquake.	Consistent.	As discussed in Section 4.7, <i>Geology and Soils</i> , of this Draft EIR, conditions for landslides are also not present at the site which is characterized by relatively gradual inclines across the site. 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 and the site is not within an earthquake zone of required investigation for liquefaction (Ecology and Environment, 2020). See Section 4.7, <i>Geology and Soils</i> , of this Draft EIR.
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, <i>Geology and Soils</i> , of this Draft 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 and the site is not within an earthquake zone of required investigation for liquefaction (Ecology and Environment, 2020). See Section 4.7, <i>Geology and Soils</i> , of this Draft EIR.

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.	Consistent with this policy, impacts on emergency services and facilities are discussed and evaluated in Section 4.13, <i>Public Services</i> , of this Draft EIR. The project would implement Mitigation Measure MM 4.13-2 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 project would not interfere or prohibit the County's ability to meet this policy. 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, <i>Hazards and</i> <i>Hazardous Materials</i> , 4.13, <i>Public Services</i> , and 4.17, <i>Wildfire</i> , of this Draft 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, <i>Transportation</i> , of this Draft 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 Dept. The project proponent would develop and implement a Construction Traffic Control 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.	Consistent with this policy, the project would be required to comply with the adopted 2019 Fire Code and the requirements of the Kern County Fire Department.

	Consistency	
Goals and Policies	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 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 4.6, Wildland and Urban Fire, Policy 6, above.
KERN COUNTY GENE	RAL PLAN CHAPTER 5	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, <i>Threatened and Endangered Species</i> , Policy 28, 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, Goal 1, above.

Goals and Policies	Consistency Determination	Project Consistency
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 a Conditional Use Permit as well as other discretionary actions that ensure compliance with all policies and would develop solar PV facilities that would generate 291 MW of solar energy, and would offset an equivalent amount of fossil fuel-generated electrical power. The site is on vacant land, and is located at a distance from established communities. The location of the site would ensure a safe and orderly development of the solar facilities.
Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.	Consistent.	Consistent with this policy, the proposed project requires consideration and approval of a Conditional Use Permit as well as other discretionary actions that ensure compliance with all policies would develop solar PV facilities capable of generating 291 MW of solar energy. Operation of the proposed project would improve air quality within the County and assist the County in meeting attainment goals. See Section 4.3, <i>Air</i> <i>Quality</i> , of this Draft EIR.
Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.	Consistent.	Consistent with this policy, the project proposes the development of PV power generation and storage facilities in the desert region of Kern County. Final review of the 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, would ensure that the proposed project would not pose significant environmental or public health and safety hazards.
Goals and Policies	Consistency Determination	Project Consistency
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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 valley region of Kern County. The project site was historically used for dry farming and grazing. It is currently disturbed and used for grazing. Final review of the project by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable local, state and federal regulations.
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, <i>Aesthetics</i> , of this Draft EIR.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
WILLO	DW SPRINGS SPECIFIC PLA	N
Land Use Element		
Policy 2: Encourage only those industries that do not significantly increase air pollution levels.	Consistent with implementation of Mitigation of Construction Emissions.	Consistent with this policy, the proposed project would implement Mitigation of Construction Emissions of Section 4.3, <i>Air Quality</i> , of this Draft EIR, 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. 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, <i>Air Quality</i> , 4.6, <i>Energy</i> , and 4.8, <i>Greenhouse Gas Emissions</i> , of this Draft EIR
Policy 5: Encourage the maintenance of visual aesthetics in all new construction.	Consistent with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-4.	Visual impacts are evaluated in Section 4.1, <i>Aesthetics</i> , of this Draft 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.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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, <i>Hazards and Hazardous Materials</i> , of this Draft EIR provides a discussion of hazardous materials. 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.
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 of Construction Emissions.	Consistent with this policy, the proposed project would comply with the requirements of the Kern County Zoning Ordinance as evaluated in various sections of this Draft EIR including, Section 4.3, <i>Air Quality</i> and Section 4.14, <i>Transportation</i> . Additionally, this section of the Draft EIR discusses the land uses proposed by the project. As discussed in this section, the proposed project would be consistent with the Kern County 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 of Construction Emissions.	Air quality and GHG impacts are evaluated in Sections 4.3, <i>Air Quality</i> , and 4.8, <i>Greenhouse Gas Emissions</i> , of this Draft EIR. Consistent with this policy, the proposed project would Mitigation of Construction Emissions, which would further reduce fugitive dust 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.

 TABLE 4.11-3:
 CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 11: Retain vegetation until actual construction begins.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-13.	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this Draft EIR. This EIR serves to comply with this policy and reduce potential impacts to vegetation 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.
Biological Resources		
Policy 3: Initial development within the Update area shall, when possible, be directed towards previously impacted areas (i.e., agricultural fields).	Consistent.	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.
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 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 Draft EIR. Direct disturbance related to the project would be approximately 1,330 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.	As discussed in Section 4.2, <i>Agriculture and Forestry</i> <i>Resources</i> , of this Draft EIR, there are two areas of Prime Farmland within the project area, located in two parcels within the Raceway 2.0 Solar 4 site. Although implementation of the project would convert these areas of Prime Farmland, it would only result in loss of a small portion of the Prime Farmland within Kern County. Disturbance to the designated farmland related to development of the project would be less than significant. Therefore, the proposed project would be consistent with this policy.
Policy 3: To ensure compliance with applicable State and federal laws and to protect the biological resources present in the Specific Plan area.	Consistent.	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this Draft 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 4: 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.	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this Draft 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 4.4-5, and MM 4.4-13.	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this Draft 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 the alkali mariposa lily and western Joshua trees 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 4.4-5, and MM 4.4-13.

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 4.4-1 through MM 4.4-5, and MM 4.4-13.	See Resources, Measure 15, above. Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this Draft EIR.
Measure 17: 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.	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.
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 4.4-1 through MM 4.4-5, and MM 4.4-13.	See Resources, Measure 15, above. Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this Draft EIR.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

TABLE 4.11-3: CON	SISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE
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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, <i>Hydrology and Water Quality</i> , of this Draft EIR, discusses required compliance with Kern County's NPDES Applicability legislation, which requires projects to comply with the State Water Resources Control Board's Construction General Permit. Additionally, Biological Resource impacts are evaluated in Section 4.4, <i>Biological</i> <i>Resources</i> , of this Draft EIR. This EIR serves to comply with this policy and reduce potential impacts with mitigation. As part of the biological resources evaluation and habitat assessment conducted for the project, relevant state and federal agencies were contacted to ensure that appropriate information about the project site were being gathered.
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 25, above. Biological resource impacts are evaluated in Section 4.4, <i>Biological</i> <i>Resources</i> , of this Draft EIR and compliance with the State Water Resources Control Board is discussed in Section 4.10, <i>Hydrology and Water Quality</i> , of this Draft 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 with implementation of Mitigation of Construction Emissions.	Air quality and GHG impacts are evaluated in Sections 4.3, <i>Air Quality</i> , and 4.8, <i>Greenhouse Gas Emissions</i> , of this Draft EIR. Consistent with this policy, the proposed project would implement Mitigation of Construction Emissions, which would reduce impacts to air quality to the extent feasible. Air quality Mitigation of Construction Emissions includes fugitive dust control measures, which would reduce Valley Fever exposure minimization during construction.

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 of Construction Emissions.	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this Draft EIR. Consistent with this policy, the proposed project would implement Mitigation of Construction Emissions, 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 of Construction Emissions.	The project would implement Mitigation of Construction Emissions, which would require the implementation of fugitive dust control measures prior to the issuance of grading or building permits in order to control fugitive PM emissions during construction. See Section 4.3, <i>Air</i> <i>Quality</i> , of this Draft EIR.
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.	The project would adhere to Chapter 17.28 of the Kern County Code, which regulates grading within the County. Specifically, 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 of Construction Emissions.	The project would implement Mitigation of Construction Emissions, which requires that construction equipment for the Project be operated in compliance with applicable local, state, and federal regulations mandating reductions in emissions as outlined in the attainment plan and related state implementation plan. See Section 4.3, <i>Air Quality</i> , of this Draft EIR.
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 of Construction Emissions.	See Air Quality, Policy 1, above. Further, air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this Draft EIR.

Goals and Policies	Consistency Determination	Project Consistency
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.	The project would implement Mitigation of Construction Emissions which would require the implementation of fugitive dust control measures prior to the issuance of grading or building permits in order to control fugitive PM emissions during construction. See Section 4.3, <i>Air</i> <i>Quality</i> , of this Draft 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 4.4-13.	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this Draft EIR. This EIR serves to comply with this policy and reduce potential impacts with mitigation. Additionally, the project would be developed and operated in accordance with all local, state and federal laws pertaining to the preservation of sensitive species.
Policy 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, <i>Biological Resources</i> , of this Draft EIR, focused surveys were conducted at the project site for multiple species.
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 4.4-3.	As discussed in Section 4.4, <i>Biological Resources</i> , of this Draft 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.
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, <i>Cultural Resources</i> , of this Draft 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.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

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Goals and Policies	Consistency Determination	Project Consistency
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.	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, <i>Cultural Resources</i> , of this Draft EIR. Consistent with this policy, impacts to archaeological resources are evaluated in accordance with CEQA. This EIR serves to comply with this policy.
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, <i>Cultural Resources</i> , of this Draft EIR. This EIR serves to comply with this policy.
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 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, <i>Cultural Resources</i> , of this Draft EIR. This EIR serves to comply with this policy.
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 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, <i>Cultural</i> <i>Resources</i> , of this Draft EIR. This EIR serves to comply with this policy.
Measure 3: Larger "village" sites, such as CA-KER-129, cemeteries, and other sites of religious significance, maybe found within the study area and shall require more intensive investigation and more complete preservation.	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, <i>Cultural Resources</i> , of this Draft EIR. This EIR serves to comply with this policy.

Goals and Policies	Consistency Determination	Project Consistency
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.	As described in Section 4.10, <i>Hydrology and Water</i> <i>Quality</i> , of this Draft 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 goal.
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 1.9, Resources, Policy 11, of the Kern County General Plan, above.
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, <i>Hydrology and Water</i> <i>Quality</i> , of this Draft 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.
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 Chapter 4, Safety Element, of the Kern County General Plan, above.
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, 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: 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 4.9-1 and MM 4.10-1.	Water quality impacts are evaluated in Section 4.10, <i>Hydrology and Water Quality</i> , of this Draft EIR. Consistent with this policy, the proposed project would implement best management practices during construction to avoid impacts to water quality. The project would also implement a Hazardous Materials Business Plan to reduce mixing of pollutants with stormwater onsite, thereby maintaining the integrity of the watershed.
Measure 24: In order to combat the stormwater pollution created by the various land uses the following source control mitigation measures are required:	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.
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 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, <i>Utilities and Service Systems</i> , of this Draft 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.

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, <i>Public Services</i> , of this Draft EIR.
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.	Impacts to public services are evaluated in Section 4.13, <i>Public Services</i> , of this Draft EIR. Consistent with this policy, the project would implement Mitigation Measure MM 4.13-2 which would require the project operator 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.
Policy 5: Operation of any solid waste facility shall comply with standards provided by the Kern County Solid Waste Management Plan.	Consistent with implementation of Mitigation Measure MM 4.16-1.	Consistent with this policy, the proposed project would develop a solar PV power generating facility that would not operate a solid waste facility. As discussed in Section 4.16, <i>Utilities and Service Systems</i> , of this Draft EIR, the proposed project would be served by Kern County Waste Management and would comply with construction waste diversion requirements implemented by the County. Additionally, 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.
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.	See Public Facilities Element, Policy 5, above. Further, utility and service systems impacts are evaluated in Section 4.16, <i>Utilities and Service Systems</i> , of this Draft EIR.

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.	Consistent with this policy, the project proponent would fund improvements to on-site driveways that provide access to County, city, or State roads. The project would implement Mitigation Measure MM 4.13-2, which would require the project operator to provide funding for countywide 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, above. Further, public service impacts are evaluated in Section 4.13, <i>Public Services</i> , of this Draft 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.	Consistent with this policy, the project would be required to comply with the County adopted 2019 Fire Code and the requirements of the Kern County Fire Department applicable for construction, access, water mains, fire flows, and fire hydrant.
 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. 	Consistent with implementation of Mitigation Measure MM 4.16-1.	Public utility impacts are evaluated in Section 4.16, <i>Utilities and Service Systems</i> , of this Draft 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. 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, above. Further, public service impacts are evaluated in Section 4.13, <i>Public Services</i> , of this Draft 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 4.4-13.	See Land Use Element, Policy 11, above. Further, biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this Draft EIR. This EIR serves to comply with this policy and reduce potential impacts to vegetation with mitigation. Additionally, the project would be developed and operated in accordance with all local, state and federal laws pertaining to the preservation of sensitive species.
Policy 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 15, above. Cultural resource impacts are evaluated in Section 4.5, <i>Cultural Resources</i> , of this Draft EIR.
Noise Element		
Goal 2: To minimize disruption to the quality of life resulting from excessive noise.	Consistent.	Noise impacts, sensitive receptors and County noise thresholds are evaluated in Section 4.12, <i>Noise</i> , of this Draft EIR. 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.	This section of the Draft 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:	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
• 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.		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.
• 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.		
Measure 2: The implementation measures of the Kern County Noise Element are hereby adopted by reference.	Consistent.	This section of the Draft 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.
Circulation Element		
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 4.14-1.	Section 4.14, <i>Transportation</i> , of this Draft EIR, provides a discussion of circulation and preparation of a Traffic Control Plan. The project would include internal service roads. Consistent with this goal, all road improvements 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.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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, above. Further, transportation and circulation impacts are evaluated in Section 4.14, <i>Transportation</i> , of this Draft EIR.
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, <i>Transportation</i> , of this Draft 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 of Construction Emissions.	See Section 4.3, <i>Air Quality</i> , of this Draft EIR. The project would implement Mitigation of Construction Emissions, which encourages resourceful air quality improvement and reduction methods. Mitigation of Construction Emissions 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. In addition, as discussed in Section 4.3, <i>Air Quality</i> , of this Draft EIR, construction is only expected to last 10 to 12 months, it would be considered temporary and would not result in a long-term source of CO emissions. Therefore, the proposed project would be consistent with this measure
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, <i>Transportation</i> , of this Draft EIR. 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.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH WILLOW SPRINGS SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure 13: The Traffic Impact Fee Program implements Mitigation Measure 10 of the Willow Springs Final Environmental Impact Report (EIR).	Consistent with implementation of Mitigation Measure MM 4.13-2.	Consistent with this measure, the project proponent would fund improvements to on-site driveways that provide access to County, city, or State roads. In addition, the project would implement Mitigation Measure MM 4.13-2, which would require the project operator to provide funding for countywide services.
Water Quality and Availability		
Goal 1: To ensure that new developments are provided with an adequate water supply and wastewater disposal/treatment facilities.	Consistent.	Water and wastewater impacts are evaluated in Section 4.10, <i>Hydrology and Water Quality</i> , and Section 4.16, <i>Utilities and Service Systems</i> , of this Draft EIR. The proposed project would require water supply during construction of the proposed project, for dust suppression, concrete manufacturing, truck wheel washing, equipment washing, and fire safety across the six sites, as well as during and operation for washing of the modules once a year. No offsite sewage or disposal connections to a municipal sewer system exist or are proposed. However, portable toilets and hand washing facilities are also proposed (during the construction phase), which would be serviced by truck and any resulting wastewater would be disposed of at an approved off-site disposal facility. The water supply for the project during construction and operations would be supplied from the Antelope Valley-East Kern Water Agency (AVEK) water purveyor from one of the nearby locations owned by AVEK.
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
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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 4.10-1.	As discussed in Section 4.10, <i>Hydrology and Water</i> <i>Quality</i> , of this Draft 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 4.10, <i>Hydrology and Water Quality</i> , of this Draft 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.
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 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.

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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 appropriate. The information and analysis in this section is largely based on the *Noise Technical Memorandum for the Raceway 2.0 Solar Project* (Ecology and Environment, Inc., January 17, 2020) located in Appendix K of this EIR.

Noise Fundamentals

An understanding of the physical characteristics of noise is useful for evaluating environmental noise impacts. The methods and metrics used to quantify noise exposure, human response, and relative judgment of loudness are also discussed, and noise levels of common noise environments are presented.

Noise is generally defined as loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity and interferes with or disrupts normal activities. The effects of noise on people can be grouped into four general categories:

- Subjective effects (dissatisfaction, annoyance);
- Interference effects (communication and sleep interference, learning);
- Physiological effects (startle response); and
- Physical effects (hearing loss).

Although exposure to high noise levels has been demonstrated to cause physical and physiological effects, the principal human responses to typical environmental noise exposure are related to subjective effects and interference with activities. The subjective responses of individuals to similar noise events are diverse and influenced by many factors, including the type of noise, the perceived importance of the noise, its appropriateness to the setting, the duration of the noise, the time of day and the type of activity during which the noise occurs, and individual noise sensitivity.

Interference effects of environmental noise refer to those effects that interrupt daily activities and include interference with human communication activities, such as normal conversations, watching television, and telephone conversations, and interference with sleep. Sleep interference effects can include both awakening from sleep and arousal to a lesser state of sleep.

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air, and are sensed by the human ear. Sound is generally characterized by several variables, including frequency and amplitude. Frequency describes the sound's pitch (tone) and is measured in cycles per second (Hertz [Hz]), while amplitude describes the sound's pressure (loudness). Because the range of sound pressures that occurs in the environment is extremely large, it is convenient to express these pressures on a logarithmic scale that compresses the wide range of pressures into a more useful range of numbers. The standard unit

of sound measurement is the decibel (dB). Hz is a measure of how many times each second the crest of a sound pressure wave passes a fixed point. For example, when a drummer beats a drum, the skin of the drum vibrates a given number of times per second. If the drum vibrates 100 times per second, it generates a sound pressure wave that is oscillating at 100 Hz, and this pressure oscillation is perceived by the ear/brain as a tonal pitch of 100 Hz. Sound frequencies between 20 and 20,000 Hz are within the range of sensitivity of the healthy human ear.

Sound levels are expressed by reference to a specified national/international standard. The sound pressure level is used to describe sound pressure (loudness) and is specified at a given distance or specific receptor location. In expressing sound pressure level on a logarithmic scale, sound pressure (dB) is referenced to a value of 20 micropascals (μ Pa). 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 (threshold of feeling), progressing to pain at still higher levels (140 dBA, threshold of pain). 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 dBA value of L_{dn} or CNEL 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**, *Effects of Noise on People*.

Unit of Measure		Description			
dB	Decibel	Decibels, which are units for measuring the volume of sound, are measured on a logarithmic scale, representing points on a sharply rising curve. For example, 10 dB sounds are 10 times more intense than 1 dB sounds, and 20 dB sounds are 100 times more intense. A 10 dB increase in sound level is perceived by the human ear as a doubling of the loudness of the sound.			
dBA	A-Weighted Decibel	A sound pressure level that has been weighted to quantitatively reduce the effect of high- and low-frequency noise. It was designed to approximate the response of the human ear to sound.			
CNEL	Community Noise Equivalent Level	A metric representing the 24-hour average sound level that includes a 5 dBA penalty during relaxation hours (7 p.m. to 10 p.m.) and a 10 dBA penalty for sleeping hours (10 p.m. to 7 a.m.).			
L _{dn}	Day-Night Average Noise	The 24-hour average sound level, expressed in a single 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 p.m. and 7 a.m.			
L _{eq}	Equivalent Continuous 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_{eq} equates to $L_{eq(1)}$ for L_{eq} averaged over one hour; e.g., $L_{eq(8)}$ equates averaged over eight hours.			
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.			
$\begin{array}{c} L_1, \ L_{10}, \\ L_{50}, \ L_{90} \end{array}$	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.			

TABLE 4.12-1: COMMON NOISE METRICS

Vibration Fundamentals

As described in the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment* (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) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS.





FIGURE 4.2-1: FARMLAND MAPPING AND MONITORING PROGRAM DESIGNATIONS

The relationship of PPV to RMS velocity is expressed in terms of the "crest factor," defined as the ratio of the PPV amplitude to the RMS amplitude. Peak particle velocity is typically a factor of 1.7 to 6 times greater than RMS vibration velocity (FTA, 2018). The 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. Annoyance from vibration often occurs when the vibration levels exceed the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings. The FTA measure of the threshold of architectural damage for conventional sensitive structures is 0.2 inches per second (in/sec) PPV, while the standard for even the most sensitive and fragile structures is 0.12 in/sec PPV (FTA, 2018).

In residential areas, the background vibration velocity level is usually around 50 VdB (approximately 0.0013 in/sec PPV). This level is well below the vibration velocity level threshold of perception for humans, which is approximately 65 VdB. A vibration velocity level of 75 VdB is considered to be the approximate dividing line between barely perceptible and distinctly perceptible levels for many people (FTA, 2018).

4.12.2 Environmental Setting

Project Location

The proposed project is located within the southern half of Township S9N, Range 13W of the San Bernardino Base & Meridian (SBB&M) and is contained by but does not fully occupy sections W20, W21, W28, W29, W32. The proposed project is in the eastern high desert region of unincorporated Kern County and within the jurisdictional boundaries of the Willow Springs Specific Plan and the Kern County Zoning Ordinance. The proposed project is in the western extent of the Mojave Desert near Rosamond, California between Rosamond Boulevard and Avenue A, and between 70th Street West and 90th Street West.

Existing Noise Environment

The project site is a desert and is located in an area of low population density and is traversed by a network of dirt roads. The existing noise environment is influenced primarily by natural noise sources, such as wind, bird vocalizations, as well as, by man-made noise sources including vehicle traffic on roadways in the area, electrical infrastructure associated with existing solar facilities, residential-generated noise (e.g., vehicle operation, dogs barking), occasional aircraft overflights, and distant operation of wind turbines.

Land uses in the region include a mix of undeveloped land, agriculture, residential, recreational and renewable energy projects (solar and wind). Desert vegetation dominates the project site and region. Topography across the project site is relatively flat as the site is located on the bajada of the Tehachapi Mountains, which is an overlapping of alluvial fans with southern trending slope. The major north-south

route in the region is SR 14, a four-lane highway located approximately 4 miles east of the proposed project. The major east-west route near the proposed project is SR 58, which is also a four-lane highway, located approximately 14 miles north of the proposed project. Paved and unpaved roadways, generally following section lines, are found throughout the area.

The power generated by the proposed project would be interconnected to an existing transmission network. The proposed project would interconnect via an approximately 10- to 12- mile, 34-kV and/or 230-kV generation tie (gen-tie) line originating at a direct current (DC) collection system located at the southwestern portion of the project site. Electricity at the previously approved collector substation would ultimately be delivered to the Big Sky Substation (owned and operated by the applicant) located along West Avenue J and 100th Street West in the City of Lancaster.

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). The nearest airports to the proposed project are the Rosamond Skypark located 3 miles to the northeast, the Mojave Air and Space Port located 14.5 miles to northeast. Private airstrips include the Lloyd's Landing airport, located approximately 3.5 miles north and the Little Buttes Antique Airfield, located approximately 2.5 miles south of the project in Los Angeles County.

Noise Sensitive Receptors

Noise sensitive receptors are generally defined as land uses where people reside or where the presence of unwanted sound may adversely affect the existing land use. The Noise Element of the Kern County General Plan (County of Kern, 2009) considers the following as noise sensitive areas: residences, hospitals, places of worship, and schools, as well as nature and wildlife preserves, recreational areas, and parks.

The proposed project is located within unincorporated Kern County and within the jurisdiction of the Willow Spring Specific Plan. The project has land use designations of 7.1 (Light Industrial), 5.3 (Residential, Maximum 10 units/net acre), 5.3/2.85 (Residential, Maximum 10 units/net acre/Noise Management Area), 5.5 (Residential, Maximum 1 units/net acre), 5.6/2.8 (Residential, Maximum 2.5 gross acres/unit/Military Flight Operations), 5.6/2.85 (Residential, Maximum 2.5 gross acres/unit/Noise Management Area) and is within the A (Exclusive Agriculture) and E (2.5) (Estate, 2.5 acre minimum) zone districts.

The existing land uses of the project and its surroundings are generally undeveloped, including sparse residential dwellings, dirt roads and fallow or active agricultural operations. The entire project is also subject to the provisions of the Kern County Zoning Ordinance. The project proposes to eliminate future road reservations from the General Plan Circulation Element to allow for efficient placement of solar panels. There are no residences or other noise sensitive receptors on the project site. Residential dwellings are scattered around the perimeter of the project site and are located at various distances from the project boundary. While existing dwelling structures have been identified in the project site vicinity, not all of these structures are habitable or occupied with residents. In addition, residential dwellings are located within a quarter-mile of each of the gen-tie route options. Other sensitive noise receptors, such as schools, hospitals, rest homes, long-term care and mental care facilities, churches, libraries, and parks are not present within a 10-mile radius.

Noise-sensitive receptors were identified via aerial satellite imagery within 1,000 feet of the proposed project components to maintain consistency with the Kern County General Plan. The analysis involved determining the closest sensitive receptor to each project component, as well as how many other sensitive receptors exist within 100 feet, 500 feet, and 1,000 feet of each component. In instances where it was unclear

if a residential structure was occupied, it was assumed to be occupied for the sake of producing a conservative analysis. The following updates have been identified as part of the new proposed project:

- Sensitive receptors identified as 'Residence A,' 'Residence C,' and 'Residence D' remain unchanged from the previous Report since their nearest solar site boundaries have not been removed or relocated.
- Sensitive receptors identified as 'Residence B,' Residence E,' and 'Residence F' are updated to reflect the new solar site boundary in their vicinity.
- The sensitive receptor identified as 'Residence G' is no longer applicable, since the original Site 7 has been removed.
- Sensitive receptors identified as 'Residence H,' 'Residence I,' 'Residence J,' 'Residence K,' 'Residence L,' and 'Residence M' remain unchanged as they relate to the optional interconnection transmission lines previously approved by the County.
- Figure 3c will remain unchanged since the proposed optional 80th Street interconnection line would still be located approximately 780 feet from the Del Sur Elementary School, along the same route on Avenue G-12.

Table 4.12-2, *Noise Sensitive Receptor Distances*, shows the distances to the sensitive receptor locations in the original 2018 Report and the 2020 Update. As shown, the distances in the 2020 Update would generally be greater than in the 2018 Report, with the exception of Residence F, which would be slightly closer to the project site.

	Distance from Receptor's Property Boundary to Project Boundary			
Noise Sensitive Receptor	2018 Report	2020 Update		
Residence A	120 feet	1,181 feet		
Residence B	120 feet	3,770 feet		
Residence C	95 feet			
Residence D	65 feet	79 feet		
Residence E	30 feet	49 feet		
Residence F	615 feet	526 feet		
Residence G	55 feet			
Residence H	Adjacent	5,230 feet		
Residence I	Adjacent	778 feet		
Residence J	Adjacent	3,116		
Residence K	Adjacent	2,815 feet		
Residence L	95 feet			
Residence M	Adjacent			

TABLE 4.12-2: NOISE SENSITIVE RECEPTOR DISTANCES

Figure 4.12-2, Nearby Sensitive Receptors, depicts the noise sensitive receptors in the project vicinity.



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT RACEWAY SOLAR PROJECT



FIGURE 4.12-2: NEARBY SENSITIVE RECEPTORS

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 L_{dn} dBA.

Federal Highway Administration Noise Abatement Procedures (23 CFR Part 772)

The purpose of the Federal Highway Administrative (FHWA) Noise Abatement Procedures (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 Leq as the criterion metric for evaluating traffic noise impacts including of 67 dBA Leq(h) applicable to federal highway projects for evaluating impacts to land uses, including residences, recreational uses, hotels, hospitals, and libraries (23 CFR Chapter 1, Part 772, Section 772.19). Additionally, FHWA requires that individual states establish an allowable noise level increase (at or above which the increase is deemed to be "substantial" and abatement should be considered)

for Type 11 highway projects. Currently, the definition of a "substantial increase" ranges from 5 to 15 dB, depending upon the state.

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 the 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 (OSHA), *Occupational Noise Exposure; Hearing Conservation Amendment* (Federal Register 48 [46], 9738–9785, 1983) stipulates that protection against the effects of noise exposure shall be provided for employees when sound levels exceed 90 dBA over an 8-hour exposure period. Protection shall consist of feasible administrative or engineering controls. If such controls fail to reduce sound levels to within acceptable levels, personal protective equipment shall be provided and used to reduce exposure of the employee. Additionally, a Hearing Conservation Program must be instituted by the employers whenever employee noise exposure equals or exceeds the action level of an 8-hour time-weighted average sound level of 85 dBA $L_{eq(8)}$. The 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, which must contain a noise element (California Government Code Section 65302(f) and Section 46050.1 of the Health Safety Code). The requirements of the noise element include describing the noise environment quantitatively using a cumulative noise metric such as CNEL or L_{dn}, establishing noise/land use compatibility criteria, and establishing programs for achieving and/or maintaining land use compatibility. Noise elements should address all major noise sources in the community, including mobile and stationary noise sources. In California, most cities and counties have also adopted noise ordinances, which serve as enforcement mechanisms for controlling noise.

The California Department of Health Services has studied the correlation of noise levels and their effects on various land uses. The Governor's Office of Planning and Research (State of California, 2003) has established guidelines for evaluating the compatibility of various land uses as a function of community

noise exposure, for the noise elements of local general plans. 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 4.12-3**, *Land Use Compatibility for Community Noise Environment*. Persons in low-density residential settings are most sensitive to noise intrusion, with noise levels of 60 dBA CNEL and below are considered "acceptable." For land uses such as schools, libraries, churches, hospitals, and parks, acceptable noise levels go up to 70 dBA CNEL.

CEQA *Guidelines* (PRC Section 21000 et seq.) requires the identification of "significant" environmental impacts and their feasible mitigation. Section XI of Appendix G to the CEQA *Guidelines* (CCR Title 14, Appendix G) lists some indicators of potentially significant impacts, which are included below under the heading Thresholds of Significance.

The state has also established noise insulation standards for new multi-family residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. These requirements are collectively known as the California Noise Insulation Standards (Title 24, California Code of Regulations), which set forth an interior standard of 45 dBA CNEL or L_{dn} in any habitable room, requiring an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard, where such units are proposed in areas subject to noise levels greater than 60 dBA CNEL or L_{dn} . Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

The state also establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the state pass-by standard is consistent with the federal limit of 80 dBA at 15 meters. The state pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dBA at 15 meters from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.

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.

	Community Noise Exposure – L _{dn} or CNEL (dBA)						
Land Use Category	50	55	60	65	70	75	80
Residential – Low Density Single Family, Duplex, Mobile Home							
Residential – Multi-Family							
Transient Lodging – Motel/Hotel							
Schools, Libraries, Churches, Hospitals, Nursing Homes							
Auditorium, Concert Hall, Amphitheaters							
Sports Arena, Outdoor Spectator Sports							
Playgrounds, Neighborhood Parks							
Golf Courses, Riding Stables, Water Recreation, Cemeteries							
Office Buildings, Business, Commercial and Professional							
Industrial, Manufacturing, Utilities, Agriculture							

FIGURE 4.12-3: 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.

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
- 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.

in order to increase absorption of noise,

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

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) in 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 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 nighttime and daytime noise levels to 55 dBA L_{50} and 45 dBA L_{50} , respectively sensitive land uses, which includes residential uses. Additionally, the average-daily noise levels for sensitive land uses are limited to 65 dBA $L_{dn}/CNEL$.

Noise Element

Goals

Goal 2:	To minimize dis	ruption to the qu	ality of life resu	lting from exces	ssive 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.

Los Angeles County General Plan 2035

Chapter 11 of the Los Angeles County General Plan 2035 aims to reduce and limit the exposures of the general public to excessive noise levels (Los Angeles County Department of Regional Planning 2015). According to this plan, the County of Los Angeles defines sensitive receptors as residences, hospitals, schools, childcare facilities, and places of assembly. Existing sources of noise within the county are airports, railways, freeways and primary arterials, heavy industry, and warehousing facilities. Goal N 1 of this chapter contains policies intended to reduce excessive noise impacts on the general public, including sensitive receptors. The following Goal 1 policies correspond to the Project:

Policy N 1.1: Utilize land uses to buffer noise-sensitive uses from sources of adverse noise impacts.

Policy N 1.3: Minimize impacts to noise-sensitive land uses by ensuring adequate site design, acoustical construction, and use of barriers, berms, or additional engineering controls through Best Available Technologies (BAT).

Policy N 1.4: Enhance and promote noise abatement programs in an effort to maintain acceptable levels of noise a defined by the Los Angeles County Exterior Noise Standards and other applicable noise standards.

Policy N 1.6: Ensure cumulative impacts related to noise do not exceed health-based safety margins.

Policy N 1.7: Utilize traffic management and noise suppression techniques to minimize noise from

traffic and transportation systems.

Policy N 1.9: Require construction of suitable noise attenuation barriers on noise sensitive uses that would be e L and above, when unavoidable impacts are identified.
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 (County of Kern, 2010) 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, or 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.

Los Angeles County Code of Ordinances, Chapter 12.08 Noise Control

While all Project solar arrays would be located in Kern County, some proposed gen-tie routes would extend south into Los Angeles County. Sensitive receptors within Los Angel County could therefore experience noise-related impacts associated with Project activities.

Chapter 12.08 of the Los Angeles County Code of Ordinances pertains to noise control. The following ordinances described in the Los Angeles County Code of Ordinances, Chapter 12.08 Noise Control pertain to construction associated with the Project. **Table 4.12-3**, *Maximum Permissible Construction Noise Levels at Affected Structures (dBA)*, describes the maximum permissible construction noise levels at affected structures. (Los Angeles County 1978)

Equipment Type	Time at which Ordinance is Applicable	Single-Family Residences	Multi-Family Residences	Semi- Residential/ Commercial	Businesses
Mobile Equipment	Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	75	80	85	85
	Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays	60	64	70	85
Stationary Equipment	Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	60	65	70	85
	Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays	50	55	60	85
SOURCE: Los	s Angeles County 1978 (Ord. 11778 § 2	(Art. 5 § 501(c)).			

TABLE 4.12-3:	MAXIMUM PERMISSIBLE CONSTRUCTION NOISE LEVELS AT AFFECTED STRUCTURES
	(DBA)

Los Angeles County Code of Ordinances 12.08.440 – Construction Noise; Ord. 11778 § 2:

- Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between weekday hours of 7:00 p.m. and 7:00 a.m., or at any time on Sundays or holidays, such that the sound therefrom creates a noise disturbance across a residential or commercial real-property line, except for emergency work of public service utilities or by variance issued by the health officer is prohibited.
- Noise Restrictions at Affected Structures. The contractor shall conduct construction activities in such a manner that the maximum noise levels at the affected buildings will not exceed those listed in the following schedule (see Table 14.2-2 Maximum Permissible Construction Noise Levels at Affected Structures).
- All mobile or stationary internal-combustion-engine-powered equipment or machine all be equipped with suitable exhaust and air-intake silencers in proper working order.

The following exterior noise standards apply to any receptor within a designated noise zone (County of Los Angeles 1978). **Table 4.12-4**, *Authorized Exterior Noise Levels Applicable to Receptor Properties in Los Angeles County*, lists exterior noise standards within designated noise zones in Los Angeles County, as described in the Los Angeles County Code of Ordinances Chapter 12.08.390 (A). As defined in Section 12.08.390 of the code, nighttime hours are from 10:00 PM through 7:00 AM, and daytime hours are from 7:00 AM through 10:00 PM.

Noise Zone	Designated Noise Zone Lane Use (Receptor Property)	Time Interval	Exterior Noise Level (dB)
Ι	Noise-Sensitive Zone ^(a)	Anytime	45
II	Residential Properties	Nighttime	45
		Daytime	50
III	Commercial Properties	Daytime	55
		Nighttime	60
IV	Industrial Properties	Anytime	70

TABLE 4.12-4: AUTHORIZED EXTERIOR NOISE LEVELS APPLICABLE TO RECEPTOR PROPERTIES IN LOS ANGELES COUNTY

SOURCE: Los Angeles County Code of Ordinances Section 2.08.390

NOTE:

(a) As defined in Section 12.08.470, noise-sensitive zones are zones that are designated by the health officer, and must be indicated by the display of conspicuous signs in at least three separate locations within 1/10th of a mile (164 meters, or 540 feet) of the institution or facility.

Key: dB = decibels

The following provisions and standards from the Los Angeles County Code of Ordinances Section 12.08.390 also apply to the Project:

A. Unless otherwise herein provided, no person shall operate or cause to be operated, any source of sound at any location within the unincorporated county, or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level, when measured on any other property either incorporated or unincorporated, to exceed any of the following exterior noise standards:

Standard No. 1 shall be the exterior noise level which may not be exceeded for a cumulative period of more than 30 minutes in any hour. Standard No. 1 shall be the applicable noise level from subsection A of this section; or, if the ambient L_{50} exceeds the foregoing level, then the ambient L_{50} becomes the exterior noise level for Standard No. 1.

Standard No. 2 shall be the exterior noise level which may not be exceeded for a cumulative period of more than 15 minutes in any hour. Standard No. 2 shall be the applicable noise level from subsection A of this section plus 5 dB; or, if the ambient L_{25} exceeds the foregoing level, then the ambient L_{25} becomes the exterior noise level for Standard No. 2.

Standard No. 3 shall be the exterior noise level which may not be exceeded for a cumulative period of more than five minutes in any hour. Standard No. 3 shall be the applicable noise level from subsection A of this section plus 20 dB; or, if the ambient $L_{8.3}$ exceeds the foregoing level, then the ambient $L_{8.3}$ becomes exterior noise level for Standard No. 3.

Standard No. 4 shall be the exterior noise level which may not be exceeded for a cumulative period of more than one minute in any hour. Standard No. 4 shall be the applicable noise level from subsection A of this section plus 15 dB; or, if the ambient $L_{1.7}$ exceeds the foregoing level, then the ambient $L_{1.7}$ becomes the exterior noise level for Standard No. 4.

Standard No. 5 shall be the exterior noise level which may not be exceeded for any period of time. Standard No. 5 shall be the applicable noise level from subsection A of this section plus 20 dB; or, if the ambient L_0 exceeds the foregoing level then the ambient L_0 becomes the exterior noise level for Standard No. 5.

- If the measurement location is on a boundary property between two different zones, the exterior noise level utilized in subsection B of this section to determine the exterior standard shall be the arithmetic mean of the exterior noise levels in subsection A of the subject zones. Except as provided for above in this subsection C, when an intruding noise source originates on an industrial property and is impacting another noise zone, the applicable exterior noise level as designated in subsection A shall be the daytime exterior noise level for the subject receptor property.
- The ambient noise histogram shall be measured at the same location along the property line utilized in subsection B of this section, with the alleged intruding noise source inoperative. If for any reason the alleged intruding noise source cannot be turned off, the ambient noise histogram will be estimated by performing a measurement in the same general area of the alleged intruding noise source but at a sufficient distance such that the noise from the alleged intruding noise source is at least 10dB below the ambient noise histogram in order that only the actual ambient noise histogram be measured. If the difference between the ambient noise histogram and the alleged intruding noise source is 5 to 10dB, then the level of the ambient noise histogram itself can be reasonably determined by subtracting a one-decibel correction to account for the contribution of the alleged intruding noise source.

• In the event the intrusive exceeds the exterior noise standards as set forth in subsections B and C of this section at a specific receptor property and the health officer has reason to believe that this violation at said specific receptor property was unanticipated and due to abnormal atmospheric conditions, the health officer shall issue an abatement notice in lieu of a citation. If the specific violation is abated, no citation shall be issued therefor. If, however, the specific violation is not abated, the health officer may issue a citation.

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 published 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 4.12-5**, *Vibration Criteria for Structural Damage*, and **Table 4.12-6**, *Vibration Criteria for Human Annoyance*, respectively, below.

As shown in Table 4.12-5, 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.

As shown in Table 4.12-6, with regard to human perception, 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.

	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	

TABLE 4.12-5: VIBRATION CRITERIA FOR STRUCTURAL DAMAGE

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.

	Vibration Level (in/sec PPV)			
Human Response	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		

TABLE 4.12-6: VIBRATION CRITERIA FOR HUMAN ANNOYANCE

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

The proposed project's potential noise and vibration impacts have been evaluated using a variety of resources, including the project's *Noise Technical Memorandum for the Raceway 2.0 Solar Project* (Ecology and Environment, Inc., January 17, 2020), provided in Appendix K of this EIR. Using these resources, described in more detail below, and professional judgment, impacts were analyzed according to CEQA significance criteria described in the subsequent section.

Construction Noise

The greatest project construction noise would be generated primarily from site preparation, construction, and installation of the solar panels on the project site; and vehicle traffic on access roads leading to the site from construction crew daily commutes and the transport of construction equipment and materials to the site. Transport of construction equipment would result in a relatively high, single-event, noise level generated at the source (e.g., a passing haul truck would generate up to 84 dBA L_{max} at 50 feet); however, the effect on longer-term (hourly or daily) ambient noise levels would be minimal.

Noise resulting from construction activities would occur throughout the Project area, but would occur intermittently, only in various points at any given time. Construction equipment produces varying amounts of noise, which would attenuate at a rate of approximately 6 dBA per doubling of distance from a point source. Construction activities that would be major sources of noise would include vegetation clearing and grading, truck loading and unloading, and installing underground electrical lines. Additionally, the installation of PV modules would involve pouring concrete foundations, and installing support structures.

The construction of the project would require various pieces of construction equipment. To evaluate potential noise impacts relating to Project construction, reference noise levels were obtained from the Federal Highway Administration (FHWA) Roadway Construction Noise Model User's Guide, which provides a comprehensive assessment of noise level usage factors for construction equipment (FHWA 2006). **Table 4.12-7**, *Construction Equipment Noise Levels for Individual Equipment*, lists the anticipated construction equipment required for project construction and the corresponding noise level for maximum usage conditions and average usage conditions based on a usage factor, generated at a reference distance of 50 feet from the equipment. As shown, the maximum noise levels for construction equipment expected to be used for project construction ranges from approximately 73 to 85 dBA L_{max} at 50 feet.

	Individual Equipment Noise Levels at 50 feet		
Construction Phase/Equipment Type	L _{max}	L _{eq} (h)	
Site Preparation			
Off-highway trucks	84	80	
Rubber tired dozers	85	81	
Rubber tired dozers	85	81	
Tractors/Loaders/Backhoes	80	76	
Tractors/Loaders/Backhoes	80	76	
Grading			
Excavators	85	81	
Graders	85	81	
Off-highway trucks	84	80	
Rollers	85	81	
Rubber tired dozers	85	81	
Scrapers	85	82	
Tractors/Loaders/Backhoes	80	76	
Solar Array Installation			
Cranes	85	80	
Forklifts	85	78	
Generators Sets	82	81	
Off-highway trucks	84	80	
Other General Industrial Equipment	85	80	
Tractors/Loaders/Backhoes	80	76	
Welders	73	70	
SOURCE: Federal Highway Administration 2006. L	ist based on CalEEMod Model Inp	out.	

 TABLE 4.12-7:
 CONSTRUCTION EQUIPMENT NOISE LEVELS FOR INDIVIDUAL EQUIPMENT

Project construction would occur in specific phases, each of which has its own mix of equipment types and number and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site and, therefore, also the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Based on the list of equipment proposed for use during construction and typical noise levels for those pieces of equipment, maximum noise emission levels were identified in the guide to estimate combined noise levels at various distances. Construction noise levels were predicted assuming an average noise attenuation rate of 6 dB per doubling of distance from the source and an excess noise-attenuation rate of 1 dB per 1,000 feet.

The site preparation phase would include removal of vegetation and top soil, compactions of subgrade, and shaping of ditches and swales. The PV system installation phase of project construction would include the installation of the mounting and support structures. The structure supporting the PV module arrays at the project site would consist of cylindrical steel pipes, which would be driven into the soil using pneumatic techniques, similar to a hydraulic impact hammer attachment on the boom of a rubber-tired backhoe excavator.

Some equipment that may be used during Project construction has the potential to exceed permissible thresholds for sensitive receptors. Most project-related noise would be associated with preparation of the sites that would support the solar arrays, and with construction of the solar arrays themselves. These phases generally involve equipment such as trucks, scrapers, graders, dozers, and vibratory pile drivers (AMBIENT Air Quality & Noise Consulting 2015).

Due to the Project's size and scope, most construction activities associated with the solar arrays would occur more than 1,000 feet away from the sensitive receptors. The construction equipment with the greatest potential to exceed permissible thresholds for sensitive receptors is the vibratory pile driver, which produces noise at a level of 101 dBA at 50 feet, when operating at its highest capacity. At 1,000 feet, the vibratory pile driver operating at its highest capacity would have attenuated to 75 dBA, which is the acceptable daytime construction noise limit for mobile equipment in Los Angeles County. The Willow Springs Specific Plan Update describes a general maximum permissible noise level of 55 dBA for sensitive receptors in Willow Springs would likely be subjected to noise levels in exceedance of local permissible standards. Those noise levels would be temporary and intermittent, and would be reduced during times when the vibratory pile driver is not operating at its highest capacity. No vibratory pile drivers would be utilized for gen-tie construction, so sensitive receptors located along gen-tie lines would not be subjected to this elevated noise source. In order to minimize noise-related impacts to sensitive receptors near solar arrays, the Applicant would provide notice to residential land uses within 1,000 feet of the project boundary prior to the start of construction and decommissioning activities.

For additional construction activities that must occur within 1,000 feet of sensitive receptors, such as gentie trenching, the applicant has proposed to utilize best management practices, which would reduce the noise levels experienced by sensitive receptors if they are above permissible jurisdictional thresholds.

Examples of best management practices that would reduce construction-related noise levels include:

• Ensuring that all construction equipment is regularly maintained and in working order, according to manufacturer recommendations; ensuring that intake silencers and mufflers are up to equipment standards; and, if possible using equipment known to produce reduced noise emissions, such as electric engines;

- Directing trucks along major streets or thoroughfares;
- Limiting construction activities adjacent or near to sensitive receptors; when such work is mandatory, installing noise control barriers to reduce impacts to sensitive receptors;
- Limit unnecessary idling of construction equipment.

Construction Traffic Noise

Project construction would also generate offsite noise from vehicle traffic on area roadways. Project construction would occur in accordance with all federal, State, and Kern County zoning codes and requirements. Site preparation would be consistent with Kern County's construction best management practices (BMPs). Traffic noise from daily construction worker commute trips and haul truck trips would contribute to the existing traffic volumes, potentially increasing traffic noise levels along roadways used to access the project site. Noise-generating construction activities would be limited to the County's allowable construction hours, noted above.

To evaluate the potential impacts the project would have on the adjacent roadway system, noise associated with construction traffic has been calculated based on assumptions within the project traffic analysis. Construction worker vehicles and haul trucks, which would transport equipment and materials to and from the project site, would incrementally increase noise levels on the local roads in the project area. Because these local access roads do not experience frequent traffic on a daily basis, the project's construction traffic noise would have the greatest effect on sensitive receptors along and near these roads. As such, for the purpose of conducting a conservative analysis, the roadway noise levels were estimated by assigning 100 percent of the project's construction traffic to each of the potential local roadways that would be used during project construction to access the project site. **Table 4.12-8**, *Construction Vehicle Trips*, summarizes the anticipated on-road sources and vehicle trips assumed for the original Raceway project:

The analysis of roadway noise levels from the project's construction traffic was conducted using a proprietary traffic noise model, with calculations based on data from the Federal Highway Administration (FHWA) Traffic Noise Model, Version 2.5, Look-Up Tables (FHWA 2004). This model allows for the calculation of noise levels at specific distances from the center of the roadway based on traffic volumes, average speeds, and site environmental conditions. The proposed project's estimated construction-related traffic noise levels on local roadways were assessed against the County's 24-hour average exterior noise level of 65 dBA CNEL.

Construction Phase	Worker Vehicle Trips (Light Duty)	Vendor Vehicle Trips (Medium Duty)	Hauling Vehicle Trips (Heavy Duty)	
Site Preparation	160	2	1	
Grading	35	15		
Solar Array Installation	800	48	26	
SOURCE: 2018 Raceway Project CalEEMod input information.				

TABLE 4.12-8: CONSTRUCTION VEHICLE TRIPS

Decommissioning Noise

The project facility has an anticipated operational life of 35 years, after which the project proponent of the facility may choose to update the site technology and re-commission, or decommission and remove the systems and their components. If decommission occurs, activities associated with decommissioning would be similar or lower than the noise levels experienced under the worst-case construction activities. Therefore, noise impacts from decommissioning are anticipated to be identical or less than those occurring during construction. As such, the project's decommissioning noise impacts does not warrant a separate analysis and instead will be assessed using the analysis provided for the project's construction noise impacts.

Operational Stationary-Source Noise

Stationary equipment with the potential to generate a substantial increase in noise or vibration levels would be located away from noise sensitive receptors to the extent feasible to minimize potential noise and vibration levels.

The PV panel axis-motors, gen-tie lines, transformers, switchgear, ground-cover vegetation removal, and control building are all potential sources of noise associated with Project operation and maintenance activities. Project operations would require periodic visits by maintenance staff for panel inspection, cleaning, and repair. There would be no full-time staff onsite, and panel washing would occur periodically, on an as-needed basis. Limited deliveries would be necessary for replacing PV modules and equipment during Project operation. These activities are not expected to occur on a regular basis and would not generate a significant amount of traffic- or vehicle-related noise in the Project area or the surrounding area.

Transformers and inverters would be permanent operational noise sources resulting from the Project. Each solar array would include inverters to convert direct current power into alternating current power and transformers to increase alternating power to medium voltage.

Because noise sensitive receptors are not expected to be within close proximity of transformers and inverters, they would not be expected to experience noise impacts from these operations and maintenance sources. To further reduce the potential for noise-related impacts associated with inverter and transformer operation, the applicant has proposed installing this equipment in consolidated areas. The inverters and transformers would be fully enclosed and encased, which would minimize their operational noise levels when compared to non-encased models. The enclosed transformers and inverters that would be used for the Project would generate less than 79 dBA, as measured approximately 3 feet (1 meter) from the point source (Power Electronics 2017), which would attenuate to less than 40 dBA over the course of 100 feet. The enclosed transformers and inverters would be restricted to isolated areas far from sensitive receptors, and would not create noise levels in exceedance of permissible standards.

The gen-tie, collection system, and substation equipment serving the Project would also generate audible noise, which is generally characterized as a hissing or humming sound. This audible noise is generated by the corona effect, which results from the ionization of the air that occurs at the surface of an energized conductor and suspension hardware due to a strong electric field at the surface of the metal during certain conditions. The Project would include a 34 kV and/or a 230 kV gen-tie line. The corona discharges audible noise from a 230 kV gen-tie line has been reported at levels of 25 dBA L_{eq}/L_{50} at locations within 25 feet of the power line corridor (County of Imperial 2014). Corona effects from transmission lines are generally

considered to be significant at ratings 345 kV and higher, which is significantly higher than the 34 kV and/or 230 kV lines proposed for the Project (CPUC 1999). The project would not be utilizing transmission lines at 345 kV or higher. Noise emissions from Project transmission lines would fall well within Kern County and Los Angeles County standards and would rapidly decrease within increased distance between the point source and sensitive receptor(s).

Noise from Project operation would therefore not exceed applicable noise standards established in Kern County. The Project would be unstaffed and would be monitored remotely, with the support of regular on-site staff security and monitoring visits.

Expected maintenance activities over the life of the solar arrays include, but are not limited to, visual inspections, panel washing, removal of obstructive ground cover, and parts replacement. Potential effects from these activities on existing ambient noise levels may be detectable for a short period of time, but given the relative location of the Project area with respect to sensitive receptors and infrequent maintenance activities, potential increases in noise levels are unlikely to be detectable or of concern.

Operational noise levels from tasks associated with solar panel functionality would not be substantially different from existing ambient noise levels, including nearby agriculture, roads, residential properties, open space, and other nearby solar facilities. Operational noise resulting from single- and dual-track axis tracker motors associated with the PV panels could generate noise levels of approximately 47.5 dBA from a reference point 50 feet away, which would be significantly below the county thresholds for permissible noise emission levels (E&E 2020).

Operation of the project would generate noise levels generally from the onsite operation of the substation facility, the O&M facility, battery energy storage system (BESS), block inverters, axis trackers, and periodic maintenance activities such as panel washing. Additionally, corona discharge noise emanating from the transmission lines would also be generated. Representative noise level data for these noise sources obtained from noise assessments prepared for similar projects and field measurements (i.e., BESS) were used to estimate the noise levels in the project site vicinity during project operations. Operational noise levels were predicted assuming an average noise-attenuation rate of 6 dB per doubling of distance from the source and an excess noise-attenuation rate of 1 dB per 1,000 feet. Operational noise levels were calculated at the project site property lines and nearby land uses for comparison to the County noise standards.

Each of the individual noise sources associated with project operations are described further below.

Substation

The project would be served by an on-site substation. Equipment at the project substation would include transformers, bus work, switches, breakers, and all associated equipment required to be compliant with utility-grade interconnection services. Noise generated from the substation facility would primarily be from the transformers, which generate a "humming" or "buzzing" noise up to 68 dBA L_{eq} during non-load nighttime conditions and 70 dBA L_{eq} during daytime conditions, at a reference distance of 3 feet. As the project's substation is proposed to be located within the project site, for the purpose of this analysis noise levels generated at the nearest proposed substation location to each analyzed off-site receptor are used to assess the potential for noise impacts.

Power Conversion Stations

Within the proposed solar arrays across the project site, there would be power conversion stations (PSC) that would contain at a minimum one inverter and one transformer. Inverters are usually housed within an enclosed structure, which helps to reduce the resulting operational noise levels. In addition, PCSs would also be anticipated to include an exhaust fan, as well as a heating, ventilation, and air conditioning (HVAC) system, which is typically mounted to the exterior of the enclosure. Noise levels generated by PCSs would be up to 55 dBA L_{eq} during non-load nighttime conditions and up to 70 dBA L_{eq} during full-load daytime conditions, at a reference distance of 10 feet, and be associated with operation of the inverters (housed within an enclosed structure), transformer (mounted at the interior of the structure), exhaust fans, and exterior-mounted HVAC systems.

Battery Energy Storage System

The project would incorporate up to 60 MW of BESS within the project site. The BESS would either be collocated within or adjacent to the proposed substation, collocated within the O&M facility, or distributed throughout the project' solar arrays by collocating a single BESS container with each of the project's block inverters, with the BESS and the inverter housed in the same container.

The BESS containers would house batteries connected in strings and housed on racks, and each container would contain a transformer, monitoring equipment, lighting, and cooling equipment. Up to 90 BESS containers are anticipated to be used at the project site. Each container would be approximately 80 feet long by 8 feet wide and 8 feet tall.

BESS could be incorporated through one of three different methods: (1) all BESS containers consolidated within the project substation area; (2) BESS equipment distributed throughout the project's solar arrays by collocating a single BESS container with each of the project's block inverters, with the BESS and the inverter housed in the same container; or (3) BESS equipment collocated with the O&M facility. As the method of BESS incorporation at the project site would affect the noise source locations for this system, noise levels at the analyzed sensitive receptors are analyzed under all three incorporation method scenarios in this analysis. Under method 2, depending on design and electrical connection, some of the BESS containers would house the project's block inverters, while other BESS containers would be accompanied by separate PCS units installed among the solar arrays. For the purpose of conducting a conservative analysis, it is assumed that all of the BESS containers under method 2 (i.e., distributed throughout the project's solar arrays) would be accompanied by separate PCS units rather than having these units housed within the BESS containers as this scenario would render higher operational noise levels. The BESS noise levels associated with methods 1 and 3 would be up to 98 dBA L_{eq} and with method 2 would be up to 82 dBA L_{eq} , at a reference distance of 10 feet.

Electrical Transmission Lines

The proposed project includes preferred and alternative gen-tie routes, although only one route would be constructed. These overhead transmission lines would be carried via new existing electrical poles to the Valentine Substation, the Catalina Solar Project Substation, or the Rose Meadow Substation. The overhead electrical lines would emit noise levels associated with corona discharge, which is an electrical discharge that ionizes the surrounding area. The noise associated with corona discharge for a 230-kV line is typically described as a crackling or humming sound with a noise level of 25 dBA Leq at 25 feet.

Axis Trackers

The project's PV modules would use either fixed-tilt or tracker technology. If the proposed project opts for tracker technology (which would be the worst case option related to noise), intermittent noise would be generated from the operation of electrical motors used to power the trackers to allow them to tilt the PV panels to follow the course of the sun and optimize the incident angle of sunlight on their surface. A noise level of up to 37 dBA L_{eq} at 400 feet would be generated by these trackers and occur intermittently throughout the daytime hours at the project site.

O&M Facility/Onsite Maintenance Activities

The project would be operated from the on-site O&M facility, which would include a building and storage yard. Up to 12 full-time staff may be required for operational activities of the facility, which includes site inspection, security, maintenance, and system monitoring. The final location of the O&M facility and battery storage yard could occur anywhere within the project's Conditional Use Permit (CUP) area. The O&M building would house the facility electronic controls and communications systems; provide storage for tools, maintenance supplies, and spare parts; and provide on-site office, kitchen, and bathroom facilities for operations staff. Operation of the O&M building would generate noise levels of up to 79 dBA L_{eq} at a reference distance of 10 feet, primarily from operation of the building's HVAC unit.

The maintenance activity of washing of the solar panels, which is anticipated to occur up to two times a year over a period of 10 days, would generate noise levels of up to 82 dBA L_{eq} at a reference distance of 10 feet. Noise levels from panel washing would primarily be generated from the use of portable power equipment, such as power washers. However, panel washing for the project would be temporary and would only occur during daytime work hours. The activity at any one particular area within the project site would be relatively brief before the activity moves away to another area.

Operational Traffic Noise

The bi-annual washing of the solar panels required for the proposed project would typically be carried out over a period of 10 days, and is expected to generate approximately 24 worker commute trips per day and 66 haul truck trips per day for the transport of water to the project site. As the daily vehicle and truck trips associated with panel washing activities would represent the highest generator of traffic during project operations, this scenario was used to access the traffic noise levels generated by the project. The analysis of the project's operational traffic noise was conducted using a proprietary traffic noise model, with calculations based on data from the FHWA Traffic Noise Model, Version 2.5, Look-Up Tables (FHWA 2004). This model allows for the calculation of noise levels at specific distances from the center of the roadway based on traffic volumes, average speeds, and site environmental conditions. To quantify the effects of the proposed project, the roadway used to access the project site were estimated and assessed against the County's average-daily noise level standard. Based on the estimated worker vehicle and truck trips for panel washing activities, the project's operational vehicle traffic would generate noise levels of approximately 52 dBA CNEL or less, at 50 feet from the centerline of the roadway.

Construction Groundborne Vibration

Groundborne vibration is almost exclusively a concern for buildings and their inhabitants, and is rarely perceived as a problem outdoors, where the motion may be discernable, but without the effects associated with the shaking of a building there is less adverse reaction. Groundborne vibration during construction activity is temporary and would cease to occur after project construction is completed. **Table 4.12-9**, *Vibration Source Amplitudes for Construction Equipment*, shows the vibrational levels for typical construction equipment at a reference distance of 25 feet.

Ground-borne vibration may be induced by traffic and construction activities, such as earthmoving. The project would require the use of various equipment during construction that could generate vibration, such as cranes, graders, vibratory rollers, scrapers, tractors/loaders/backhoes, trenchers, and post drivers. The erection of the solar arrays would include support structures that may need to be driven into the soil using post drivers, which could cause localized vibrations. Of the various equipment that would be used at the project site, the vibratory roller would generate the highest vibration level, 0.210 in/sec PPV at 25 feet, as shown in Table 4.12-9. Based on the vibration levels at a reference distance of 25 feet presented in Table 4.12-9 for the equipment that would be used for project construction, the resulting vibration levels at the closest vibration-sensitive receivers to the project site were then estimated based on the worst-case (closest) distance between each source and receiver using an equation recommended in Caltrans' T*ransportation and Construction Vibration Guidance Manual* (Caltrans 2013) for estimating the change in vibration levels over distance.

Operational Vibration Impacts

The project's constructed facilities would not include sources of vibration. Operation of the project would involve O&M traffic, including O&M staff commute and regular maintenance truck (0.076 in/sec PPV at 25 feet), and panel washing activity (vibration negligible, i.e., not measurable). As these activities and O&M traffic would be minimal, the project would not generate a substantial amount of operational-related or traffic-related vibration. As such, the project's operational vibration impacts are discussed qualitatively in this analysis.

	Reference PPV/Lv at 25 feet		
Equipment	PPV (in/sec)	Lv (VdB) ^a	
Pile Driver (Impact), Typical	0.644	104	
Pile Driver (Sonic), Typical	0.170	93	
Post Driver ^b	0.161	92	
Vibratory Roller	0.210	94	
Hoe Ram	0.089	87	
Large Bulldozer ^b	0.089	87	
Caisson Drilling	0.089	87	
Loaded Trucks	0.076	86	
Jackhammer	0.035	79	
Small Bulldozer	0.003	58	

TABLE 4 12-9.	VIBRATION SOURCE /	AMPLITUDES FOR	CONSTRUCTION E	OLIPMENT
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NOTES:

^a RMS vibration velocity in decibels (VdB) re 1 µin/sec.

b Calculated based on a reference level of 0.65 in/sec PPV for a 36,000 foot-pounds (ft-lbs) pile driver and a maximum energy level of 2,200 ft-lbs for post drivers.

 L_V = velocity in decibels

Equipment shown in **bold** is expected to be used on the project site.

 μ in/sec = micro-inches per second FTA = Federal Transit Administration in/sec = inches per second SOURCE: FTA, 2018

PPV = peak particle velocity RMS = root-mean-square

VdB = vibration velocity in decibels

Thresholds of Significance

The Kern County California Environmental Quality Act (CEOA) 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 noise.

A project would have a significant impact on noise if it would result in:

- a. Generation of a substantial temporary or permanent increase in 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.

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, or if the construction site is within 1,000 feet of an occupied residential dwelling, are prohibited between the hours of 9:00 PM and 6:00 AM on weekdays and 9:00 PM and 8:00 AM on weekends. 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.

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, of which the proposed project occupies approximately 1,298 acres. 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 Ldn/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.

Excessive Groundborne Vibration

Kern County does not have regulations that define acceptable levels of 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 0.2 in/sec PPV, respectively) at the nearest offsite existing structure (refer to Tables 4.12-4, *Vibration Criteria for Structural Damage*, and 4.12-5, *Vibration Criteria for Human Annoyance*). 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 ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Construction

Construction Traffic

Project construction would generate off-site traffic noise from vehicle traffic on area roadways. Traffic noise from daily construction worker commute trips and truck trips would contribute to the existing traffic volumes, potentially increasing traffic noise levels along roadways used to access the project site. Under peak construction conditions, it is anticipated that a total of 995 worker vehicle trips and 92 heavy truck trips (combined inbound and outbound) would occur on a daily basis (2018 Raceway Project CalEEMod input information., 2020). Because these local access roads do not experience frequent traffic on a daily basis, the project's construction traffic noise would have the greatest effect on sensitive receptors along and near these roads. As such, for the purpose of this analysis, the roadway noise levels that would be generated from vehicular travel by 100 percent of the project's construction-related traffic were estimated and assessed against the County's average-daily noise level of 65 dBA CNEL.

Based on the anticipated traffic volumes that would occur under peak construction conditions (i.e., 995 worker vehicle trips and 92 heavy truck trips), it was determined that the estimated traffic noise level on any of the potential local access routes that can be used to access the project site would be approximately 56 dBA CNEL, which would be below the County's average-daily noise standard. Therefore, overall short-term construction related impacts associated with worker commute and equipment transport to and around the project site would be less than significant.

Construction Activities

Multiple pieces of equipment would operate at substantial distances from one another as construction activities occur throughout the project site. As shown in Table 4.12-7, maximum noise levels generated by project construction equipment would range from approximately 73 to 85 dBA L_{max} and 70 to 82 dBA L_{eq} at a reference distance of 50 feet.

Sensitive land uses in the project site vicinity that would be exposed to project construction noise levels include the sparsely distributed residential dwellings that are in the vicinity of the project site. Potential construction-related noise impacts resulting from the proposed project were assessed at nine representative sensitive receptors nearest to and surrounding the project site. These receptors would be representative of the worst-case impacted receptors and impacts at sensitive uses located at greater distances to the project site would be lower.

The construction noise levels estimated at each analyzed receptor use a source-to-receptor distance that represents the acoustical average distance between the construction area and each receptor in order to reflect the distribution of equipment across the construction area. The shortest distance that is used in determining

the acoustical average distance is from the analyzed sensitive receptor to the nearest project site boundary. However, in most cases this represents a conservative assumption, as it is anticipated that buffer distances of approximately 100 feet would be implemented along most of the project's external boundaries during construction. As shown in **Table 4.12 10**, *Construction Equipment Noise Levels at Sensitive Receptors*, the highest estimated construction-related noise levels that could result at nearby sensitive receptors over the course of the project's construction period would range from 52 dBA L_{eq} to 87 dBA L_{eq} . During quieter phases of construction or when construction activity moves farther away from the receptor, the noise levels would decrease. As such, the highest construction noise levels experienced at each analyzed receptor would only occur over a temporary period within the project's overall construction schedule.

Chapter 8.36 of the Kern County Municipal Code includes established hours of construction and limitations on construction related noise impacts on adjacent sensitive receptors. It is anticipated that most construction activities associated with the new solar site configuration would occur more than 1,000 feet away from the sensitive receptors identified in this study. However, due to the potential use of loud construction equipment, such as vibratory pile drivers, it is expected that sensitive receptors in Willow Springs could be temporarily exposed to noise levels in exceedance of local permissible standards (55 dBA at the receptor boundary). Those noise would be intermittent and reduced during times when the vibratory pile driver is not operating at its highest capacity. Additionally, in compliance with Kern County Noise Ordinance (Municipal Ordinance Code 8.36.020) construction activities would not occur between the hours of 9:00 p.m. and 6:00 a.m. on weekdays and 9:00 p.m. to 8:00 a.m. on weekends for construction sites located within 1,000 feet of an occupied residential dwelling. Given the fact that construction activities could generate noise greater than the standard 65dBA for the Kern County General Plan and 55 dBA for short period of times, temporary construction impacts are considered significant and unavoidable. Residences D, E and F would be potentially exposed to construction noise levels exceeding the 65 dBA threshold. Implementation of Mitigation Measures MM 4.12-1 through MM 4.12-3 are designed to reduce impacts to the extent feasible during construction activities.

Noise Sensitive	Construction No	Construction Noise - 2018 Report		Construction Noise - 2020 Update	
Receptor	Distance to Project (feet)	Unmitigated Noise level at Receptor (Leq, dBA)	Distance to Project (feet)	Unmitigated Noise level at Receptor (Leq, dBA)	
	S	olar Array Constructio	n		
Residence B	120	82	3,770	52	
Residence C	95	84			
Residence D	65	87	79	85	
Residence F	615	68	526	69	
Residence G	55	89			
Residence J	Adjacent (*)	96	3,116	54	
Residence K	Adjacent (*)	96	2,815	55	
Residence L	95	84			
Residence M	Adjacent (*)	96			

 TABLE 4.12-10:
 CONSTRUCTION EQUIPMENT NOISE LEVELS AT SENSITIVE RECEPTORS

Noise Sensitive	Construction No	oise - 2018 Report	Construction Noise - 2020 Update		
Receptor	Distance to Project (feet)	Unmitigated Noise level at Receptor (Leq, dBA)	Distance to Project (feet)	ct Unmitigated Noise level at Receptor (Leq, dBA)	
		Gen-Tie Construction			
Residence A	120	79	1,181	60	
Residence E	30	89	49	87	
Residence I	Adjacent (*)	93	778	63	
Residence H	Adjacent (*)	93	5,230	47	

TABLE 4.12-10: CONSTRUCTION EQUIPMENT NOISE LEVELS AT SENSITIVE RECEPTORS

Notes:

(*) Minimum safety distance to a construction site assumed as 25 feet from property boundary

Operation

Operational 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. **Table 4.12-11** *Distance from Project Stationary Equipment to Noise Level Standard,* shows the project boundary and the distance to the adjacent receptors at which the project would need to comply with applicable daytime and nighttime thresholds (45 dBA L_{eq}/L_{50} nighttime and 55 dBA L_{eq}/L_{50} daytime within the WSSP and 65 dBA L_{dn} within the County).

As all of the identified operational noise sources, with the exception of the periodic on-site maintenance activities, would be operating on a daily basis, the composite noise level generated from the concurrent operation of these noise sources (e.g., tracker system, BESS, substation) at the nearby sensitive receptors were estimated. On-site maintenance activities, such as panel washing, would be transient (up to twice per year) and, thus, would not occur for an extended duration at any one location and would only occur during daytime hours. As such, they have not been included in the composite noise analysis. The noise contour distance to the applicable WSSP daytime noise standard (55 dBA L_{50}) for onsite maintenance activities is 224 feet. Of the nearby analyzed sensitive receptors surrounding the project site that are within the WSSP area, only one sensitive receptor is located within this distance. This sensitive receptor, which is estimated to be located as close as approximately 250 feet from the nearest proposed solar panels, is expected to experience noise levels of approximately 54 dBA L_{eq}/L_{50} when operation of a power washer for panel washing is occurring at this distance, which would not exceed the daytime noise standard of 55 dBA L_{50} of the WSSP.

	Distance to Noise Level Contour (feet) ^a		
Noise Source	Nighttime (45 dBA Leq/L50)	Daytime (55 dBA Leq/L50)	65 dBA Ldn
Substation Transformer	42	17	9
PCS	32	56	15
Bess	708	224	97
Transmission Line Corona Discharge	WC	WC	WC
Horizontal Single-Axis Tracker & Dual-Axis Tracker Systems	NA	50	13
O&M Building	NA	158	40
On-Site Maintenance Activities	NA	224	56

TABLE 4.12-11:	DISTANCE FROM PROJECT STATIONARY EQUIPMENT TO NOISE LEVEL
	STANDARDS

NOTES

^a Contour distances represent the distance from the noise source where resulting noise levels would comply with the WSSP's daytime and nighttime noise standards, which are 55 dBA L_{eq}/L₅₀ and 45 dBA L_{eq}/L₅₀, respectively, and the County's 65 dBA L_{dn} exterior noise standard for noise sensitive land uses.

WC = Within transmission line corridor

NA = Not applicable (i.e., noise source not operating during nighttime hours) SOURCE: ESA, 2020.

The combined operational stationary equipment noise levels from the project would expose studied receptors within the WSSP Area to noise levels below 40 dBA L_{eq} during nighttime hours and below 50 dBA L_{eq} during daytime hours. These levels would not exceed WSSP nighttime or daytime standards of 55 dBA L_{eq}/L_{50} and 45 dBA L_{eq}/L_{50} , respectively. Mitigation Measure MM 4.12-4 would be implemented, such that noise levels generated would comply with the applicable noise standards at all offsite sensitive receptor locations nearest to the project site.

Operational Traffic

The daily maintenance vehicle trips at the project site would not create a substantial increase of vehicular noise along access roads to the project site. As assumed in the traffic analysis prepared for the project, the project would not result in a doubling of the traffic volumes on roadways accessing the project site, and therefore, the noise level increase would be substantially below a perceptible level of a 3 dBA increase. Additionally, operational traffic is not expected to exceed established thresholds identified within the Kern County General Plan and Willow Springs Specific Plan. As such, operational traffic noise levels from operation of the project would be minimal, and impacts would be less than significant.

Decommissioning

Activities associated with a potential decommissioning of the project would result in similar or lower noise levels than those that would be experienced under the loudest phases of construction. As temporary increases in ambient noise levels at nearby sensitive receptors would likely occur similar to the project's construction activities, decommissioning activities could generate noise greater than the standard 65dB(A) for the Kern County General Plan and 55 dB(A) for short period of times. Thus, similar to construction,

impacts during decommissioning of the project are considered significant and unavoidable. Mitigation Measures MM 4.12-1 through MM 4.12-3 would similarly be implemented during decommissioning activities.

Noise from the proposed project operation and maintenance activities would be similar to the sources and levels discussed for original solar site configuration and not expected to exceed applicable noise standards in Kern County and Los Angeles County. The proposed project would be unstaffed and would be monitored remotely, with the support of regular on-site staff security and monitoring visits.

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 of 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) Onsite vehicle speeds shall be limited to 15 miles per hour, or less (except in cases of emergency).
 - f) Back-up beepers for all construction equipment and vehicles shall be broadband sound alarms or adjusted to the lowest noise levels possible, provided that the Occupational Safety and Health Administration and California Division of Occupational Safety and Health's safety requirements are not violated. On vehicles where back-up beepers are not available, alternative safety measures such as escorts and spotters shall be employed.
- **MM 4.12-2:** 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 to 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.
- **MM 4.12-4:** The project shall be designed to ensure that operational noise levels at nearby sensitive receptors, depending on their location within or outside of the WSSP area, would not exceed the applicable WSSP or County noise standards. Techniques that can be incorporated into the BESS design to achieve compliance with the applicable noise standards may include, but are not limited to, the following:
 - Place HVAC units on the far side of the BESS containers relative to the nearest offsite sensitive receptors to allow the containers to act as a barrier to provide noise attenuation.
 - Erect permanent noise barriers of sufficient height to attenuate noise levels from the BESS containers.
 - Provide a sufficient buffer distance between the BESS containers and the nearest offsite receptor.
 - The adequacy of the selected noise control technique(s) shall be demonstrated in an acoustical study submitted to and approved by the County prior to the issuance of building permits.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.12-1 through MM 4.12-3, temporary impacts associated with construction and decommissioning activities would be considered significant and unavoidable.

With implementation of Mitigation Measure MM 4.12-4, operational impacts would be less than significant.

Impact 4.12-2: The project would generate excessive groundborne vibration or groundborne noise levels.

Heavy construction equipment operating at the project site would generate groundborne vibration that could affect nearby residential structures or residents. The project site is currently surrounded by sparsely distributed residential dwellings. For the purposes of assessing potential structural damage, these nearby residential structures are considered to be "old buildings", which have an applicable structural damage criterion of 0.25 in/sec PPV (see Table 4.12-5, *Vibration Criteria for Structural Damage*). Based on the vibration levels associated with the types of construction equipment that would be used during project construction, the range of vibration levels that could occur at the analyzed sensitive receptors to the project site would a maximum of 0.029 in/sec PPV, which would not exceed the applicable structural damage criteria of 0.25 in/sec PPV. Therefore, groundborne vibration impacts resulting from project construction would be less than significant.

Since operations of the project would involve mostly regular maintenance trucks accessing the project site (0.076 in/sec PPV) and panel washing activities (not measurable) at a sufficient distance from structures (i.e., over 100 feet away from structures), project-related vibration impacts would be minimal and are not expected to have any measurable effect on the adjacent offsite sensitive receivers. Therefore, there would be no operational vibration impacts.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be 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.

As discussed under Impact 4.12-1, project operational noise levels associated with project would result in average daytime ambient noise levels at studied receptors that would potentially result in increases in ambient noise levels but would not be above the applicable daytime and nighttime thresholds (45 dBA L_{eq}/L_{50} nighttime and 55 dBA L_{eq}/L_{50} daytime within the WSSP and 65 dBA L_{dn} within the County). The proposed gen-tie line would result in electrical discharge (corona discharge) noise that would not be perceptible above background noise levels at the nearest sensitive receptor. Operational traffic noise levels from operation of the project would be minimal and therefore, the noise level increase would be substantially below the perceptible level of a 3 dBA increase.

With implementation of Mitigation Measure MM 4.12-4, the final BESS method that is selected would be designed such that noise levels generated would comply with the applicable daytime and nighttime noise standards at all offsite sensitive receptor locations nearest to the project site. Therefore, in with implementation of Mitigation Measure MM 4.12-4, impacts would be reduced to less-than-significant levels.

Mitigation Measures

Implementation of Mitigation Measure MM 4.12-4 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.12-4, impacts would be less than significant.

Impact 4.13-4: 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 nearest airports to the proposed project are the Rosamond Skypark located 3 miles to the northeast, the Mojave Air and Space Port located 14.5 miles to northeast. Private airstrips include the Lloyd's Landing airport, located approximately 3.5 miles north and the Little Buttes Antique Airfield, located approximately 2.5 miles south of the project in Los Angeles County. The project is not located within the

sphere of influence of any airport as identified by the Kern County Airport Land Use Compatibility Plan, and therefore, the project would not expose people residing or working in the area to excessive noise levels. Impacts are less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

As described in Section 3.9, *Cumulative Projects*, and listed in **Table 3-9**, *Cumulative Projects List*, there are a total of 19 projects in the vicinity to the project site, all of which are located within the 6-mile cumulative radius of the project site, as shown on Figure 3-15, which include other solar projects, such as, Antelope Valley, Aurora, RE Astoria, RE Rosamond One and Two, Rosamond Solar Array, Willow Springs Solar Array, Valentine, Apollo, Windhub, Gettysburg, EDF, Mojave and Tropico, and IP Solar. 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. Of the cumulative projects located within the 6-mile radius of the project site, there are several projects located within 1 mile of the project site including a project within 1 mile of each of the facility sites. Implementation of mitigation measures MM 4.12-1 through MM 4.12-3 would reduce and minimize construction noise levels; however, noise levels would still be significant and unavoidable 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 4.12-4 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. 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 7 projects located within 1-mile of the project site including a project within 1 mile of each of the facility sites. As discussed under Impact 4.12-1, the maximum operational noise level of 37 dBA at the nearest receptor (Receptor #19) would be much lower than the County's 65 dBA L_{dn} exterior noise standard for residential use. The nearest cumulative project is located further away from Receptor #19 than both facilities of the proposed project. Therefore, Receptor #19 would be exposed to lower operational noise levels (less than 37 dBA) from operational noise generated by cumulative projects. As such, cumulative impacts associated with combined operational noise from the proposed project and cumulative projects are anticipated to be negligible at the nearest receptor. During operation, the gen-tie would not generate noise beyond the existing baseline environment. Furthermore, Mitigation Measure MM 4.12-4 would be implemented, such that noise levels generated would comply with the applicable noise standards at all offsite sensitive receptor locations nearest to the project site. 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.

Mitigation Measures

Implement Mitigation Measures MM 4.12-1 through MM 4.12-3 to reduce and minimize cumulative construction noise and vibration levels.

Implement Mitigation Measure 4.12-4 to reduce and minimize operational noise and vibration levels.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.12-1 through MM 4.12-4, cumulative impacts would be less than significant.

4.13.1 Introduction

This section of the EIR describes the affected environment and regulatory setting pertaining to public services, which include fire and law enforcement protection. This section also addresses the potential impacts on public services that would result from implementation of the project and the mitigation measures to reduce these potential impacts. Information for this section was taken from numerous sources, including websites, and service agency plans.

4.13.2 Environmental Setting

Fire Protection

The Kern County Fire Department (KCFD) provides primary fire protection services, fire prevention, emergency medical, and rescue services to more than 500,000 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 46 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, 2020). KCFD has experienced several budget and staffing cuts in recent years and was operating on a 7.5-million-dollar deficit going into the 2018–2019 fiscal year (Barnwell, 2018).

The project site is located generally southwest of the unincorporated community of Mojave and southwest of Rosamond in eastern Kern County, and is generally bound by Rosamond Boulevard to the north, open space to the east and west, and West Avenue A to the south. 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 and covers 951,600 acres of which 351,276 acres is State Responsibility Area (SRA) land area (KCFD, 2018), 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 (KCFD, 2009). As shown in **Figure 4.17-2**, *Fire Hazard Severity Zones for State Responsibility Areas*, in Section 4.17, *Wildfires*, of this EIR, the project site is not within a SRA; and the project site is within an unincorporated Local Responsibility Area (LRA) (CAL FIRE, 2020). According to the CAL FIRE, Fire Hazard Zones in LRA Map, and as shown in **Figure 4.17-1**, *Fire Hazard Severity Zones for Local Responsibility Areas*, in Section 4.17, *Wildfires*, of this EIR, the project site is within a LRA Moderate fire hazard severity zone (CAL FIRE, 2020).

Fire Station No. 15 (Rosamond), located at 3219 35th Street W, is approximately 4.1 miles to the northeast 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 Highway 58, Fire Station No. 12 (Tehachapi), located at 800 South Curry Street, and Fire Station No. 56 (Lebec), located at 1545 Lebec Service Road. Information on the four closest fire stations to the project site is included in **Table 4.13-1**, *List of Nearby Fire Stations*. In remote County areas like the project site, the average response time is approximately 21 minutes (CPSM, 2017).

Agency	Facility	Address	Approximate Distance from Project Site	
KCFD	Fire Station No. 15	3219 35th Street W Rosamond, CA 93560	4.1 miles northeast of the project site	
KCFD	Fire Station No. 14	1953 Highway 58 Mojave, CA 93501	22.8 miles northeast of the project site	
KCFD	Fire Station No. 12	800 South Curry Street Tehachapi, CA 93561	38.7 miles northwest of project site	
KCFD	Fire Station No. 56	1545 Lebec Service Road Lebec, CA 93243	45.6 miles southwest of project site	

 TABLE 4.13-1:
 LIST OF NEARBY FIRE STATIONS

Kern County has 14 mutual-aid agreements with neighboring fire suppression organizations to further strengthen the emergency services (KCFD, 2018). The KFCS has a mutual aid agreement with the Los Angeles County Fire Department (LACFD) in the event that KCFD is unable to be the primary responder to an emergency. The LACFD has 174 fire stations throughout Los Angeles County. The LACFD is divided into 22 battalions with over 4,000 personnel (LACFD, 2017). The nearest LACFD fire station to the project site is Station 03No. 112, located at 8812 W. Avenue E-8, Lancaster, approximately 12 miles southeast of the project site. As previously mentioned, the project site is within an area of moderate fire hazard, as determined by the County (KCFD, 2009) and California Department of Forestry and Fire Protection (CAL FIRE) (CAL FIRE, 2007a).

Kern County applies and utilizes the National Fire Code set forth by the National Fire Protection Association, the California Fire Code, the California Building Code, and the Kern County Ordinance Code to regulate fire safety.

The Kern County Emergency Medical Services Division (EMS) is the lead agency for the emergency medical services system in Kern County and is responsible for coordinating all system participants in the County, which include the public, fire departments, ambulance companies, other emergency service providers, hospitals, and Emergency Medical Technician (EMT) training programs throughout the County. The EMS includes a system of services organized to provide rapid response to serious medical emergencies, including immediate medical care and patient transport to a hospital setting. EMS covers day to day emergencies, disaster medical response planning and preparation, and preventative health care. The department also provides certification and re-certification for EMTs, paramedics, specialized nurses (MICN), and specialized dispatchers (EMD) (Kern County Public Health Services Department, 2018). The nearest hospitals are the Antelope Valley Hospital, located at 1600 W Avenue J, Lancaster, CA in the City of Lancaster, approximately 14.4 miles to the southeast and the Tehachapi Hospital, located at 1100 Magellan Drive, in the City of Tehachapi, approximately 35.8 miles from the project site.

The Kern County Fiscal Year 2020-21 Recommended Budget (Kern County, 2020) 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 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, 2020b). The headquarters for the KCSO is located at 1350 Norris Road in the City of Bakersfield. The KCSO consists of 14 substations that provide patrol services (KCSO, 2020a). The nearest substation that would provide service to the project site is the Rosamond Substation located approximately 3.9 miles northeast of the project site at 3179 35th Street W in the 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 is include Tehachapi Substation and Mojave Substation. Information on three closest substations to the project site is included in **Table 4.13-2**, *List of Nearby Sheriff Substations*.

Agency	Facility	Address	Approximate Distance from Project Site
KCSO	Rosamond Substation	3179 35th Street W Rosamond, CA 93560	3.9 miles northeast of the project site
KCSO	Mojave Substation	1771 State Highway 58 Mojave, CA 93501	23.4 miles northeast of the project site
KCSO	Tehachapi Substation	22209 Old Town Road Tehachapi, CA 93581	39.4 miles northwest of the project site

 TABLE 4.13-2:
 LIST OF NEARBY SHERIFF SUBSTATIONS

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, 2020) 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 Enforcement Team

In 2000, the KCSO created the Off-Highway Vehicle (OHV) Enforcement Team that can be deployed to off road riding areas and adjacent communities in Kern County, as needed. The goal of the OHV Enforcement Team is to provide a safe and secure environment for the OHV community and nearby residents, and to help protect sensitive natural resources. Kern County attracts over 800,000 visitors a year to the local OHV riding areas and approximately 500,000 visitors in east Kern area. The OHV Enforcement Team patrols numerous off road riding areas in Kern County, including a popular riding area near a portion of the Pacific Crest Trail that runs through Rosamond, Mohave, and Tehachapi. The OHV Enforcement Team works closely with officers from the Bureau of Land Management (BLM), California State Parks, and other local law enforcement agencies (KCSO, 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 that provide services in areas of California (CHP, 2020a). 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, 2020b). The nearest Inland Division office to the project site is located at 1313 Highway 58, in the community of Mojave, approximately 25.5 miles northeast of the project site.

Schools/Parks/Other Facilities

The Kern County Parks and Recreation Department manages 8 regional parks, 25 public buildings, and 40 neighborhood parks. There are no recreational facilities currently serving the project, nor are there existing parks located within 1-mile of the proposed project.

The Kern County Library system consists of 24 branches and 2 bookmobiles throughout Kern County, with the main branch library (the Beale Memorial Library) located in Bakersfield. Materials for use at county branches include books, government documents, computers, CDs, and other informational media. The Kern County library system maintains a collection of 1.15 million books, audiovisual items, periodicals, and other informational sources. The closest libraries to the proposed project are the Rosamond Branch Library, located

approximately 2.5 miles northeast of the project site at 3611 Rosamond Boulevard, Rosamond, and the Mojave Branch Library, located approximately 18.2 miles northeast of the project site at 15555 O Street, Mojave.

The project site is located within the boundaries of the Southern Kern Unified School District, which operates seven schools. The nearest school to the project site is Tropico Middle School, located approximately 2.7 miles northeast in the community of Rosamond.

The Kern County Fiscal Year 2020-21 Recommended Budget (Kern County, 2020) shows on-going deficiencies in funding libraries and parks with closings and lack of maintenance for 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 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

Under Title 14 of the California Code of Regulations (CCR), CAL FIRE has the primary responsibility for implementing wildfire planning and protection for State Responsibility Areas (SRAs). CAL FIRE develops regulations and issues fire-safe clearances for land within a fire district of the SRA. More than 31 million acres of California's privately owned wildlands are under CAL FIRE's jurisdiction.

CAL FIRE adopted Fire Hazard Severity Zone maps for State Responsibility Areas and Local Responsibility Areas (LRAs) in 2007. Fire Hazard is a way to measure the physical fire behavior so that people can predict the damage a fire is likely to cause. Fire hazard measurement includes the speed at which a wildfire moves, the amount of heat the fire produces, and most importantly, the burning fire brands that

the fire sends ahead of the flaming front. The project site is not located within a SRA but it is located in an area of moderate fire hazard and within an unincorporated LRA (CAL FIRE, 2007a/2007b).

In addition to wildland fires, CAL FIRE's planning efforts involve responding to other types of emergencies, including medical aids, hazardous material spills, swiftwater rescues, search and rescue missions, civil disturbances, train wrecks, floods, and earthquakes. Through contracts with local government, CAL FIRE provides emergency services in 36 of California's 58 counties (CAL FIRE, 2020).

Local

Kern County General Plan

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

Chapter 1. Land Use, Conservation and Open Space Element

1.4 Public Facilities and Services

Policies

Policy 1:	New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.
Policy 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 J: Ensure that the Superintendent of Schools and the respective school districts are informed of development proposals and are afforded the opportunity of evaluating their potential effect on the physical capacity of school facilities.

Measure L: Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in the County shall not be approved unless adequate fire protection facilities and resources can be provided.

1.10 General Provisions

Goal

Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving viable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

1.10.1 Public Services and Facilities

Policies

- Policy 9: New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure that it generates and upon which it is dependent.
- Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.
- Policy 16: The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to ensure the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.

Chapter 4. Safety Element

4.6 Wildland and Urban Fire

Policies

- Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.
- Policy 3: The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.
- Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.
- Policy 6: All discretionary projects shall comply with the adopted fire code and the requirements of the fire department.

Implementation Measure

Measure A: Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities.

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 public services-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 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 5: 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 a moderate fire hazard severity zone (KCFD, 2009).

Kern County Fire Department Hazards Mitigation Plan

The purpose of the KCFD Hazards Mitigation Plan is to reduce or eliminate long-term risk to people and property from natural hazards and their effects in Kern County. The plan includes specific recommendations for actions that can mitigate future disaster losses, as well as a review of the County's current capabilities to reduce hazards impacts. This multi-jurisdictional plan includes Kern County, and the incorporated municipalities Arvin, Bakersfield, California City, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco. The plan also covers 53 special districts that include school, recreation and park, water, community service and other districts. The plan has been formally adopted by each participating entity and is required to be updated a minimum of every five years (KCFD, 2018).

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 2015 International Fire Code with some amendments. The purpose of the Kern County Fire Code is to regulate the safeguarding of life, property, and public welfare to a reasonable degree from the hazards of fire, hazardous materials release and/or explosion due to handling of dangerous and hazardous materials, conditions hazardous to life or property in the occupancy and use of buildings and premises, the operation, installation, construction, and location of attendant equipment, the installation and maintenance of adequate means of egress, and providing for the issuance of permits and collection of fees therefore (Kern County, 2017).

Kern County Fire Department Unit Strategic Fire Plan

The KCFD Unit Strategic Fire Plan, adopted in March of 2018 is the most current document that assesses the wildland fire situation throughout the SRA within the County. Similar to other plans, this document includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan provides for a comprehensive analysis of fire hazards, assets at risk, and level of services to systematically assess the existing levels of wildland protection services and identifies high-risk and high-value areas that are potential locations for costly and damaging wildfires. Additionally, the plan provides an annual report of unit accomplishments, which, in 2017, included completion of a number of fuel reduction projects, hosted three wildfire safety expos in battalions 1,5, and 7, and the award of three SRA fuel reduction grants for a total of \$500,000. The plan gives an overview of KCFD Battalions and ranks these areas in terms of priority needs as well as identifies the areas of SRA. According to the plan, 69 percent of Kern County areas are within a SRA. The County is broken up into six different fuel management areas, Tehachapi, Western Kern,

Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley. The project site is located within Battalion 1 (Tehachapi) which is within a moderate fire hazard severity zone within the Tehachapi fire plan management area (KCFD, 2018).

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, 2020c).

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. 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, 2020). They currently pay \$1,511,000.

This revenue is only the funding that would normally go to the General Fund to pay for public services and facilities that maintain quality of life for communities and residents in unincorporated Kern County. The Kern County 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 law enforcement 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 sheriff station(s) to operate beyond service capacity. The determination of the significance of the proposed project on fire protection and emergency medical and law enforcement protection services considers the level of 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.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project would have a significant adverse effect on public services:

A project would have a significant impact on public services if it would:

- a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:
 - i. Fire Protection
 - ii. Law Enforcement Protection
 - iii. Schools
 - iv. Parks
 - v. Other Public Facilities

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 law enforcement protection services.

Fire Protection

Construction

The average and peak number of construction workers to be onsite would be approximately 500 and 800, respectively. The presence of construction workers at the project site would be temporary during the construction period spanning a 10 to 12-month period. The project would include development of up to a combined 291 megawatts (MW) (alternating current or "AC") of renewable electrical energy and up to 80 MWh of Energy Storage Systems (ESS) on approximately 1,331 acres in unincorporated portions of Kern County, California. As determined by the County, and as shown in **Figure 4.17-1**, *Fire Hazard Severity Zones for Local Responsibility Areas*, and **Figure 4.17-2**, *Fire Hazard Severity Zones for State Responsibility Areas*, in Section 4.17, *Wildfires*, of this EIR, the project site is not within an area of high or very high fire hazard (CAL FIRE, 2020).

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 could occur during construction of the proposed project. Typically, service demands per employee are less than service demands per resident. Nevertheless, the addition of construction personnel on the project site would result in an increase in demand for fire protection services. While this would be an increase above existing levels, the presence of construction workers on the site would be temporary, as the construction period for the proposed project would last approximately 10 to 12 months.

While construction of the proposed project would increase the number of people on the project site, and the increase would be temporary, fire hazards from the project as a large scale construction project would increase the need for response from fire for emergency services as well as fire protection. In addition, 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, 2020), and the project would be required to prepare and implement a fire safety plan, as stated in Mitigation Measure MM 4.13-1. The aforementioned fire safety plan would be required to contain notification procedures and emergency fire precautions consistent with the 2019 California Fire Code and Kern County Fire Code. The aforementioned fire safety plan would be for use during the anticipated 10- to 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, all maintenance would be performed by personnel located offsite, and staff of two to four people would be required during panel washing and are expected to be hired from the local community. However, all maintenance activities would be required to comply with the fire safety plan implemented per Mitigation Measure MM 4.13-1, which would help reduce fire risks onsite. In addition, all project facilities would have been 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 energy storage facilities that would have a fire rating in conformance with County and California Building Code standards. The energy storage facilities will 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 will be prepared to ensure the energy storage facilities are constructed and operated in accordance with County and California Building Code standards that will minimize potential impacts to public services and associated fire hazards.

The project operator would be required to pay a Kern County cumulative impact fee (CIC), through implementation of Mitigation Measure MM 4.13-2 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. 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 implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4, any potential operational impacts on fire protection services would be reduced. The project would not result in the need for new or physically altered KCFD facilities and impacts would be less than significant.

Law Enforcement Protection

Construction

As described above in Section 4.13.2, *Environmental Setting*, the KCSO provides primary law enforcement protection services for the project site and surrounding areas. The Rosamond Substation, located approximately 3.9 miles northeast of the project site and would provide primary law enforcement services to the project site. Similar to fire protection services, the need for law enforcement 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 and sparse rural residential development and is unlikely to attract attention that would make project facilities susceptible to crime. Therefore, a large increase for KCSO services is not expected. However, construction activities may

temporarily increase traffic volumes along SR-58 and SR-14 during the 10 to 12-month construction period. The added traffic associated with workers commuting to the project site, haul routes, deliveries, and other project-related traffic would be temporary and, therefore, would not have a significant adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways.

Additionally, fences would be installed around the perimeter of each site, substation, and other areas requiring controlled access, for safety and security purposes. All fence installation requirements would be evaluated, and the best-fit scenario would be incorporated in the project site based on the County's final determination. The fencing would remain for the life of the project.

While construction of the project would increase the number of people on the project site, the increase would be temporary and, thus, would not necessarily 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

Project operation could attract vandals or present other security risks. As described above, the project site is located in a relatively remote location in a rural community and is thus unlikely to attract attention that would make project facilities susceptible to crime. The security fencing around the perimeter of each site and other areas requiring controlled access and controlled access gates would minimize the need for surveillance and response by KCSO during project operation. Furthermore, all facility personnel, contractors, agency personnel, and visitors 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. Therefore, new or physically altered KCSO facilities would not be required to accommodate the proposed project. The additional volume of vehicles associated with workers commuting to the project site during routine maintenance would be minor and is not expected to adversely affect traffic (see Section 4.14, Transportation and Traffic, for more details). Therefore, impacts to the CHP patrol are not anticipated. The project would implement Mitigation Measure MM 4.13-2 to provide 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 that the county would otherwise receive for services and facilities 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. 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.

Schools/Parks/Other Facilities

Construction

During construction, construction workers would be temporarily present on the project site. There would be a peak workforce of 800 workers; however, the average daily workforce is expected to be 500 to 600 construction, supervisory, support, and construction management personnel onsite during the 10 to 12-month construction period. 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, through the 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. These 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. Therefore, project construction workers would not increase demand for local schools, parks, or public facilities such that substantial physical deterioration of such facilities which might have an adverse effect on the environment, nor result in substantial adverse physical impacts associated with the construction of new or physically altered facilities in order to maintain acceptable service ratios.

Operation

During operation, the proposed project could require up to two to four offsite maintenance personnel. 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. 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 local schools, parks, or public facilities such that substantial physical deterioration of such facilities which might have an adverse effect on the environment, nor result in substantial adverse physical impacts associated with the construction of new or physically altered facilities in order to maintain acceptable service ratios. Impacts during construction 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 results in the project not providing the revenue 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 if built with another type of land use would produce property tax revenue to provide necessary services and facilities and prevent physical decline of homes and businesses due to vacancy and inability for response for all services, including code enforcement to law enforcement, fire, roads and health and safety issues such as elderly care and child protection services. The cumulative impacts of 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. 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.

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.

Mitigation Measures

Kern County

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
 - 1. 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.
 - 2. The map for either the total project or a phase shall calculate the Cumulative Impact Charge (CIC) net acreage as follows:
 - i. Total gross acreage (Phase)
 - ii. Total acres for Operations and Maintenance building permanent accessory improvements
 - iii. Total acres for Energy Storage structure and permanent accessory improvements
 - iv. Total acres of recorded easements
 - 3. Formula: Net Acreage = 2(i) minus the sum of [2(ii) + 2(iii) + 2(iv)].
 - 4. Temporary storage areas or non-permanent commercial coaches or cargo containers for construction or operations are not eligible for inclusion under 2(ii) or 2(iii), above.
 - 5. All areas of buildings, accessory improvements and easement used in the calculations shall be shown on the submitted Phase Map.
 - 6. 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)
 - 1. 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.
 - 2. 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.
 - 3. 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. If the

project is sold to a city, county, or utility company with assessed taxes that total less than \$3,000 per megawatt per year, then a Supplemental Cumulative Impact Charge (SCIC) shall be paid for the difference annually up to \$3,000 per megawatt. The SCIC payments shall be made annually directly to the County Administrative Office 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 the implementation of Mitigation Measures MM 4.13-1 and MM 4.13-5, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative impacts are two or more individual impacts that, when considered together, are considerable or that compound or substantially increase other environmental impacts. Cumulative impacts for a project are considered significant if the incremental effects of the individual projects are considerable when viewed in connection with the effects of past projects, and the effects of other projects located in the vicinity of the project site. The cumulative impact analysis area 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 and MM 4.13-3 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 and MM 4.13-3 would also prevent the decline of services in unincorporated communities that result in physical impacts on neighborhoods. Through implementation of Mitigation Measure MM 4.13-4, the project proponent/operator would 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 would be minimized to the extent feasible. Furthermore, 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, through the implementation of Mitigation Measure MM 4.13-5 which would encourage all contractors to hire at least 50 percent of their workers from local Kern County communities.

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.

Mitigation Measures

Implement Mitigation Measures MM 4.13-1 through MM 4.13-5.

Level of Significance after Mitigation

With the implementation of Mitigation Measures MM 4.13-1 through MM 4.13-5, cumulative impacts would be less than significant.

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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 are based in part on the Traffic Technical Memorandum (Ecology and Environment, Inc., 2020), which is provided in Appendix L of this EIR.

4.14.2 Environmental Setting

The project is located on approximately 1,330 acres in the unincorporated area of eastern Kern County, approximately 5.5 miles west of the community of Rosamond, approximately 25 miles southeast of the City of Tehachapi, and approximately 55 miles southeast of the city of Bakersfield. Other communities within the vicinity of the proposed additional property include California City in Kern County and the cities of Lancaster and Palmdale in Los Angeles County, which are roughly 27 miles northeast, 12 miles southeast, and 19 miles southeast of the project site, respectively. The circulation system in the vicinity of the project site is made up of a combination of State and County-jurisdiction facilities. Major components of the system are discussed below and shown in Chapter 3, *Project Description*, **Figure 3-1**, *Project Site Vicinity*, of this EIR.

Regional and Local 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 eastwest, north of the project site. These highways are further described below, including average daily traffic (ADT) volumes from 2019, which is the most recent year available from the California Department of Transportation (Caltrans), (Caltrans, 2020).

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 30 miles east of I-5. Average daily traffic (ADT) on I-5 at the SR-138 junction is approximately 73,000 vehicles.

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. ADT on SR-138 near the project site is approximately 3,800 vehicles.

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 4 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 grade-separated interchanges near the project site at Rosamond Boulevard and Backus Road. ADT on SR-14 near the project site is approximately 40,000 vehicles.

State Route 58 is an east-west divided highway that provides regional access to the project site (SR-58 is located approximately 14 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. ADT on SR-58 at the SR-14 junction is approximately 24,700 vehicles.

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-14 (portion north of State Route 58 [SR-58]) and SR-58 (portion east of SR-14), both located approximately 15 miles northeast of the project site (Caltrans, 2019). Prominent views along SR-14 and SR-58 adding to the scenic elements in the landscape for motorists include panoramic views of the open Mojave Desert landscapes and surrounding mountains. According to the Kern County General Plan Circulation Element, a scenic route is any freeway, highway, road, or other public right-of-way, which traverses an area of exceptional scenic quality. The Circulation Element contains goals and policies that discuss designating SR-14 as a scenic highway to protect adjacent viewsheds.

Local Access

The project would primarily be accessed off of SR-58 and SR-14. The six discontinuous sites that comprise the proposed project (i.e., Raceway Solar 2.0 1 through Raceway Solar 2.0 6) would be accessed from gates along West Avenue A, Gaskell Road, 90th Street West, 80th Street West, 70th Street West, and Rosamond Boulevard, as illustrated in Chapter 3, *Project Description*, **Figure 3-2**, *Project Site*, of this EIR.

West Avenue A is a two-lane arterial roadway that would provide access to Raceway Solar 2.0 1. West Avenue A provides a regional east-west direct connection to SR-14.

Gaskell Road is a two-lane arterial roadway that would provide access to Raceway Solar 2.0 2 and Raceway Solar 2.0 3. Gaskell Road provides an indirect connection to SR-138 via 90th Street West.

80th Street West is a two-lane arterial roadway that would provide access to Raceway Solar 2.0 4.

70th Street West is an unmarked and unpaved local road that would provide access to Raceway Solar 2.0 5 and Raceway Solar 2.0 6.

90th Street West is a two-lane arterial roadway that provides a direct north-south connection to SR-138 south of the project site. 90th Street West would provide indirect access to Raceway Solar 2.0 1 via West Avenue A; and Raceway Solar 2.0 2 and Raceway Solar 2.0 3 via Gaskell Road.

Rosamond Boulevard is a two-lane road that provides a direct east-west connection to SR-14 and the unincorporated community of Rosamond. Rosamond Boulevard would provide indirect access to Raceway Solar 2.0 4 via 80th Street West; and Raceway Solar 2.0 5 and Raceway Solar 2.0 6 via 70th Street West.

Non-Motorized Transportation

Bicycling is considered an effective alternative mode of transportation that can help to improve air quality, reduce the number of vehicles traveling along existing roads and highways, and reduce energy consumption. There are 67 miles of existing bicycle facilities in the unincorporated portions of Kern County. There are no dedicated bicycle facilities in the immediate vicinity of the project site or along the surrounding roadways.

A portion of the Pacific Crest National Scenic Trail (commonly known as the Pacific Crest Trail or PCT) is located approximately 14 miles west of the project site.

Other Transportation Facilities

Public Transportation

Public transportation in Kern County is provided by Kern Transit, which offers 17 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 communities of Mojave and Rosamond. No public transit routes pass or stop near the project site.

Railways

The closest railway, the Mohave Subdivision, is operated by the Union Pacific Railroad and is located approximately 6.5 miles east of the project site.

Airport Facilities

Little Buttes Antique Airfield is the nearest private airstrip, located approximately 2.5 miles to the south of the project site. Little Buttes Antique Airfield is a private facility with an approximately 2,900-foot turf runway. The facility receives no regularly scheduled flights and is not publically accessible.

Rosamond Skypark is a privately-owned and operated residential airport that is open for public use, and is located about 3 miles northeast 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.

Lloyd's Landing Airport is a private airstrip, located approximately 3.5 miles to the north of the project site. Lloyd's Landing Airport is a private facility with an approximately 1,370-foot dirt runway. The facility receives no regular scheduled flights and is not publically accessible.

General William J. Fox Airfield is a public airfield located about 7.5 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.

Mojave Air and Space Port is a public airfield located about 14.5 miles northeast of the project site. This airport has three asphalt runways (with lengths of 3,946, 7,049, and 12,503 feet) and primarily serves

general aviation aircraft, with some commercial, air taxi, and military flights also using the facility. In operation since 1940, the airport serves an average of 58 flight operations per day. In 2004, this facility was the first to be certified as a spaceport by the FAA.

Mountain Valley Airport is a private airport that allows public access located approximately 20 miles to the northwest of the project site. The airport has two runways, each 4,890 feet long, and primarily serves general aviation aircraft, with some military flights also using the facility. In operation since 1968, the airport serves an average of 137 flight operations per day.

Edwards Air Force Base is a military base and airstrip located approximately 23 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.

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 who intends to sponsor any of the following construction or alterations must notify the Administrator of the FAA of:

- Any construction or alteration exceeding 200 feet above ground level;
- Any construction or alteration:
 - Within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway where the longest airport runway exceeds 3,200 feet in actual length;
 - Within 10,000 feet of a public use or military airport which exceeds a 50:1 surface from any point on the runway where the longest airport runway is less than 3,200 feet in actual length; and
 - Within 5,000 feet of a public use heliport which exceeds a 25:1 surface;
- Any highway, railroad, or other traverse way whose prescribed adjusted height would exceed the above standards;
- When requested by the FAA; and
- Any construction or alteration located on a public use airport or heliport regardless of height or location.

Failure to comply with the provisions of Federal Aviation Regulation Part 77 is subject to civil penalty under Section 902 of the Federal Aviation Act of 1958, as amended, and pursuant to 49 United States Code Section 46301(a).

State

California Department of Transportation

The California Department of Transportation (Caltrans) has jurisdiction over state highways and sets maximum load limits for trucks and safety requirements for oversized vehicles that operate on highways. Eastern Kern County (i.e., including the project site and surrounding area) has been under the jurisdiction of Caltrans District 9 as of November 2015; prior to that time, all of Kern County was under the jurisdiction of Caltrans District 6. The Caltrans regulations below apply to potential transportation and traffic impacts of the project.

California Vehicle Code (CVC), Division 15, Chapters 1 through 5 (Size, Weight, and Load). Includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways.

California Street and Highway Code, Sections 660-711, 670-695. Requires permits from Caltrans for any roadway encroachment during truck transportation and delivery, includes regulations for the care and protection of State and county highways and provisions for the issuance of written permits, and requires permits for any load that exceeds Caltrans weight, length, or width standards for public roadways.

Project Development Procedures Manual, Chapter 27. Access Control Modification. Requires Caltrans approval of proposed connections to a public road through submittal of a proposal to Caltrans (Caltrans, 2016).

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.

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 "landlock" 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

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.

Caltrans, and the air pollution control district.

Kern Council of Governments), regional transportation providers, local governments,

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 payement 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 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.

Circulation Element

Goals

Mitigation	Implementation Measures
Policy 8	Encourage resourceful air quality improvement and reduction methods.
Policy 7	Require the widening of impacted roadways to handle increased traffic generated by new development.
Policies	
Goal 7	To provide an adequate circulation system which will support the proposed land uses.
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.

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).

Kern Council of Governments Congestion Management Program

All urbanized areas with a population larger than 200,000 residents are required to have a Congestion Management System, program, or process. The Kern Council of Governments (Kern COG) refers to its congestion management activities as the Congestion Management Program (CMP). Kern COG was designated as the Congestion Management Agency.

The CMP provides a systematic process for managing congestion and information regarding (1) transportation system performance, and (2) alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet State and local needs. The purpose of the CMP is to ensure that a balanced transportation system is developed that relates population growth, traffic growth and land use decisions to transportation system level of service (LOS) performance standards and air quality improvement. The program attempts link land use, air quality, transportation, advanced transportation technologies as integral and complementary parts of this region's plans and programs.

The purpose of defining the CMP network is to establish a system of roadways that will be monitored in relation to established LOS standards. At a minimum, all State highways and principal arterials must be designated as part of the Congestion Management System of Highways and Roadways. Kern County has 18 designated state highways.

As discussed below in Section 4.14.4, *Impacts and Mitigation Measures*, CEQA Guidelines Section 15064.3(b) was adopted in December 2018. It requires lead agencies to evaluate transportation impacts based on vehicle miles traveled (VMT), and no longer allows vehicle delay and LOS to be used to determine the significance of a transportation impact for purposes of CEQA. Because the CMP is solely focused on vehicle delay and LOS transportation metrics, it is not discussed further in this EIR.

Regional Transportation Plan

The latest Regional Transportation Plan (RTP) was prepared by the Kern COG, and was adopted on August 16, 2018. The 2018 RTP is a 24-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County. It was developed through a continuing, comprehensive, and cooperative planning process, and provides for effective coordination between local, regional, State, and federal agencies. Included in the 2018 RTP is the Sustainable Communities Strategy (SCS), which is required by California's Sustainable Communities and Climate Protection Act, of Senate Bill (SB) 375. The California Air Resources Board (CARB) set Kern greenhouse gas (GHG) emissions reductions from passenger vehicles and light-duty trucks by 5 percent per capita by 2020 and 10 percent per capita by 2035 as compared to 2005. In addition, SB 375 provides for closer integration of the RTP/SCS with the Regional Housing Needs Allocation (RHNA) ensuring consistency between low income housing need and transportation planning. Kern COG engaged in the RHNA process concurrently with the development of the 2014 RTP. This process required Kern COG to work with its member agencies to identify areas within the region that can provide sufficient housing for all economic segments of the population and ensure that the state's housing goals are met.

The intent of the SCS is to achieve the State's emissions reduction targets for automobiles and light trucks. The SCS will also provide opportunities for a stronger economy, healthier environment, and safer quality of life for community members in Kern County. The RTP/SCS seeks to: improve economic vitality; improve air quality; improve the health of communities; improve transportation and public safety; promote the conservation of natural resources and undeveloped land; increase access to

community services; increase regional and local energy independence; and increase opportunities to help shape our community's future.

The 2018 RTP/SCS financial plan identifies how much money is available to support the region's transportation investments. The plan includes a core revenue forecast of existing local, state and federal sources along with funding sources that are considered to be reasonably available over the time horizon of the RTP/SCS. These new sources include adjustments to state and federal gas tax rates based on historical trends and recommendations from two national commissions (National Surface Transportation Policy and Revenue Study Commission and National Surface Transportation Infrastructure Financing Commission), leveraging of local sales tax measures, local transportation impact fees, potential national freight program/freight fees, future state bonding programs and mileage based user fees (Kern COG, 2018).

Kern County Airport Land Use Compatibility Plan (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. Little Buttes Antique Airfield is located approximately 2.5 miles south of the project site. The Rosamond Skypark is located approximately 3 miles northeast of the project site. Lloyd's Landing is located approximately 3.5 miles north of the project site. The General William J. Fox Airfield is located approximately 7.5 miles southeast of the project site. The Mojave Air and Space Port is located approximately 14.5 miles northeast of the project site. The Mountain Valley Airport is located approximately 20 miles northwest of the project site. The project is also located approximately 23 miles west of the airstrips at Edwards Air Force Base. However, 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 Traffic Technical Memorandum (Ecology and Environment, Inc., 2020), which is provided in Appendix L of this EIR.

Project Trip Generation, Distribution, and Assignment

Based on the available regional access points and the fact that materials would be delivered to the project site from the Lancaster area (southeast of the project site), the majority of heavy trucks are expected to use SR-14 and take Exit 52 to West Avenue A. Once on the SR-14 exit ramp, heavy trucks would turn left and travel 3.8 miles on West Avenue A to the project site. Construction workers are expected to come primarily from the south as well, and are assumed to take the same route as the heavy trucks (SR-14 north to West Avenue A). However, some workers may take an alternative route to the project site, such as SR-138 to 90th Street West, in order to access the western side of the project site. Based on the above, the project generated truck and construction vehicle traffic were assigned to the regional roadway network as follows:

• 70 percent on SR-14 south of the project site;

- 10 percent on SR-14 north of the project site (via SR-58);
- 10 percent on SR-138 west of the project site (via I-5); and
- 10 percent on SR-138 east of the project site (via SR-14).

Construction

Construction traffic is comprised of private vehicles driven by construction workers plus trips made by trucks delivering materials, hauling earth and debris, and providing other services. In general, workers are assumed to make one inbound trip and one outbound trip for a total of two daily trips and would carpool with an average of two workers per vehicle. Informational data on construction activities and trip generation rates for a previously constructed 500-megawatt solar facility was provided by the applicant, and were scaled down to appropriately represent the 291-megawatt size of the proposed project. Additional detail describing the scaling-down process and calculations is provided in Appendix L. For the purposes of the transportation analysis, construction activity associated with solar array construction was evaluated because it is the construction activity that would generate the highest number of truck and construction worker vehicle trips.

Construction would primarily occur during daylight hours, Monday through Friday, between 6:00 a.m. and 6:00 p.m., as required to meet the construction schedule. The project construction crews would have a staggered work day, with multiple shifts of workers coming onsite between the hours of 6:00 a.m. and 10:00 a.m. in the mornings, and leaving between 2:00 p.m. and 6:00 p.m. Based on this staggered work schedule, it is estimated that approximately 25 percent of the workforce would arrive at and depart from the project site during the AM and PM peak time periods (6:30 a.m. to 8:30 a.m., and 4:00 p.m. to 6:00 p.m.). It is estimated that a maximum of 80 daily truck trips would be generated during solar array construction activities. Of these 80 total trips, 20 percent are estimated to travel to/from the project site during the AM and PM peak hours; this assumption is based on the expectation that deliveries would occur throughout the day and, in many cases, before the AM peak hour. Trip generation estimates for construction traffic generated during the peak of project construction (i.e., solar array installation) are presented in **Table 4.14-1**, *Project Trip Generation – Construction*.

		AM Peak Hour Trips		PM Peak Hour Trips		
Traffic Type	ADT	Inbound	Outbound	Inbound	Outbound	
Employees	582	73	0	0	73	
Heavy Trucks	58	6	0	0	6	
Total Trips	640	79	0	0	79	
SOURCE: Ecology and Environment, Inc., 2020.						

TABLE 4.14-1:	PROJECT TRIP	GENERATION –	CONSTRUCTION
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As shown in the table, it is estimated that 640 daily trips and 158 peak hour trips (79 inbound during the AM peak hour, 79 outbound during the PM peak hour), would be generated during the peak of project construction activities.

Operation and Maintenance

Upon completion of the construction and testing phases, the proposed project would be operated without any permanent on-site employees would be monitored remotely. Travel to the project site is anticipated for routine maintenance (e.g., quarterly panel washing), security checks, and system monitoring. However, since the project's PV arrays produce electricity passively with minimal moving parts, on-site maintenance trips would be limited. Since there will not be any full-time site personnel for on-going operation and maintenance, vehicle trips generated are expected to minimal and infrequent, and would therefore not result in noticeable increase in traffic on local or regional roadways.

Thresholds of Significance

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

A project could have a significant adverse effect on transportation if it would:

- a. Conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
- b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b);
- c. Substantially increases hazards due to a geometric design feature (such as sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); and
- d. Result in inadequate emergency access.

Project Impacts

Impact 4.14-1: The project would conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

The proposed project would include a request for approval to allow the vacation of existing public access easements as well as an amendment to the Willow Spring Specific Plan. The approval to allow vacation of existing public access easements on the project site are shown in Chapter 3, *Project Description*, Figure 3-6, *Proposed Amendment to Willow Springs Specific Plan Circulation Element*, of this EIR. The purpose of the request is to facilitate the optimal layout of solar panels by removing recorded but unused public rights-of-way on vacant land. These easements have been created by grant deed, 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. A full list of the sections and midsection line road reservations included in the amendment are included in Chapter 3, *Project Description*, of this EIR.

Construction

Assessment of the short-term effect that project construction traffic could have on local and regional roads is based on the following: (1) review of existing traffic volume information and, (2) consideration of both the percentage increase the project construction traffic would contribute over existing conditions and the capacity

of the road to handle the additional traffic. Because the number of vehicles on roads varies day-to-day and routinely fluctuates plus or minus five percent, a change in traffic volume of five percent or less is generally not perceptible to the average motorist. Traffic volumes on project area roads are typically highest during morning and evening peak commute hours (generally between 7:00 a.m. to 9:00 a.m., and 4:00 p.m. to 6:00 p.m.); traffic increases that occur during these peak periods may exacerbate short-term congestion.

Based on the existing ADT volumes on regional highways that would be used to access the project site noted in Section 4.14.2, *Environmental Setting*, the estimated number of construction-related project trips shown in Table 4.14-1, and the assumed distribution of those trips to the regional roadway network, the percent increase in ADT was calculated. As shown in **Table 4.14-2**, *Existing and Project Construction Average Daily Traffic*, project construction activities are estimated to result in increases in ADT volumes on regional roadways of no more than 3.4 percent. This level of increase is within the range of typical daily variation in traffic levels that might be expected on the major roadways serving the project site, and roadway operating conditions would remain substantially similar to current conditions. Traffic increases on local roads would be more noticeable, but the local roads used to access the project site have low existing traffic volumes due to the rural, undeveloped character of the geographic area they serve; therefore, roadways would continue to accommodate traffic within the roadways' carrying capacity with no discernable effect on operating conditions.

Study Roadway Segment	Existing Daily Traffic Volume	Project Trips	Project Daily Traffic Volume	Percent Increase
I-5 at SR-138 Junction	73,000	64	73,064	> 0.1 %
SR-138 at 90th St W	3,800	128	3,928	3.4 %
SR-14 at W Ave A	40,000	512	40,512	1.3 %
SR-58 at SR-14 Junction	24,700	64	24,764	0.3 %
SOURCES: Caltrans, 2020; Ecology and Environment, Inc., 2020				

TABLE 4.14-2: EXISTING AND PROJECT CONSTRUCTION AVERAGE DAILY TRAFFIC

Operation and Maintenance

As stated previously, vehicle trips generated by operation and maintenance of the project are expected to minimal and infrequent. The most labor-intensive maintenance activity would be periodic panel washing, which would occur one to four times per year and would require a staff of two to four people. Panel washing would generate up to eight daily staff vehicle trips. The addition of such a small number of vehicles to the roadway network would not have a discernable effect on roadway operations. As such, project operation would have a less-than-significant impact on local and regional roadways used to access the project site.

Decommissioning

Decommissioning impacts would be relatively similar to those identified for construction of the project and would be short-term and temporary. Thus, decommissioning of the project would result in a less-thansignificant impact with respect to operating conditions on local and regional roadways used to access the project site.

Transit, Bicycle, and Pedestrian Facilities

There are no dedicated pedestrian or bicycle facilities in the immediate vicinity of the project site or along the surrounding roadways. Due to the rural nature of the project area, bicycle traffic is limited. The project is not located along an existing bus route and few bus stops exist on the roadways likely to be used during construction and operation. The project would not house residents or employees and, therefore, would not have characteristics that could influence alternative means of transportation. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Impact 4.14-2: The project would conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).

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.

On July 1, 2020, the provisions of this section became effective statewide. Kern County has 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).

Impacts due to construction activities would be temporary and would not result in any meaningful longterm 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. However, this EIR also includes an analysis of GHG emissions associated with heavy truck traffic generated by the project (as well as other traffic), and addresses potential significant transportation impacts of all project vehicles, including heavy trucks, related to air quality, noise, and safety.

The Technical Guidelines provide a screening criterion that could be used to determine if VMT analysis is warranted for small projects, which are defined as projects that would generate fewer than 110 trips per day and may generally be assumed to cause a less-than-significant transportation impacts. As noted previously, there will not be any full-time site personnel for on-going operation and maintenance, and therefore vehicle

trips generated are expected to minimal and infrequent. Therefore, daily passenger vehicle trips generated by the project would be well below OPR's recommended small-project screening criterion threshold of 110 trips per day, and the project's impact to VMT would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be 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).

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.

The project would not include a design feature or utilize vehicles with incompatible uses that would create a hazard on the roadways surrounding the project site. The need for and number of escorts, California Highway Patrol escorts, 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. Thus, potential impacts would be reduced to a less-than-significant level. 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.

Mitigation Measures

- **MM 4.14-1:** Prior to the issuance of construction or building permits, the project proponent/operator shall:
 - a. Prepare and submit a Construction Traffic Control Plan to Kern County Public Works Department- Development Review and the California Department of Transportation offices for District 9, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues:
 - 1. Timing of deliveries of heavy equipment and building materials;
 - 2. Directing construction traffic with a flag person;

- 3. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;
- 4. Ensuring access for emergency vehicles to the project sites;
- 5. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
- 6. Maintaining access to adjacent property; and,
- 7. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hours.
- b. Obtain all necessary encroachment permits for the work within the road right-of-way or use of oversized/overweight vehicles that will utilize county maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Natural Resources Department, the Kern County Public Works Department-Development Review, and the California Department of Transportation.
- c. Enter into a secured agreement with Kern County to ensure that any County roads that are demonstrably damaged by project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the State and/or Kern County.
- d. Submit documentation that identifies the roads to be used during construction. The project proponent/operator shall be responsible for repairing any damage to non-county maintained roads that may result from construction activities. The project proponent/operator shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Kern County Public Work Department-Development Review and the Kern County Planning and Natural Resources Department.
- e. Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to the County. This information shall be submitted in 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 MM 4.14-1, impacts would be less than significant.

Impact 4.14-4: The project would result in inadequate emergency access.

The project site is located in a rural area with the primary access roads (West Avenue A, Gaskell Road, 8th Street West, and 70th Street West) allowing adequate egress/ingress to the site in the event of an emergency. Additionally, as part of the project, one or two secondary emergency access gates would be provided for each of the six sites. Therefore, the development of the 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 operating conditions on area roads; therefore, project-related traffic would not affect emergency access to the project site or any other surrounding location. The project would not require closures of public roads, which could inhibit access by emergency vehicles. For these reasons construction and operation would have a less-than-significant impact on emergency access.

While impacts would be less than significant, Mitigation Measure MM 4.14-1 would provide further assurances for emergency access. Mitigation Measure MM 4.14-1 requires the preparation of a Construction Traffic Control Plan that considers access for emergency vehicles to the project site. During project operation, Mitigation Measure MM 4.14-1 requires the project operator obtain Kern County approval of all proposed access road designs prior to construction, further ensuring onsite emergency access is adequate.

Mitigation Measures

Implementation of Mitigation Measure MM 4.14-1 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.14-1, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative impacts from the project, when considered with nearby, reasonably foreseeable planned projects, would occur only during project construction because project operation traffic would be very minimal. As stated above in the evaluation of operational impacts, there would be minimal trip generation once construction activities have concluded. Therefore, operation of the project would result in less-than-significant cumulative impacts.

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. Kern County provided a list of cumulative (past, present, and reasonably foreseeable future) projects within 6 miles of the project site, which are listed in Table 3-9, *Cumulative Projects List*. Most of the projects are small, and many involving zoning changes, equipment or building remolding that would not factor greatly as part of the cumulative impact analysis for this project. The following two solar projects were considered relevant in terms of the cumulative traffic impacts analysis:

BigBeau Solar Project (EDF Renewables)

The Big Beau Solar Project is a proposed 128 MW solar facility on 2,557 acres located approximately 5 miles northwest of the project site. The Draft EIR for the project, which was published in January 2020, indicated that up to 1,259 daily vehicle trips would be generated by construction activities (County of Kern, 2020). These vehicle trips would primarily use Rosamond Boulevard to access the BigBeau Solar project site. As stated above, construction vehicles generated by project construction would mostly use Avenue A to access the project site, and would therefore not combine with construction vehicles generated by the BigBeau Solar Project on local roadways. Therefore, the impact would be less than significant and no mitigation measures are required.

Apollo Solar Project (Lendlease Energy Development)

The Apollo Solar Project is a proposed 60 MW solar facility on 320 acres located approximately 6 miles north of the project site. The Draft EIR for the project, which was published in December 2019, indicated that up to 324 daily vehicle trips would be generated by construction activities (County of Kern, 2019). These vehicle trips would primarily use either Rosamond Boulevard or Backus Road to access the Apollo Solar project site. As stated above, construction vehicles generated by project construction would mostly use Avenue A to access the project site, and would therefore not combine with construction vehicles generated by the Apollo Solar Project on local roadways. Therefore, the impact would be less than significant and no mitigation measures are required.

Mitigation Measures

No mitigation measures would be required.

Level of Significance after Mitigation

Impacts would be less than significant.

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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 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), located in Appendix F of this EIR.

4.15.2 Environmental Setting

Refer to Section 4.5, *Cultural Resources*, of this EIR for a greater discussion of the tribal cultural resources environmental setting.

Existing Tribal Cultural Resources

Native American SB 18 and AB 52 Consultation

As part of the Cultural Resources Assessment prepared for the project (Appendix F-1), a Sacred Lands File (SLF) search through the California Native American Heritage Commission (NAHC) did not identify sacred sites or tribal cultural resources in the project vicinity. A second search of the SLF, dated January 17, 2018 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 January 11, 2018, the County sent consultation notification letters via certified mail to three 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 both SB 18, on January 24, 2018, the County sent outreach letters via certified mail to 13 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, two responses has been received from Twenty-Nine Palms Band of Mission Indians (Twenty-Nine Palms) and the San Manuel Band of Mission Indians (San Manuel). The responses are summarized below following Table 4.15-1.

Contact	Tribe	Legal Requirement	Date of Letter	Response
Genevieve Jones, Chairperson	Big Pine Paiute Tribe of the Owens Valley	SB 18	January 24, 2018	No response
Danielle Gutierrez, Tribal Historic Preservation Officer	Big Pine Paiute Tribe of the Owens Valley	SB 18	January 24, 2018	No response
Julio Quair, Chairperson	Chumash Council of Bakersfield	SB 18	January 24, 2018	No response
Julie Turner, Secretary	Kern Valley Indian Community	SB 18	January 24, 2018	No response
Robert Robinson, Chairperson	Kern Valley Indian Community	SB 18	January 24, 2018	No response
Delia Dominguez, Chairperson	Kitanemuk and Yowlumne Tejon Indians	SB 18	January 24, 2018	No response
Lee Clauss, Cultural Resources Director	San Manuel Band of Mission Indians	AB 52 and SB 18	January 11 and 24, 2018	Jessica Mauck, cultural resources analyst for San Manuel responded with a request for formal consultation
Lynn Valbuena	San Manuel Band of Mission Indians	AB 52 and SB 18	January 11 and 24, 2018	Jessica Mauck, cultural resources analyst for San Manuel responded with a request for formal consultation
Rueben Barrios Sr., Chairperson	Santa Rosa Indian Community of the Santa Rosa Rancheria	SB 18	January 24, 2018	No response
Octavio Escobedo, Chairperson	Tejon Indian Tribe	SB 18	January 24, 2018	No response
Michael Mirelez, Cultural Resources Coordinator	Torres Martinez Desert Cahuilla Indians	AB 52	January 11, 2018	No response
Robert L. Gomez, Jr., Tribal Chairperson	Tubatulabals of Kern Valley	SB 18	January 24, 2018	No response
Neil Peyron, Chairperson	Tule River Indian Tribe	SB 18	January 24, 2018	No response
Anthony Madrigal, Jr., Tribal Historic Preservation Officer	Twenty-Nine Palms Band of Mission Indians	AB 52	January 11, 2018	Anthony Madrigal, Tribal Historic Preservation Officer for Twenty-Nine Palms, deferred to other affiliated tribal groups
Kenneth Woodrow, Chairperson	Wuksache Indian Tribe/Eshom Valley Band	SB 18	January 24, 2018	No response

TABLE 4.15-1: AB 52 AND SB 18 NATIVE AMERICAN CONSULTATION

In an email dated January 23, 2018, Jessica Mauck, Cultural Analysist for the San Manuel, replied to the County's AB 52 consultation notification stating the San Manuel the proposed project area is located within

Serrano ancestral territory and that the village site of *Chibubit* is located project vicinity. Ms. Mauch stated San Manuel elects to engage in formal consultation regarding the project and requested the cultural and geotechnical studies prepared for the project as well as the grading plans. In an email dated February 9, 2021 the County responded to Ms. Mauck, now Director of Cultural Resources for San Manuel, who directed the cultural resources and geotechnical studies be delivered to Ryan Nordness, the present Cultural Resources Analyst for San Manuel. The studies were sent to Mr. Nordness the same day. Upon reviewing the cultural study, Mr. Nordness concurred with the inadvertent discovery of human remains mitigation language, but provided San Manuel's standardized mitigation language for inadvertent discover of human remains and funerary objects. Mr. Nordness did not recommend that San Manuel's standard mitigation language be incorporated into the EIR; rather, he stated the County may include it if more precise language is needed.

In a letter dated March 15, 2018, Anthony Madrigal Jr., Tribal Historic Preservation Officer for Twenty-Nine Palms, stated the Twenty-Nine Palms is not aware of any tribal cultural resources in the project vicinity and that the tribe defers to other affiliated tribal groups regarding the project.

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 or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC Section 21074(a)(1) and (2) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are either included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR) or included in a local register of historical resources, or a resource that is

determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the CEQA *Guidelines*, which was approved by the Office of Administrative Law on September 27, 2016.

PRC Section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency's formal notification and the lead agency must begin consultation within 30 days of receiving the tribe's request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project's impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an EIR or adopt an MND (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

Senate Bill 18

Senate Bill 18 (SB 18) (Statutes of 2004, Chapter 905), which went into effect January 1, 2005, requires local governments (city and county) to consult with Native American tribes before making certain planning decisions and to provide notice to tribes at certain key points in the planning process. The intent is to "provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places" (Governor's Office of Planning and Research, 2005).

The purpose of involving tribes at these early planning stages is to allow consideration of cultural places in the context of broad local land use policy, before individual site-specific, project-level, land use

designations are made by a local government. The consultation requirements of SB 18 apply to general plan or specific plan processes proposed on or after March 1, 2005.

According to the *Tribal Consultation Guidelines: Supplement to General Plan Guidelines* (Governor's Office of Planning and Research, 2005), the following are the contact and notification responsibilities of local governments:

- Prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes (on the contact list maintained by the NAHC) of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to, cultural places located on land within the local government's jurisdiction that is affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe (Government Code Section 65352.3).
- Prior to the adoption or substantial amendment of a general plan or specific plan, a local government must refer the proposed action to those tribes that are on the NAHC contact list and have traditional lands located within the city or county's jurisdiction. The referral must allow a 45-day comment period (Government Code Section 65352). Notice must be sent regardless of whether prior consultation has taken place. Such notice does not initiate a new consultation process.

Local government must send a notice of a public hearing, at least 10 days prior to the hearing, to tribes who have filed a written request for such notice (Government Code Section 65092).

Local

There are no applicable local regulations for this issue area.

4.15.4 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. AB 52 and SB 18 notification letters were sent to Native American groups and individuals indicated by the NAHC to solicit information regarding the presence of tribal cultural resources, followed by consultation between the County and tribes that responded. 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:

- 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 did not indicate the presence of tribal cultural resources within or immediately adjacent to the project site. Furthermore, the County's government-to-government notification and consultation efforts with interested Native American groups conducted pursuant to SB 18 and AB 52 did not result in the identification of tribal cultural resources within the project site. Given that no tribal cultural resources have been identified within or immediately adjacent to the project site, the project would not cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources and no mitigation is required.

Mitigation Measures

No mitigation is required.

Level of Significance

There would be no impact.
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 no tribal cultural resources were identified by the SLF search or the as a result the County's government-to-government notification and consultation efforts with interested Native American groups conducted pursuant to SB 18 and AB 52. Given that no tribal cultural resources have been identified within or immediately adjacent to the project site, the project would not cause a substantial adverse change in the significance of a tribal cultural resource that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant and no mitigation is required.

Mitigation Measures

No mitigation is required.

Level of Significance

There would be no impact.

Cumulative Setting, Impacts, and Mitigation Measures

An analysis of cumulative impacts takes into consideration the entirety of impacts that the project 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 portion of the 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.

Multiple projects, including solar energy production facilities, are proposed throughout the western Antelope Valley. Cumulative impacts to tribal cultural resources could occur if other related projects, in conjunction with the proposed project, had or would have impacts on cultural resources that, when considered together, would be significant. Potential impacts of the project to tribal cultural resources, in combination with other projects in the area, could contribute to a cumulatively significant impact due to the overall loss of resources unique to the region. However, as discussed above, no tribal cultural resources have been identified in the project area and the project will not have an impact on tribal cultural resources. Therefore, the project would not have a cumulatively considerable contribution to impacts to tribal cultural resources.

Mitigation Measures

No mitigation is required required.

Level of Significance

There would be no impact.

4.16.1 Introduction

This section of the EIR describes the affected environment and regulatory setting of the proposed project pertaining to demand for operational utilities (water supply, stormwater, solid waste disposal, electricity, natural gas, and telecommunications). 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 *Final Water Supply Assessment Technical Memorandum* (Ecology and Environment, Inc., 2020) and *Preliminary Drainage Study* (Kimley Horn, 2020) included in Appendix J and Appendix I of this EIR, respectively.

4.16.2 Environmental Setting

Water Supply

There are typically three sources of supply water for development: (1) natural sources; (2) manmade sources; and (3) reclamation. Natural sources include rivers, lakes, streams, and groundwater stored in aquifers. Manmade sources include runoff water that is treated and stored in reservoirs and other catchment structures. Reclaimed water is wastewater that has been conveyed to a treatment plant and then treated to a sufficient degree that it may again be used for certain uses, such as irrigation. However, reclaimed water is not potable (drinkable) and must be conveyed in a separate system in order to ensure that there is no possibility of direct human consumption.

The project site is located in eastern Kern County. The project site is currently undeveloped desert land with no supplied or supplemental water demand, and is not within the boundaries of an existing public water system's service area. The nearest existing water utility system is the Rosamond Community Services District (RCSD); the western service boundary of the RCSD is located approximately 1 mile to the west/southwest of the project site. The Tehachapi-Cummings County Water District (TCCWD) is another nearby local public water system located approximately 15.8 miles north of the project site (Department of Water Resources [DWR], 2019). Both the RCSD and TCCWD are unable to serve the project site since the project site itself is outside of their respective service boundaries (Ecology and Environment, Inc., 2020). When a water supplier cannot be identified, as is the case with the proposed project, an alternative water supplier must be identified. The applicant has identified one potential water supply.

Antelope Valley-East Kern Water Agency (AVEK), which operates six groundwater wells (C-1, C-3, C-4, C-17, and C-18) within the project site, is the water wholesaler for the region, and serves treated water to retail agencies and untreated water to agricultural customers within its 2,400 square mile service area. AVEK has prepared an Urban Water Management Plan (UWMP) and an Integrated Regional Water Management Plan (IRWMP) that outlines water resources available to its service area. These resources include State Water Project (imported) water, and local groundwater resources. The resources are provided to retail agencies and for local agricultural uses. In 2015, AVEK supplied over 17,066 acre-feet (AF) of water to customers (UWMP, 2016).

Although a portion of the project site is being purchased from AVEK, the right to purchase water will be a separate agreement with AVEK. AVEK stated that sufficient water exists within its system to supply water for the proposed project (Ecology and Environment, Inc., 2020). AVEK anticipates a projected water supply availability of 289,010 acre-feet (AF) in 2020. The AVEK well that would be used is located within the boundaries of the project site. If this water source is used, water trucks will be used to transport water to the site for all uses. The proposed project's water requirements for operations represent approximately 0.13% of AVEK's water supply availability (Ecology and Environment, Inc., 2020). Bottled water would be provided for potable water demand.

Groundwater Supply

The project site is located in the South Lahontan Hydrologic Region, and specifically within the Antelope Valley Groundwater Basin. The Basin is primarily fed from runoff from Big Rock and Little Rock Creeks, and from Oak Creek. Total water storage within the Basin is reported to be in the range of 68 million to 70 million AF. The Basin covers about 940 square miles and is separated from the northern part of the Antelope Valley by faults and low-lying hills (UWMP, 2016; Kimley Horn, 2020). Groundwater has been and is an important resource within the Antelope Valley given limits on the available local and imported surface water supply. One fundamental challenge in the Antelope Valley Region is that demand for water exceeds available supplies in future average and dry years. The historical declines in groundwater levels within the Antelope Valley Region have caused permanent damage to aquifers in some areas through land subsidence (AVIRWMP, 2019). For a discussion of Basin characteristics, please refer to Section 4.10, *Hydrology and Water Quality*, of this EIR.

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 is legislation that provides a comprehensive adjudication process for all groundwater basins that are regulated under the SGMA. Groundwater basins that have been adjudicated by court decision are subject to management by a court-approved Watermaster. A groundwater rights adjudication process is underway for the area managed by the Antelope Valley Integrated Regional Water Management Plan (IRWMP) area, 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 will define who owns, 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 established a safe yield for the Basin of 110,000 AFY, although pumping in the area has ranged up to 150,000 AFY (AVEK, 2016; Antelope Valley Watermaster, 2017).

On December 23, 2015, Judge Komar issued a final judgment that set in motion court-directed procedures for on 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 AVEK and Los Angeles County Waterworks District 40 each occupy a seat, along with another public water supplier to be named later.

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 'Water Master' to oversee continuing implementation of the Judgment and directed the appointment by the Watermaster of a Water Engineer, defining his duties. The Watermaster and a Water Engineer are in place and are enforcing and implementing the Adjudication.

Any use of groundwater in the Basin, which includes multiple individual parcels, must be compliant with the Adjudication Judgment, and coordinated with the Watermaster as required.

Wastewater

The Kern Sanitation Authority (KSA) provides maintenance and wastewater service for Kern County. As the project site is currently undeveloped, there are no septic systems or infrastructure within the project site boundary. Any wastewater generation occurring within the project site would be collected within individual septic systems that would have to be emptied as part of regular ongoing project-related maintenance.

Stormwater Drainage

The project is in the South Lahontan Hydrologic Region, and specifically within the Willow Springs Sub-Watershed of the Antelope-Freemont Valleys 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 closest playa to the project site is Rosamond Lake to the east of the project site, approximately 10 miles from the proposed project. The topography is such that runoff will not be directed towards Rosamond Lake as most rainfall infiltrates into the immediate surrounding soils quickly. Streams and drainage at the project site and in the surrounding area are ephemeral, meaning the flows are brief and dependent upon precipitation (Kimley Horn, 2020). Soil and drainage characteristics are further described in Sections 4.7, *Geology and Soils*, and 4.10, *Hydrology and Water Quality*, of this EIR.

Solid Waste

Solid waste generally refers to garbage, refuse, sludge, and other discarded solid materials that come from residential, industrial, and commercial activities. Construction, demolition, and inert wastes are also classified as solid waste. Such wastes include nonhazardous building materials such as asphalt, concrete, brick, drywall, fencing, metal, packing materials, pallets, pipe, and wood. The general waste classifications used for California waste management units, facilities, and disposal sites are outlined below. Nonhazardous solid waste consists of organic and nonorganic solid, semi-solid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes, and other discarded

waste, provided that such wastes do not contain hazardous materials or soluble pollutants in concentrations that would exceed applicable water quality objectives or cause a degradation of waters of the State.

California State law regulates the types of waste that can be disposed of at the different classes of landfills. Class I landfills may accept hazardous and nonhazardous wastes. Class II landfills may accept designated and nonhazardous wastes, and Class III landfills may accept nonhazardous wastes.

Kern County is responsible for meeting the California Integrated Waste Management Act of 1989 (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 Plan is the long-range planning document for landfill facilities.

Construction and demolition (C&D) waste is heavy, inert material. This material creates significant problems when disposed of in landfills. Because C&D waste is heavier than paper and plastic, it is more difficult for counties and cities to reduce the tonnage of disposed waste. For this reason, C&D waste has been specifically targeted by the State of California for diversion from the waste stream. Projects that generate C&D waste should emphasize deconstruction and diversion planning rather than demolition. Deconstruction is the planned, organized dismantling of a prior construction project, which allows maximum use of the deconstructed materials for recycling in other construction projects and sends a minimum amount of the deconstruction material to landfills.

Approved on October 6, 2011, AB 341 intended to promote recycling and diversion of solid waste from landfills by requiring businesses to accomplish recycling activities and/or participate in recycling programs. The Waste Operations Division of the Kern County Public Works Department administers or sponsors the following recycling programs, which contribute toward meeting State-mandated solid waste diversion goals:

- Recycling programs at landfills to recycle or divert a wide variety of products, such as wood waste, cathode ray tubes, tires, inert materials, appliances, etc.;
- Drop-off recycling centers for household recyclables. The County- and the City-operated drop-off recycling centers, which are located in the unincorporated metropolitan area and the city, may be used by both County and city residents;
- Financial assistance for operation of the City of Bakersfield Green Waste Facility;
- The Kern County Special Waste Facility for the disposal of household 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.

Landfills

The Kern County Public Works Department operates seven recycling and sanitary landfills throughout the County. Landfills are located in Bakersfield, Boron, Mojave-Rosamond, Ridgecrest, Shafter-Wasco, Taft, and Tehachapi (Kern County Waste Management, 2019a). No solid waste is currently generated at the project site. The project would likely be served primarily by the Mojave-Rosamond Landfill, located at 400 Silver Queen Road, in the community of Mojave, approximately 4.6 miles northeast of the project site. This Class III landfill accepts clean inerts (e.g., source separated asphalt, brick and concrete); C&D waste (e.g., asphalt, brick, concrete, dirt, and metal); dead animals; electronic waste; greenwaste; ordinary household trash; tires; treated wood waste (e.g., grape stakes, utility poles; foundation lumber); and used motor oil. The landfill does not accept hazardous waste, hot ashes, liquids of any kind, and non-friable asbestos (Kern County Waste Management, 2019b). As of 2019, approximately 76,310,297 cubic yards (97.8 percent of the total 78,000,000 cubic yard capacity) remained. The permitted maximum daily disposal is 3,000 tons per day (CalRecycle, 2019a).

The other nearby landfill is the Tehachapi Sanitary Landfill, a Class III landfill which is located approximately 19.6 miles northwest of the project site at 12001 East Tehachapi Boulevard, in the City of Tehachapi, over the Tehachapi Mountains. Landfill locations, capacity, and anticipated closure dates are presented in **Table 4.16-1**, *Summary of Kern County Public Works Landfills*.

Landfill	Distance from Project Site	Maximum Permitted Capacity	Remaining Capacity (cubic yards)	Maximum Permitted Throughput (tons/day)	Anticipated Year of Closure
Mojave-Rosamond 400 Silver Queen Rd. Mojave	12.14 miles (northeast)	78,000,000	76,310,297	3,000	2123
Tehachapi 12001 E. Tehachapi Blvd. Tehachapi	19.6 miles (northwest)	4,000,000	522,298	1,000	2020
SOURCE: CalRecycle, 2019a; CalRecycle, 2019b.					

 TABLE 4.16-1:
 SUMMARY OF KERN COUNTY PUBLIC WORKS LANDFILLS

Electricity, Natural Gas, and Telecommunications

No electricity, natural gas, nor telecommunication facilities are currently located on the project site. Southern California Edison (SCE) and the California Independent System Operator (CAISO) have existing facilities in the project area, including the SCE Tehachapi Renewable Transmission Project, SCE Whirlwind Substation, and SCE transmission line. There are no natural gas pipelines or telecommunication facilities on the project site. SoCalGas is the natural gas provider in this area of Kern County.

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. Created in 1974, the CEC has five major responsibilities: forecasting future energy needs and keeping historical energy data, licensing thermal power plants 50 megawatts (MW) or larger, promoting energy efficiency through appliance and building standards, developing energy technologies and supporting renewable energy, and planning for and directing the state response to energy emergencies.

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies, in addition to authorizing video franchises. In 1911, the CPUC was established by Constitutional Amendment as the Railroad Commission. In 1912, the Legislature passed the Public Utilities Act, expanding the Commission's regulatory authority to include natural gas, electric, telephone, and water companies as well as railroads and marine transportation companies. In 1946, the Commission was renamed the California Public Utilities Commission. It is tasked with ensuring safe, reliable utility service is available to consumers, setting retail energy rates, and protecting against fraud.

California Department of Resources Recycling and Recovery

California Department of Resources Recycling and Recovery (CalRecycle) is the state agency designated to oversee, manage, and track California's 76 million tons of waste generated each year. It is one of the six agencies under the umbrella of the California Environmental Protection Agency. CalRecycle administers and provides oversight for all of California' 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).

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 RWQCB. Any actions of the projects that would be applicable under California Water Code Section 13260 would be reported to the Lahontan Region RWQCB.

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. They require that water supply assessment occur early in the land use planning process for all large-scale development projects. If groundwater is the proposed supply source, the required assessments must include detailed analyses of historic, current, and projected groundwater pumping and an evaluation of the sufficiency of the groundwater basin to sustain a new project's demands. They also require an identification of existing water entitlements, rights, and contracts and a quantification of the prior year's water deliveries. In addition, the supply and demand analysis must address water supplies during 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. The contractor is urged to manage solid waste generated by the work to divert waste from disposal in landfills (particularly Class III landfills) and maximize source reduction, reuse, and recycling of C&D debris.

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 Integrated Regional Water Management Plan

The Antelope Valley Integrated Regional Water Management Plan (AVIRWMP) is a joint water planning effort aimed at ensuring water supply reliability for the Antelope Valley Region, undertaken by agencies which joined to form a Regional Water Management Group (RWMG), including the following: the Antelope Valley-East Kern Water Agency, Antelope Valley State Water Contractors Association, City of Lancaster, City of Palmdale, Littlerock Creek Irrigation District, Los Angeles County Sanitation District Nos. 14 and 20, Los Angeles County Waterworks District No. 40, Palmdale Water District, Quartz Hill Water District, and Rosamond Community Services District. These agencies agreed to contribute funds to help develop the AVIRWM Plan, provide and share information, review and comment on drafts, adopt the final AVIRWM Plan, and assist in future grant applications for the priority projects identified in the Plan.

In January 2007, the RWMG have collectively defined a water resource management plan in the AVIRWMP, which describes a course of action to meet the expected demands for water within the entire Antelope Valley Region through 2035. In 2012, the RWMG developed an update to the AVIRWM Plan to incorporate changes to the Region's water resources that occurred since 2007. The AVIRWM Plan was revisited in 2017 and updated once again in two phases. The first phase revised the Plan to comply with the 2016 AVIRWM Grant Program Guidelines and the second phase (the 2019 AVIRWM Plan Update) conducted an extensive update of the AVIRWM Plan so that the Plan is reflective of the current conditions of the Region. The 2019 AVIRWM Plan Update extended the planning horizon through 2040. (Antelope Valley IRWMP, 2019).

The primary goals of the Antelope Valley IRWMP 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 IRWMP, 2019).

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 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 Basin.

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 (County of Kern, 2018).

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.

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.

1.9 Resources

Goal

Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.

Policies

- 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

1.10.1 Public Services and Facilities

Policies

- Policy 9: New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure which it generates and upon which it is dependent.
- Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.

Policy 16: The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to serve the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.

Implementation Measures

- Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.
- Measure D: Involve utility providers in the land use and zoning review process.
- Measure E: All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply and Preservation of Environmental Health Rules and Regulations administered by the County's Public Health Services Department. Those projects having percolation rates of less than five minutes per inch shall provide a preliminary soils study and site specific documentation that characterize the quality of upper groundwater in the alternative septic systems would adversely impact groundwater quality. If the evaluation indicated that the uppermost groundwater at the proposed site already exceeds groundwater quality objectives of the Regional Water Quality Control Board or would if the alternative septic system is installed, the applicant would be required to supply sewage collection, treatment, and disposal facilities.

Chapter 5. Energy Element

5.4.5 Solar Energy Development

Goal

Goal 1:	Encourage safe and orderly commercial solar development.
Policies	
Policy 1:	The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.
Policy 3:	The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.
Policy 4:	The County shall encourage solar development in the desert and valley regions previously disturbed, and discourage the development of energy projects on undisturbed land supporting state or federally protected plant and wildlife species.

Willow Springs Specific Plan

The project site is within 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 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.

Public Facilities

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 multiple online sources and published documents, as well as the project-specific *Final Water Supply Assessment Technical Memorandum* (Ecology and Environment, Inc., 2020) and Preliminary Drainage Study (Kimley Horn, 2020) included in

Appendix J 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.

Kern County determined in the Notice of Preparation/Initial Study (NOP/IS) that the following environmental issue areas would result in no impacts and therefore, are scoped out of this EIR. Refer to Appendix A of this EIR for a copy of the NOP/IS:

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;

The proposed project would not require new water or wastewater disposal systems to be constructed, as permanent operation or maintenance staff would not be onsite. Potable water would be brought to the site for drinking and other domestic needs during construction. Water collected from onsite wells would also be utilized for panel washing. The project is not proposing construction of any new or expanded water or wastewater treatment facilities. Therefore, impacts would be less than significant and no further analysis is required.

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;

The proposed project would generate a minimal volume of wastewater. Wastewater generated during construction would be contained within portable toilet facilities and hauled away for treatment at an approved facility. No permanent onsite staff are proposed and the installation of a septic system would not be required. Maintenance personnel are expected to visit the project site several times a year for routine maintenance. Therefore, the project would not exceed wastewater treatment requirements of the Lahontan RWQCB. Therefore, impacts would be less than significant and no further analysis is required.

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

During construction, bottled potable water would be brought to the project site for drinking needs for construction workers. Water demand during construction of the proposed project would be approximately 500 AF over a 10 to 14-month period, and would primarily be used for soil compaction and dust control (Environment and Ecology, Inc., 2020). During construction, water would be supplied by AVEK and would be collected from wells located onsite and owned by AVEK. AVEK has existing water rights in excess of the supply needed for construction activities. Therefore, no relocation or construction of new or expanded water facilities would be required and impacts would be less than significant.

Wastewater

The project would generate a minimal volume of wastewater. During construction activities, wastewater would be contained within portable toilet facilities and would be trucked offsite and disposed of at an approved disposal site. The Kern County Environmental Health Services Division is responsible for monitoring the use of portable toilet facilities, and a condition of approval would require the project proponent to provide documentation of a portable toilet pumping contract. No offsite sewage or disposal connections to a municipal sewer system exist or are proposed. Therefore, no relocation or construction of new or expanded wastewater or wastewater treatment facilities would be required and no impact would occur.

Stormwater Drainage

The project site and the surrounding area are presently drained by natural drainage channels, and sheet flow and does not rely on constructed stormwater drainage. Streams and drainage at the project site and in the surrounding area are ephemeral. The existing pattern and concentration of runoff could potentially be altered by project activities. Wherever feasible, at-grade crossing for access roads would be constructed to minimize impacts on existing drainage courses. The majority of the project development would be on gravel pads and dirt roadways using at-grade crossings, which may act similar to impervious surfaces and encourage sheet flow. The amount of new impervious surface would be less than 1 percent of the project area and would not substantially increase the rate or amount of surface runoff (Kimley Horn, 2020). These changes would not substantially increase the amount of storm water runoff from the project site. Further evaluation of the storm water drainage of the site can be found in Section 4.10, *Hydrology and Water Quality*, of this EIR.

In compliance with National Pollutant Discharge Elimination System (NPDES) General Construction Permit requirements, the proposed project would design and submit a site-specific Storm Water Pollution Prevention Plan (SWPPP) to minimize the discharge of wastewater during construction and a Water Quality Management Plan that include best management practices (BMPs) for runoff control.

Therefore, the proposed project is not expected to exceed the capacity of existing storm water drainage systems in the and relocation or construction of new or expanded stormwater drainage facilities would not be required. Impacts would be less than significant.

Electric Power

No electrical facilities are located on the project site as the project site is currently vacant. Electricity is not expected to be consumed in large quantity during project construction, as construction equipment and vehicles are not electric (diesel- or gas-powered). However, electricity is expected to be consumed from water use during construction. Electricity for construction would be provided by SCE and a hookup would be installed on the project site. Because construction of the project would not displace existing electrical facilities, and would tie into existing off-site facilities, relocation of electrical facilities would not be required. During construction, installation of the new electrical infrastructure would create a temporary environmental disturbance, however, since the electrical power lines would be placed underground for the duration of operation and maintenance, the impact would be less than significant.

Natural Gas

No natural gas pipelines are located on the project site, nor would natural gas be required for project construction. Therefore, relocation or construction of new or expanded natural gas facilities would not be required and impacts would be less than significant.

Telecommunications

No existing telecommunication facilities are located onsite. During construction, cellular or satellite communication technology may be used for both internet and telephone systems, which would not require construction of new telecommunication facilities.

The project would require telecommunications facilities to meet the communication requirements for interconnecting with one of the existing substations associated with the proposed gen-tie options and to support project operations during monitoring. Fiber optic communication lines would follow the electrical collector system. The communication lines would link each solar inverter module to the appropriate substation, which would house the supervisory control and data acquisition (SCADA) system. Wireless or hard-wired (land line) systems for operational use during completion of electrical construction activities. Since construction of the fiber optic communication lines would follow the electrical collector system and land line systems would also follow the electrical collector system, relocation of telecommunication facilities would not be required. The construction of new telecommunication facilities would occur on vacant land and, thus, construction of such facilities would not result in environmental impacts. Therefore, impacts would be less than significant.

Operation

Water

Water demand during operation of the proposed project would be up to 19 AFY of water for operations and maintenance (O&M) activities, including equipment and panel washing, sanitary and non-sanitary uses, and other miscellaneous water uses (Environment and Ecology, Inc., 2020). However, panels may need to be washed more frequently. Conditions that may necessitate increased wash requirements include unusual weather circumstances, forest fires, local air pollutants and other similar conditions. As such, the project may use up to 20 AF per year for the explicit use of washing panels. Water would be supplied by AVEK and would be collected from wells located on the project site. AVEK has existing water rights in excess of the supply needed for O&M activities. As mentioned above, bottled water would be provided for potable water demand. Therefore, operation of the project would not require the relocation or construction of new or expanded water facilities such that a significant impact would occur, and operational impacts would be less than significant.

Wastewater

No permanent onsite staff are proposed, and the installation of a septic system would not be required. Maintenance personnel are expected to visit the project site several times a year for routine maintenance. No offsite sewage or disposal connections to a municipal sewer system exist or are proposed. Therefore, no relocation or construction of new or expanded wastewater or wastewater treatment facilities would be required and no impact would occur.

Stormwater Drainage

The design of the proposed project is such that storm water would remain onsite and infiltration and runoff would occur similar to existing conditions. Under existing conditions, water moves through the project site via sheet flow at a low flow rate (Kimley Horn, 2020). To the maximum extent possible, new site features that are considered pervious or impervious include compacted native roads, fence posts or fence post footings, and PV modules, which will be elevated above the ground on racking systems and will shed precipitation onto the existing native soil blow, where runoff will infiltrate or runoff similar to existing conditions, thereby not changing the existing drainage or affecting flow within the project site (Kimley Horn, 2020). Site development elements would be required to meet grading and site development requirements (Kern County Development Standards (KCDS) Section 408-1, Kern County Grading Code, Chapter 17.28), such as minimizing cuts and fill slopes to reduce risk for erosion, grading of buildings sites and pads to direct flows to stormwater facilities such as a retention basin, and permanent erosion control measures, as appropriate. The project applicant anticipates developing one or more retention basins on the project site to meet Kern County drainage requirements due to new impervious surfaces in areas with compacted soil such as roads and solar array areas (Kimley Horn, 2020). The amount of new impervious surface would be less than 1 percent of the project area and would not substantially increase the rate or amount of surface runoff (Kimley Horn, 2020). However, with implementation of Mitigation Measure MM 4.10-1, in Section 4.10, Hydrology and Water Quality, a drainage plan would be developed that would include measures to offset increases in stormwater runoff caused by the project. As noted above, there are no existing storm water drainage systems in the vicinity of the project; thus, the proposed project would not exceed the capacity of an existing storm water drainage system. Therefore, relocation or construction of new or expanded stormwater drainage facilities off-site would not be required during operation. Impacts would be less than significant with implementation of Mitigation Measure MM 4.10-1.

Electric Power

Project operation would generate 291 MW of renewable electrical energy that would help to reduce or offset electricity on the state-wide utility grid. The existing infrastructure (associated with the gen-tie options) has adequate capacity to accept the additional 291 MW that would be generated by the project without modifications. The use of transportation fuel would be minimal and are predominately associated with worker commute trips and occasional panel washing activities. As described in Section 4.6, *Energy*, of this DEIR, operation of the project would consume 80,615 kWh of electricity for water conveyance for panel cleaning, which is approximately 0.0001 percent of the total electricity consumption in the SCE service area in 2019. Total annual electricity generation is estimated to be 534,433 MWh, which more than offsets the energy consumed annually to operate the project. Therefore, relocation or construction of new or expanded electrical facilities would not be required during operation and impacts would be less than significant.

Natural Gas

No natural gas facilities would be required for operation of the project. The project includes a solar array and battery storage station that would not require heating from natural gas during operation. Therefore, operation of the project would not require the relocation or construction of new or expanded natural gas facilities and no impact would occur.

Telecommunications

The project would require telecommunications facilities to meet the communication requirements for interconnecting with one of the existing substations associated with the proposed project and to support project operations during monitoring. During operation, the SCADA system would allow individual solar inverter modules and other project elements to be monitored and controlled from remote locations. Additional fiber optic lines required for the operational phase of the project would be located in proximity to the other telecommunication facilities and would not result in additional demand such that the construction of off-site facilities would be required. Therefore, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure MM 4.10-1 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.10-1, impacts would be less than significant.

Impact 4.16-2: The project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

Water requirements for the project during construction and operation were determined in the *Water Supply Assessment Technical Memorandum* prepared for the project (see Appendix J of this EIR). The project's construction water demand is estimated to be 500 AF for a 12-month construction period and approximately 19 AF annually for the operational life of the project (approximately 35 years). Bottled potable water for

drinking and domestic will be made available for staff. Water will be pulled from onsite wells for use during construction, operation, and decommissioning. The water quantity required during decommissioning is unknown at present but is anticipated to be similar to construction water demands and like construction will be a temporary use.

In addition, a will-serve letter received by AVEK in March 2018 indicated that the water supplier has sufficient water supply to meet the construction and operation demand for the proposed project. On January 9, 2020, the March 2018 will-serve letter with the original quantities, stated above, was confirmed in a telephone call with Matthew Knudson from AVEK (Ecology and Environment, Inc., 2020). As such, the proposed project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.16-3: The project would generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

Construction

It is anticipated the project would not generate substantial amounts of non-recyclable waste during construction. Currently, the project site is primarily vacant with scattered abandoned structures located east of 90th Street, north of west Avenue A, west of 70th Street West and South of Roasmond Avenue in Rosamond, Kern County, California (Terracon, 2020). The existing vacant structures, with the exception of the residential and agricultural buildings on Raceway 2.0 Solar Site 2 (APN 374-020-55), are proposed to be demolished and removed in compliance with applicable Kern County Building code requirements.

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 in wood and cardboard materials. The shipping containers for module deliveries would be recycled and are not anticipated to generate non-recyclable waste. Common construction waste may include metals, masonry, plastic pipe, rocks, dirt, cardboard, or green waste related to land development. Any hazardous waste generated during construction would be disposed of at an approved location.

Non-hazardous construction refuse and solid waste would either be collected and recycled or disposed of at a transfer station or local landfill. The Mohave-Rosamond Sanitary Landfill (approximately 12 miles to the northeast of project site) is the closest landfill to the project site and, therefore, would be the most likely recipient of project site solid waste prior to disposal at the Tehachapi Sanitary Landfill. The Mohave-Rosamond Landfill has a remaining capacity of 76,310,297 cy with an anticipated closure year of 2123 (CalRecycle, 2019). The landfill is a Class III landfill and, therefore, accepts 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 to existing landfills are anticipated to be less than significant.

Operation

During operation, little to no solid waste would be generated. The only waste generated onsite would result from maintenance activities which are anticipated to be relatively minor. No permanent employees would be required onsite. 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 generated during project operation, thereby further reducing solid waste generated during operation. Therefore, impacts related to landfill capacity would be less than significant.

Decommissioning

Solar PV panels have a lifespan of over 35 years, after which the land could be converted to other uses in accordance with applicable land use regulations in effect at that time. Solar PV panels contain valuable materials that would likely be reused and recycled at the end of their useful life. Solar panel manufacturers have identified that approximately ninety percent of materials in solar panel modules can be recycled. Decommissioning of the gen-tie line route would not generate substantial amounts of solid waste. As stated above, the Mohave-Rosamond Landfill is expected to be in operation through 2123 and would serve as a solid waste disposal location during project decommissioning. Per Mitigation Measure MM 4.16-1, 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 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.

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. A Recycling Coordinator shall be designated by the project proponent/operator to facilitate recycling as part of the Construction, Operation and 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 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 and decommissioning. A site plan showing the recycling storage area for construction 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.

Impact 4.16-4: The project would not comply with Federal, State, and Local management and reduction statutes and regulations related to solid waste.

The project would generate solid waste during construction and operation. 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 (Kern County, 2018).

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 proposed project would be required to comply with all federal, State, and local statutes and regulations related to the handling and disposal of solid waste. Therefore, implementation of the project would result in less-than-significant impacts regarding compliance with management and reduction statutes and regulations related to solid waste.

Mitigation Measures

Implementation of Mitigation Measure MM 4.16-1 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.16-1, impacts would be less than significant.

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, solid waste disposal, electricity, natural gas, and telecommunications includes the projects that would be relying on the same facilities and infrastructure. Impacts of the proposed project would be cumulatively considerable if the incremental effects of the proposed project when combined with other past, present, or reasonably foreseeable projects (listed in Table 3-9, *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 proposed project and nearby other solar and wind energy projects, thereby limiting the potential to contribute to demand for a particular service.

As described above, the proposed project would place few demands on water, wastewater, stormwater drainage, solid waste disposal (during construction and operation), electricity, natural gas, and telecommunications.

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. Given the limited water supply in the area, other projects are expected to either rely on new or existing wells to collect 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 Basin would be required to obtain water from water purveyors that have existing water rights within the Basin, or would be required to apply for new water rights from the Antelope Valley Watermaster. New water rights may or may not be granted. Any projects that cannot secure a water supply would not move forward to construction or operation. 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 is not expected to generate a significant amount of wastewater. Wastewater produced during construction would be collected in portable toilet facilities and disposed of at an approved facility. No permanent onsite staff are proposed and the installation of a septic system would not be required. Maintenance personnel are expected to visit the project site several times a year for routine maintenance. Therefore, the proposed 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, there are no constructed stormwater drainage systems present onsite and stormwater on the project site either percolates onsite or drains offsite via sheetflow. The existing pattern and concentration of runoff could potentially be altered by project activities, such as the introduction new site features. To the maximum extent possible, new site features that are considered pervious or are impervious include compacted native roads, fence posts or fence post footings, and PV modules, which will be elevated above the ground on racking systems and will shed precipitation onto the existing native soil below, where runoff will infiltrate or runoff similar to existing conditions, thereby not changing the existing drainage or affecting flow within the project site (Kimley Horn, 2020). In compliance with National Discharge Elimination System (NPDES) General Construction Permit requirements, the proposed project would design and submit a site-specific SWPPP to minimize the discharge of wastewater during construction. In accordance with Mitigation Measure MM 4.10-1, the proposed project would implement a drainage plan that would incorporate measures to offset increases in stormwater flows caused by the project. 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 best management practices (BMPs), as well as comply with the NPDES General Construction Permit and their respective SWPPP as applicable.

Cumulative projects would also be required to prepare a drainage plan that would help avoid substantial increases of stormwater generated onsite by their respective ground disturbance. Depending on the findings of their respective drainage plans, these projects may need to construct stormwater control structures onsite to reduce the potential for increased stormwater runoff. Therefore, the project would not substantially contribute to a cumulatively impact on stormwater drainage facilities.

Solid Waste

The proposed project would generate a minimal amount of waste and is not expected to significantly impact Kern County landfills. Although the Tehachapi Landfill is expected to cease operation in 2020, the Mojave-Rosamond Landfill is expected to operate until 2123 (CalRecycle, 2019a). However, generation of waste from cumulative projects, including other solar and wind projects, could result in a cumulative impact. To ensure that the proposed project reduces the amount of waste sent to landfills, implementation of Mitigation Measure MM 4.16-1 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. With implementation of MM 4.16-1, the project's incremental contribution would be less than cumulatively considerable. Furthermore, other cumulative projects would also be required to comply with State and local waste reduction policies.

Electricity

There are no existing electrical facilities on site. The proposed project would include construction of a collector line that would tie into existing facilities and provide 291 MW of renewable electrical energy to the state-wide utility grid. Electricity demand of the project would be minimal and would be provided by the onsite PV system. This project in combination with other cumulative solar projects in East Kern County would help to reduce or offset electricity on the state-wide utility grid and therefore provide a beneficial cumulative impact on electrical demand and facilities.

Natural Gas

There are no existing natural gas facilities on the project site nor would natural gas be required for construction and operation of the project. Therefore, the project would not contribute to a cumulatively considerable impact related to natural gas demand and facilities.

Telecommunications

The proposed project in combination with cumulative projects would increase demand on telecommunication facilities. However, demand associated with energy projects and other cumulative development would be minimal and is expected to be within the planning forecasts of the affected telecommunications provider. Therefore, cumulative impacts related to telecommunications facilities would be less than significant.

Conclusion

In conclusion, the proposed project would not have a significant impact on public utilities. The incremental effects of the proposed project would also not be substantial enough to result in a cumulatively considerable impact on utilities and service systems with implementation of Mitigation Measures MM 4.10-1 and MM 4.16-1. Furthermore, the proposed project would result in a beneficial impact on utility services and offset future stress on energy service providers as energy demand grows in Kern County and Southern California.

Mitigation Measures

Implementation of Mitigation Measures MM 4.10-1 and MM 4.16-1 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.10-1 and MM 4.16-1, cumulative impacts would be less than significant.

4.17.1 Introduction

The following section discusses potential impacts related to wildland wildfire impacts. The analysis in this section is based on the project plans, California Department of Forestry and Fire Protection (CAL FIRE) and Kern County Fire Hazards Severity Zone Maps.

4.17.2 Environmental Setting

Site Characteristics and Fire Environment

The California Department of Forestry and Fire Protection (CAL FIRE) maps Fire Hazard Severity Zones (FHSZs), based on factors such fuel, slope, and fire weather to identify the degree of fire hazard throughout California (i.e., moderate, high, or very high). While FHSZs do not predict when or where a wildfire will occur, they do identify areas where wildfire hazards could be more severe and therefore are of greater concern. According to the CAL FIRE, Kern County Fire Hazards Severity Zone Maps for the Local Responsible Areas, the project site is classified as Local Responsibility Area (LRA) Moderate (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. Moderate zones are typically wildland supporting areas of low fire frequency and relatively modest fire behavior. The project site is not within a State Responsibility Area (SRA). The project site primarily consists of sparse desert vegetation. Existing development in the project vicinity includes rural access roads, scattered rural residences, agricultural grazing, undeveloped land, and several approved or proposed large-scale solar facilities. Several commercial wind projects are also operating north of the Whirlwind Substation. The area to the west of the project site is categorized as SRA Moderate (see Figure 4.17-2, *Fire Hazard Severity Zones for State Responsibility Areas*).

Fire History

Fire history information can provide an understanding of fire frequency, fire type, most vulnerable project areas, and significant ignition sources. Fire history represented in this section uses CAL FIRE's California Statewide Fire Map that shows fires back through 2013 (CAL FIRE 2020) and CAL FIRE's Fire and Resource Assessment Program (FRAP) Fire Perimeters: Wildfires 1950-2018 map (CAL FIRE 2019). Based on a review of these maps, no fires in the recorded history have burned across the project site.

Vegetation (Fuels)

A total of 20 plant species were identified on or adjacent to the project site during the biological surveys conducted by Ecology and Environment, Inc. in 2017. Three vegetation communities and land cover types occur within or adjacent to the project site, which include agriculture, annual grasses, and forbs (Ecology 2017).







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A description of the vegetation communities and land cover types are provided below. Acreages of vegetation communities and land cover types are provided in **Table 4.17-1**, *Vegetation Community or Land Cover Type on and adjacent to the Project Site*. The acreage of these areas exceed the proposed project acreage because they include adjacent lands.

TABLE 4.17-1:	VEGETATION COMMUNITY OR LAND COVER TYPE ON AND ADJACENT TO THE
	PROJECT SITE

Vegetation Community or Land Cover Type	Acreage
Agriculture	1,987.8
Alkaline mixed scrub	344.5
Annual grasses and forbs	2,134.8
Creosote Bush Scrub	1.9
Joshua Tree woodland	2.0
Rabbitbush Scrub	564.2
Desert Saltbrush Scrub	7.9
Shadscale	6.2
Urban/Developed	769.5

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 include emergency and standby power systems, electrical equipment, wiring and hazards, and stationary storage battery systems. Chapter 33 (Fire Safety During Construction and Demolition) of the Code outlines general fire safety precautions to maintain required levels of fire protection, limit fire spread, establish the appropriate operation of equipment and promote prompt response to fire emergencies. The Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire service features such as fire

apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas.

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 is subject to the provisions of the Willow Springs Specific Plan. The Willow Springs Specific Plan, drafted in 1992 and adopted in April 2008, 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 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.

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 2019 California Fire Code with some amendments.

Kern County Fire Department Wildland Fire Management Plan

The KCFD Wildland Fire Management Plan adopted in 2009 assesses the wildland fire situation throughout the SRA within the County. The Plan includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan systematically assesses the existing levels of wildland protection services and identifies high-risk and high-value areas, which are potential locations for costly and damaging wildfires. The plan also ranks the areas in terms of priority needs and prescribes what can be done to reduce future costs and losses. The project site is located within a moderate fire hazard severity zone (KCFD, 2009).

Kern County Fire Code

Chapter 17.32 of the Kern County Municipal Code details the Kern County Fire Code, which is an adoption of the 2019 California Fire Code and the 2015 International Fire Code with some amendments. The purpose of the Kern County Fire Code is to regulate the safeguarding of life, property, and public welfare to a reasonable degree from the hazards of fire, hazardous materials release and/or explosion due to handling of dangerous and hazardous materials, conditions hazardous to life or property in the occupancy and use of buildings and premises, the operation, installation, construction, and location of attendant equipment, the installation and maintenance of adequate means of egress, and providing for the issuance of permits and collection of fees therefore (Kern County, 2017).

Kern County Fire Department Unit Strategic Fire Plan

The KCFD Unit Strategic Fire Plan, adopted in March of 2018 is the most current document that assesses the wildland fire situation throughout the SRA within the County. Similar to other plans, this document includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan provides for a comprehensive analysis of fire hazards, assets at risk, and level of services to systematically assess the existing levels of wildland protection services and identifies high-risk and high-value areas that are potential locations for costly and damaging wildfires. Additionally, the plan provides an annual report of unit accomplishments, which, in 2017, included completion of a number of fuel reduction projects, hosted three wildfire safety expos in battalions 1,5, and 7, and the award of three SRA fuel reduction grants for a total of \$500,000. The plan gives an overview of KCFD Battalions and ranks these areas in terms of priority needs as well as identifies the areas of SRA. According to the plan, 69 percent of Kern County areas are within a SRA. The County is broken up into six different fuel management areas, Tehachapi, Western Kern, Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley. The project site is located within Battalion 1 (Tehachapi) which is within a moderate fire hazard severity zone within the Tehachapi fire plan management area (KCFD, 2018).

Fire Prevention Standard No. 503-507 Solar Panels

The Kern County Fire Department Fire Prevention Division adopted Standard No. 503-507 Solar Panels (Ground Mounted, Commercial & Residential) on March 27, 2019. The standard is implemented in accordance with the 2016 CFC and Kern County Ordinance and is an official interpretation of the Kern County Fire Marshal's Office. The standard outlines installation requirements for photovoltaic ground-mounted and roof-mounted solar panels. The proposed project would mount systems for the modules on steel support posts that would be pile driven into the ground and would therefore comply with the ground mounted requirements of this fire prevention standard. Ground mounted solar panel requirements of this standard include water supply, clearance and combustibles, stationary storage battery/energy storage systems, clean agent system permits, fire extinguisher placement, and emergency vehicle access (KCFD, 2019c).

4.17.4 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 proposed project's potential impacts associated with wildfires have been evaluated using a variety of resources, including CAL FIRE maps showing FHSZs, FRAP, and fire history, vegetation data from the Biological Resources Technical Report (Ecology 2017), Cultural Resources Survey Report (BCR 2018), Preliminary Hydrology Report (Horn 2017), project location maps, and project characteristics. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the CEQA *Guidelines*, to determine if a project could potentially have a significant impact with respect to Wildfires.

A project would have a significant impact with respect to wildfires if it would be located in or near state responsibility areas or lands classified as very high fire hazard severity zones, and if the project would:

- a. Substantially impair an adopted emergency response plan or emergency evacuation plan;
- b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;
- c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment;
- d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire instability, or drainage changes.

Project Impacts

Impact 4.17-1: 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 site is located in a rural, sparsely developed area with limited population. The project site is not located along an identified emergency evacuation route and is not identified in any adopted emergency evacuation plan. Also in compliance with applicable Fire Code and Building Code requirements, construction managers and personnel would be trained in fire prevention and emergency response. Fire suppression equipment specific to construction would be maintained on site. Additionally, project construction would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials. Therefore, the project would not conflict with the implementation of, or physical interference with, an adopted emergency response plan or emergency evacuation plan and impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Impact 4.17-2: 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. Upslope topography eventually increases the spread rate of the fire in all fuel beds over flat conditions (International Journal of Wildland Fire 2002, 2010). As described in Chapter 3, *Project Description*, elevations across the project site range from approximately 2,800 feet above mean sea level (msl) in the northern portion of the site to approximately 2,300 feet above

msl in the southern portion of the site; thus, the site's topography has a gentle slope to the south. While the proposed project would introduce temporary onsite employees and up to 2 to 4 permanent offsite employees, it would not introduce any permanent occupants that could be exposed to pollutant concentrations from wildfire. Furthermore, the project site is classified as a LRA and FRA Moderate and is outside of areas identified by CAL FIRE as having substantial or very high risk. Thus, the potential for wildfire on the project site is considered low. Additionally, project construction would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials. Given the moderate potential for fire and the lack of permanent occupants, the project is not anticipated to expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire due to slope, prevailing winds and other factors. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be 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.

The proposed project includes several options for gen-tie routes as described in Chapter 3, *Project Description*, of this EIR, although only one route would be constructed. The selected gen-tie would be constructed within its 150-foot-wide corridor and would consist of the utility poles, cabling, trenches, and a corresponding dirt maintenance road. A buried 34 kV collector system would connect to the inverters of each array. Power generated on the project site would be collected at an onsite substation and converted from 34 kV to 230 kV of power for transmission in an overhead or underground line into the SCE transmission system and interconnection location.

The combined energy of the solar field would ultimately transfer to the Big Sky North Substation or the proposed LADWP Substation, and join via a ring bus assembly with other projects for ultimate delivery of electrical power and communications. All utility poles, cabling, trenches, and corresponding dirt maintenance road associated with the gen-tie line would be erected inside the limits of the corridor, which would be maintained during operations and therefore, would not exacerbate fire risk that could result in temporary or ongoing impacts to the environment.

Additionally, new project site access roads would be installed within the project site, as well as a 15 to 20foot-wide internal maintenance roads and a minimum 20-foot-wide perimeter road around the solar arrays, which would be cleared and compacted for equipment and emergency vehicle travel and access to the solar blocks. These project site access roads would remain in place for ongoing operations and maintenance activities after construction is completed. All new roads would comply with development requirements for emergency access, and therefore, would not exacerbate fire risk that could result in temporary or ongoing impacts to the environment. Most fires in the desert are caused by lightning or vehicles. The installation of the gen-tie and electrical collector system and internal/perimeter dirt maintenance roads would not be placed within a high fire hazard zone, and the vegetation would be cleared; therefore, the proposed project would not result in increased fire risks that could result in temporary or ongoing impacts to the environment. Additionally, as discussed in Section 4.13, *Public Services*, the project proponent/operator shall develop and implement a Fire Safety Plan that contains notification procedures and emergency fire precautions consistent with the 2019 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.

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.

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 instability, or drainage changes.

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 Stormwater Pollution Prevention Plan (SWPPP), which would include erosion and sediment control BMPs during construction, thereby reducing the potential of erosion and siltation during construction and would control potential flooding events that could occur during construction. Additionally, the proposed new impervious surfaces would generate additional stormwater runoff onsite, albeit in minor quantities compared to existing conditions. However, this could exacerbate potential erosion and sedimentation onsite or downstream. As discussed in Section 4.10, Hydrology and Water Quality, Kern County requires development of a drainage plan with the site development grading permit, which will manage stormwater and reduce the risk for offsite impacts due to erosion and impacts on water quality, as implemented by Mitigation Measure MM 4.10-1. Design measures are intended to minimize or manage flow concentration and changes in flow depth or velocity so as to minimize erosion, sedimentation, and flooding on or off site. One element of the drainage plan is a retention basin to manage facility stormwater. The majority of the project development would be on mowed lands; however, in some limited 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 less than 1 percent of the project area and would not substantially increase the rate or amount of surface runoff. The project proponent anticipates constructing one or more retention basins to manage stormwater due to new impervious surface in areas with compacted soil such as roads, solar array areas, battery storage containers, and the substation. Implementation of Mitigation Measure MM 4.10-1 would minimize potential increases in runoff and ensure that the retention basins and other stormwater management features are implemented to minimize erosion and sedimentation to less than significant.
A majority of the offsite flow that enters the project site would continue to sheet flow from the northwest to the southeast with no impacts from development of the project. Furthermore, the soil types onsite have high infiltration rates and low runoff potential when thoroughly wet.

The project site is located on a gentle south-facing slope below the Tehachapi Mountains on an alluvial fan. Based on the fire history immediately surrounding the site, moderate zone designation, soil types, and surface hydrology, there is a low potential for the project site to be at risk of post-fire instability or drainage changes.

While the project would introduce new structures to the project site, the structures would not be placed in a highly flammable landscape. Furthermore, with the implementation of Mitigation Measure 4.10-1, any potential impacts from runoff and erosion would be minimized. Therefore, the project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Impacts would be less than significant.

Mitigation Measures

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.

Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for wildfire impacts is considered the Antelope Valley. This geographic scope was selected because the land within the region possesses relatively similar uses, including sparse desert vegetation, rural access roads, scattered rural residences, producing and non-producing water wells, cattle ranching and maintenance facilities, mining, wind and solar energy uses. As shown in Chapter 3, *Project Description*, Table 3-9, *Cumulative Projects List*, there are approximately 19 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. Of the approximately 19 total projects in Kern County, 12 would be located within 6 miles of the project site and 7 would be located within 1 mile of the project site.

With regard to impairment of an adopted emergency response plan or emergency evacuation plan, all of the related projects would be required to provide adequate emergency access in accordance with County Fire Code and Building Code requirements and prior to the issuance of a building permit. As previously mentioned, the project site is not classified as being within a high fire hazard severity zone, is located in rural, sparsely developed areas with limited population, is not located along an identified emergency evacuation route or within an adopted emergency evacuation plan, and would be in compliance with Fire Code and Building Code requirements including fire prevention and emergency response training for site personnel. As concluded in the discussion of project impacts above, the project would have a less than significant impact related to impairment of an adopted emergency response or evacuation plan. Similar to the project, related projects would be required to determine whether they are classified as being within a high fire hazard severity zone, identified within an emergency evacuation route or within an adopted emergency access and an emergency evacuation route or within an adopted emergency severity zone, identified within an emergency evacuation route or within an adopted emergency 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. Nevertheless, given the location in a rural area and limited infrastructure, the project and related projects have the potential to result in a cumulative impact to an

adopted emergency response plan or emergency evacuation plan and, thus, would result in a significant and unavoidable cumulative impact.

With regard to cumulative impacts related to exposure of project occupants to pollutant concentrations from a wildfire, while the proposed project is not within SRAs and/or High 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 occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Nevertheless, given the location in a rural area and limited infrastructure, the project and related projects have the potential to result in a cumulative impact related to exposure of project occupants to pollutant concentrations from a wildfire and, thus, would result in a significant and unavoidable cumulative impact.

Related projects may require associated infrastructure such as roads, fuel breaks, and power lines that could exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. These projects would be reviewed by Kern County for land use and zoning consistency and compliance with applicable requirements, and potentially analyzed for environmental impacts. The placement of infrastructure would adhere to all fire codes to minimize the potential fire risk such as siting and design. The proposed project would involve the installation and maintenance of a gen-tie line and access roads to support project construction and ongoing maintenance and operation. While the potential for fire is considered moderate, Mitigation Measure 4.13-1 would be implemented to ensure that a Fire Safety Plan is prepared that contains notification procedures and emergency fire precautions consistent with the 2019 California Fire Code and Kern County Fire Code for use during construction, operation and decommissioning. Nevertheless, given the location in a rural area and limited infrastructure, the project and related projects have the potential to result in a significant and unavoidable cumulative impact.

Some related projects could be proposed in areas that could expose people or structures to risks from downslope or downstream flooding or landslides as a result of post-fire instability. Based on the recent fire events in California, all projects would be required to adhere to Kern County's zoning and land use designations and codes, State and local fire codes, and regulations associated with drainage and site stability. These regulations, policies, and codes would reduce the potential for exposing people or structures to risks from downslope or downstream flooding or landslides as a result of post-fire instability. Each project would require site-specific hydrology and drainage studies for effective drainage design. As concluded in the discussion of project impacts above, with the implementation of Mitigation Measure MM 4.10-1, the project would not expose people or structures to significant risks due to post-fire slope instability or drainage changes and would have a less-than-significant impact. Nevertheless, given the location in a rural area and limited infrastructure, the project and related projects have the potential to result in a cumulative impact related to exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.

Mitigation Measures

Implement Mitigation Measures MM 4.10-1 and MM 4.13-1.

Level of Significance after Mitigation

Even with implementation of Mitigation Measures MM 4.10-1 and MM 4.13-1, impacts would remain significant and unavoidable.

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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
- Recreation
- Population and Housing

The NOP/IS determined that there are no mineral resources of regional or statewide significance or mining districts located within the project area. Kern County contains numerous mining operations that extract a variety of materials, including sand and gravel, stone, gold, dimensional stone, limestone, clay, shale, gypsum, pumice, decorative rock, silica, and specialty sand. However, due to the fact that the project is not located near known mineral resources, it would have no significant impact on future mineral development. Additionally, based on a review of California Geological Survey publications, portions of Kern County are rich in mineral deposits. Although some properties near the project site support aggregate mining operations (i.e., Golden Queen Mine, Bobtail Mines, Middle Butte Mines), neither the Kern County General Plan nor the Willow Springs Specific Plan designate the site for mineral and petroleum resources activities (Map Code 8.4). Therefore, installation of the arrays would not preclude future on-site mineral resources development, nor would the project result in the loss of a locally important mineral resources recovery site. Therefore, the project would have no significant impact on future mineral development.

The NOP/IS determined that the proposed project would include up two to four full-time equivalent (FTE) employees whom would visit the project site several times per year or routine maintenance and PV module cleaning. Maintenance personnel would be expected to be drawn from the local labor force and would commute from their permanent residences to the project site. However, even if the maintenance employees were hired from out of the area and had to relocate to eastern Kern County, the minor addition of persons to this area would not result in a substantial increase in population in the area. Consequently, this would represent a minor increase in the number of users at local recreational facilities. As a result, the project would not directly or indirectly induce the development of any new housing or businesses, and there would not be a

detectable increase in the use of parks or other recreational facilities. No impacts to recreation would occur and no further analysis is warranted.

For all other resource areas, this EIR contains a comprehensive analysis of potential environmental impacts.

After further study and environmental review, as provided in this EIR, it was determined that project-level impacts in the following areas would be less than significant or could be reduced to less-than-significant levels with mitigation measures; however, these resource areas are evaluated in this EIR for their potential significance:

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

5.2 Significant Environmental Effects that Cannot Be Avoided

Section 15126.2(c) 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.

Impacts in the following areas would be significant and unavoidable.

Resources	Project Impacts	Cumulative Impacts
Aesthetics	Although implementation of mitigation measures would reduce the visual changes experienced at individual key observation point locations, there are no mitigation measures that would allow for the preservation of the existing visual character of the area; and the resultant visual impact is considered significant and unavoidable .	While other projects in the region would also be required to implement various mitigation measures to reduce impacts, the conversion of thousands of acres in a presently rural area to solar and wind energy production uses cannot be mitigated to a degree that impacts are no longer significant. Therefore, even with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-7, the project's contribution to significant impacts associated with visual character in the Antelope Valley would be cumulatively significant and unavoidable .
Agricultural Resources	As the project site is currently subject to a Williamson Act Contract, development of the project prior to expiration would conflict with the contract, was made to restrict the project site to agricultural and compatible uses. Therefore, the proposed project would require the cancellation of an open space contract made pursuant to the California Lands Conservation Act of 1965 for a parcel over 100 acres. No feasible mitigation is available to reduce impacts related to the cancellation of an open space contracts, therefore, impacts related to the cancellation of an open space contract would be significant and unavoidable .	The project would have cumulatively significant and unavoidable agricultural impacts related to the cancellation of a Williamson Act Contract after implementation of mitigation. Although mitigation would reduce the potential for any significant environmental impacts on adjacent properties, there are no feasible mitigation to reduce impacts related to the cancellation of a Williamson Act Contract. The proposed project would require the cancellation of an open space contract made pursuant to the California Lands Conservation Act of 1965 for a parcel over 100 acres. No feasible mitigation is available to reduce impacts related to the cancellation of Williamson Act Contracts, therefore, impacts related to the cancellation of an open space contract would be significant and unavoidable.
Air Quality	There would be no significant and unavoidable project impacts.	There are several alternative energy (wind and solar) projects being developed within the eastern Kern geographical area. From a site-specific, project-level operational review, these projects are required to comply with all rules and regulations of the Eastern Kern Air Pollution Control District. Impacts associated with operation of the proposed project are generally considered less than significant. However, given the total number of development proposals within the region, even with the implementation of Mitigation Measures MM 4.3-1 through MM 4.3-5, cumulative temporary construction impacts are considered significant and unavoidable .

 TABLE 5-1:
 SUMMARY OF SIGNIFICANT AND UNAVOIDABLE IMPACTS OF THE PROJECT

5-3

Resources	Project Impacts	Cumulative Impacts
Biological Resources	There would be no significant and unavoidable project impacts.	As development increases within Kern County, impacts to biological resources within the region are increasing on a cumulative level. When considered with other past, present, and probable future projects, which encompass Antelope Valley in the western Mojave Desert, the project would have an incremental contribution to a cumulative loss of foraging and nesting habitat for special-status species, as well as population-level migratory bird mortality, even with the implementation of project- specific mitigation measures. The loss of such habitat would result in a significant and unavoidable cumulative impact.
Noise	It is anticipated that there would be times during the project's construction and decommissioning activities that would result in a construction related noise impacts on adjacent sensitive receptors. Implementation of mitigation would reduce impacts to the extent feasible during construction activities. However, despite the implementation of mitigation, construction activities could generate noise greater than the standard for the Kern County General Plan and for short period of times, resulting in temporary construction impacts that would be considered significant and unavoidable .	There would be no significant and unavoidable cumulative impacts.
Wildfire	There would be no significant and unavoidable project impacts.	Despite implementation of mitigation, given the location in a rural area, 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.

 TABLE 5-1:
 SUMMARY OF SIGNIFICANT AND UNAVOIDABLE IMPACTS OF THE PROJECT

5.3 Irreversible Impacts

Section 15126.2(d) 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, 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(e) 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. Up to two to four full-time employees would be located at the project site at any given time. 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 Willow Springs, Rosamond or other local communities.

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

In *Kerncrest Audubon Society v. Los Angeles Department of Water and Power*, the analysis of growthinducing 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. This page intentionally left blank

6.1 Introduction

The California Environmental Quality Act (CEQA) requires that an EIR describe a range of reasonable alternatives to the project or to the location of the project that could feasibly avoid or lessen any significant environmental impacts of the project while attaining most of the project's basic objectives. An EIR also must compare and evaluate the environmental effects and comparative merits of the alternatives. This chapter describes alternatives considered but eliminated from further consideration (including the reasons for elimination), and compares the environmental impacts of several alternatives retained with those of the project.

The following are key provisions of the CEQA Guidelines (Section 15126.6):

- The discussion of alternatives shall focus on alternatives to the project or its site that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede, to some degree, the attainment of the project objectives, or would be more costly.
- The No Project Alternative shall be evaluated, along with its impacts. The no-project analysis shall discuss the existing conditions at the time the notice of preparation was published, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.
- The range of alternatives required in an EIR is governed by a "rule of reason." Therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project.
- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.
- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

The range of feasible alternatives is selected and discussed in a manner that fosters meaningful public participation and informed decision-making. Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in CEQA *Guidelines* Section 15126.6(f)(1)) are environmental impacts, site suitability, economic viability, social and political acceptability, technological capacity, availability of infrastructure, General Plan consistency, regulatory limitations, jurisdictional boundaries, and whether the project proponent could reasonably acquire, control, or otherwise have access to an alternative site. If an alternative has effects that cannot be reasonably identified, if its implementation is remote or speculative, and if it would not achieve the basic project objectives, it need not be considered in the EIR.

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)
- Agriculture and Forest Resources (cumulative only)
- Air Quality (cumulative only)
- Biological resources (cumulative only)
- Noise (project 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 result in potentially significant visual impacts to the existing visual quality or character of the site and surrounding area. The visual change associated with project development would be somewhat muted when viewed from a distance of greater than 0.5 miles. With distance, the effects associated with removal of vegetation from the project site would be masked by dense groupings of solar arrays. Similarly, thousands of solar arrays viewed from distance would begin to appear similar to other dark tones associated with distant terrain in the landscape. However, visual change would be evident from Rosamond Boulevard. Even with distance and diminished visibility, the visual change associated with the introduction of approximately 1,330 acres of solar development on currently undeveloped desert terrain would likely attract attention. Furthermore, the introduction of thousands of solar panels, the energy storage system (ESS) facilities, and the collection lines would increase the footprint of solar and electrical transmission development in the area. Solar and other renewable energy developments are generally concentrated to the west of SR-14, and the project would introduce additional manufactured elements where they do not currently dominate the landscape, resulting in significant aesthetic impacts.

Mitigation Measures MM 4.1-1 through MM 4.1-4 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. Additionally, 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.

Additionally, while other projects in the region would also be required to implement various mitigation measures to reduce impacts, the conversion of thousands of acres in a presently rural area to solar and wind energy production uses cannot be mitigated to a degree that impacts are no longer significant. Therefore,

even with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-7, where MM 4.1-5 through MM 4.1-7 would mitigate impacts related to glare, the project's contribution to significant impacts associated with visual character in the Antelope Valley would be cumulatively significant and unavoidable.

Agriculture and Forest Resources

Project implementation would result in the cancellation of a Williamson Act Contract, in non-renewal status, on two parcels. Although the project site includes 650 acres of land designated as "Prime Farmland," agricultural production has not taken place on the project site in the last 10 years. A commercial solar facility is not listed as a compatible use in the Williamson Act Standard Uniform Rules, as adopted by the Kern County Board of Supervisors; therefore, the project would not be consistent with the existing contract. The existing Williamson Act Contract on the project site parcels are set to expire. The project proponent has petitioned for cancellation of the Williamson Act Contract, pursuant to California Government Code Section 51282(a)(1), which pertains to cancellation of a Williamson Act in the public interest. Cancellation of a Williamson Act Contract is an option under the limited circumstances and conditions as set forth in Government Code Section 51280 et seq. In such cases, landowners may petition the Kern County Board of Supervisors for cancellation of a Williamson Act Contract. The Kern County Board of Supervisors may grant a tentative cancellation only if it makes the required statutory findings (Government Code Section 51282(a)). The Kern County Board of Supervisors would consider the project proponent's petition for cancellation of the Williamson Act Contract concurrent with the consideration of the necessary land use approvals, and review all information and data provided to determine if the two findings can be made and the cancellation can be granted. As the project site is currently subject to a Williamson Act Contract, development of the project prior to expiration would conflict with the contract, where impacts related to the cancellation of an open space contract would be significant and unavoidable. Because there is no feasible mitigation available to reduce project impacts related to the cancellation of Williamson Act Contracts, cumulative impacts would also be significant and unavoidable.

Air Quality

With project implementation, long-term increases in operational emissions of primary concern within the region (i.e., ROG, NO_X, CO, SO_X, PM₁₀, and PM_{2.5}) would be minimal and would not exceed applicable significance thresholds. However, construction and decommissioning of the project would result in temporary increases of PM₁₀ that would exceed Eastern Kern Air Pollution Control District's (EKAPCD's) significance thresholds. As a result, construction- and decommissioning-generated emissions along with other cumulative projects located within the project area, would exceed EKAPCD's significance thresholds. Of particular concern with regard to regional air quality impacts are emissions of PM_{10} , for which the region is designated nonattainment. The project would implement Mitigation Measure MM 4.3-1, which would require adherence to diesel emission-reduction measures during construction, which would serve to reduce PM emissions, as well as Mitigation Measure MM 4.3-2, which would require implementation of a dust control plan, which would serve to reduce fugitive PM emissions during construction. While implementation of these mitigation measures would reduce project impacts to a less than significant level, the development of the project in conjunction with other cumulative projects in the area would result in temporary cumulative construction emissions for PM_{10} emissions that would exceed EKAPCD's significance thresholds. For these reasons, cumulative regional air quality impacts associated with shortterm construction and decommissioning activities would be considered significant and unavoidable.

Biological Resources

There are a number of special-status species that currently utilize the project site and vicinity. Implementation of the project in addition to the other projects under way or proposed within Kern County would impact habitat for transient wildlife species, including burrowing owls, Swainson's hawk, loggerhead shrike, northern harrier, other raptors, migratory birds, American badger, 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, most 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 4.1-4 through MM 4.1-7, MM 4.4-1 through MM 4.4-10, MM 4.4-13, MM 4.9-3, and MM 4.10-1, when combined with related projects, the cumulative impact would be significant and unavoidable.

Noise

With project implementation, maximum noise levels generated by project construction equipment would range from approximately 73 to 85 dBA Lmax at a reference distance of 50 feet and average noise levels generated by project construction phases would range from approximately 70 to 92 dBA Leq at a reference distance of 50 feet. Sensitive land uses in the project site vicinity that would be exposed to project construction noise levels include the sparsely distributed residential dwellings that are in the vicinity of the project site. Chapter 8.36 of the Kern County Municipal Code includes established hours of construction and limitations on construction related noise impacts on adjacent sensitive receptors. Noise producing construction activities are prohibited between the hours of 9:00 p.m. and 6:00 a.m. on weekdays and 9:00 p.m. and 8:00 a.m. on weekends, when they are audible to a person with average hearing ability at a distance of 150 feet from the construction site, or if the construction site is within 1,000 feet of an occupied residential dwelling. Given the fact that construction activities could generate noise greater than the standard 65dB(a) for the Kern County General Plan and 55 dB(A) for short period of times, temporary construction and decommissioning impacts are considered significant and unavoidable. Implementation of Mitigation Measures MM 4.12-1 through MM 4.12-3 are designed to reduce impacts to the extent feasible during construction activities; however, impacts would still be significant and unavoidable.

Wildfire

With regard to impairment of an adopted emergency response plan or emergency evacuation plan, all of the related projects would be required to provide adequate emergency access in accordance with County Fire Code and Building Code requirements and prior to the issuance of a building permit. With regard to cumulative impacts related to exposure of project occupants to pollutant concentrations from a wildfire, while the proposed project is not within SRAs and/or High Fire Hazard Severity Zones, some related projects in the area may be. Related projects may also require associated infrastructure such as roads, fuel breaks, and power lines that could exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. Some related projects could be proposed in areas that could expose people or structures to risks from downslope or downstream flooding or landslides as a result of post-fire instability. However, these projects would be reviewed by Kern County for land use and zoning consistency and compliance with applicable requirements, and potentially analyzed for environmental impacts. The implementation of related projects would adhere to all fire codes to minimize the potential fire risk such as siting and design.

Furthermore, as previously mentioned, the project site is not classified as being within a high fire hazard severity zone, is located in rural, sparsely developed areas with limited population, is not located along an identified emergency evacuation route or within an adopted emergency evacuation plan, and would be in compliance with Fire Code and Building Code requirements. Nevertheless, given the location in a rural area and limited infrastructure, the project and related projects have the potential to result in a cumulative impact related to conflict with an adopted emergency response plan or emergency evacuation plan, exposing people to pollutant concentrations from a wildfire, the installation or maintenance of associated infrastructure, exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.

6.2 **Project Objectives**

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.

- Maximize renewable energy production and economic viability through the installation of solar PV panels on private lands with high solar insolation values.
- Locate the project on disturbed land or land that has been previously degraded from prior use.
- Minimize offsite impacts by using existing electrical distribution facilities, rights-of-way, roads, and other existing infrastructure where possible to minimize the need for new electrical support facilities.
- Minimize impacts to threatened or endangered species or their habitats, wetlands and waters of the United States, cultural resources, and sensitive land use.
- Generate substantial direct and indirect economic opportunities in Kern County during construction with the creation of "green" jobs.
- Minimize water usage.
- Assist the State of California in reducing fossil fuel air quality pollution and in achieving the greenhouse gas emission (GHG) reductions required by the California Global Warming Solutions Act (Assembly Bill 32) which requires the California Air Resources Board to reduce statewide emissions of GHGs to at least the 1990 emissions level by 2020. This timeline was updated in 2016 under Senate Bill 32, which requires that statewide GHG emissions are reduced to at least 40 percent below the statewide GHG emissions limit by 2030.
- Offset carbon dioxide that would have resulted from producing an equivalent amount of electricity utilizing generators powered by fossil fuels.
- Develop a viable source of clean energy to assist California and its utilities in fulfilling California's Renewable Portfolio Standard (RPS) Program. In October 2015, Governor Brown signed into law

Senate Bill 350, which establishes a new RPS for all electricity retailers in the state. Electricity retailers must adopt the new RPS goals of 50 percent of retail sales from renewables by the end of 2030. Senate Bill 100 (De León, also known as the "California Renewables Portfolio Standard Program: emissions of greenhouse gases") as approved by the California legislature and signed by Governor Brown in September 2018, increases RPS in 2030 from 50 percent to 60 percent and establishes a goal of 100 percent RPS by 2045.

• Use proven and established PV technology that is efficient and requires low maintenance.

6.3 **Overview of the Proposed Project**

The project proposes to develop a photovoltaic (PV) solar facility and associated infrastructure necessary to generate a combined 291 megawatts (MW) of renewable electrical energy and/or energy storage capacity in the form of advanced energy battery storage units (or energy storage system or ESS) on the 1,330-acre project site. The proposed project consists of six (6) discontinuous sites, each of which would contain solar and energy storage facilities, which together would comprise the project site (i.e. Raceway 2.0 Solar 1, Raceway 2.0 Solar 2, Raceway 2.0 Solar 3, Raceway 2.0 Solar 4, Raceway 2.0 Solar 5, and Raceway 2.0 Solar 6.). The Raceway 2.0 Solar 1 site is approximately 95 acres and would contain 15 MW of renewable energy generating solar facilities and associated structures; the Raceway 2.0 Solar 2 site is approximately 90 acres and would contain 20 MW of renewable energy generating solar facilities and associated structures; the Raceway 2.0 Solar 3 site is approximately 510 acres and would contain 106 MW of renewable energy generating solar facilities and associated structures; the Raceway 2.0 Solar 4 is site is approximately 315 acres and would contain 70 MW of renewable energy generating solar facilities and associated structures; the Raceway 2.0 Solar 5 site is approximately 240 acres and would contain 60 MW of renewable energy generating solar facilities and associated structures; and the Raceway 2.0 Solar 6 site is approximately 80 acres and would contain 20 MW of renewable energy generating solar facilities and associated structures. The project operator proposes that the project be built all at once as a single, 291-MW facility or, alternatively, developed as six independent facilities, depending upon market conditions. The power generated by the proposed project would be interconnected to an existing transmission network. The project has four interconnection options, although only one route would be constructed. In addition, the proposed project would include the construction of generation tie (gen-tie) line with four options (Option 1A and 1B, Option 2, Option 3, or Option 4) to interconnect the proposed project to the existing Southern California Edison (SCE) transmission system. Similar to the interconnection route, only one gentie option would be constructed.

The project's preferred and alternative gen-tie routes would interconnect to the existing SCE transmission system. The options of the proposed project are:

 Option 1A: Previously approved collector substation (Big Sky North Substation) – 100th Street West via Avenue A. Under this option, the proposed project would interconnect at a previously approved collector substation located at the approximate intersection of 100th Street West and Avenue G-12 (further north of Avenue H) in the City of Lancaster, Los Angeles County, via Avenue A and 100th Street West. The proposed project would interconnect via an approximately 10 to 12mile 34 kV and/or 230 kV gen-tie line originating at a DC collection system located at the southwestern portion of the project site. Electricity at the previously approved collector substation would ultimately be delivered to the existing Big Sky Substation (owned and operated by the applicant) located along West Avenue J and 100th Street West in the City of Lancaster.

- Option 1B: Previously approved collector substation (Big Sky North Substation) 100th Street West via 90th Street to Avenue A-8 to 95th Street to Avenue B. Under this option, the proposed project would interconnect at a previously approved collector substation located at the approximate intersection of 100th Street West and Avenue G-12 (further north of Avenue H) in the City of Lancaster, Los Angeles County, via 90th Street heading south to Avenue A-8, then west to 95th Street, then south to Avenue B, and west to 100th Street West. The proposed project would interconnect via an approximately 10 to 12-mile 34 kV and/or 230 kV gen-tie line originating at a DC collection system located at the southwestern portion of the project Site. Electricity at the previously approved collector substation would ultimately be delivered to the existing Big Sky Substation (owned and operated by the applicant) located along West Avenue J and 100th Street West in the City of Lancaster.
- Option 2: Previously approved collector substation (Big Sky North Substation) 110th Street. Under this option, the proposed project would interconnect at a previously approved collector substation located at the approximate intersection of 100th Street West and Avenue G-12 (further north of Avenue H) in the City of Lancaster, Los Angeles County, via Avenue A and 110th Street West. The proposed project would interconnect via an approximately 10 to 12-mile 34 kV and/or 230 kV gen-tie line originating at a DC collection system located at the project Site. Electricity at the previously approved collector substation would ultimately be delivered to the Big Sky Substation (owned and operated by the applicant) located along West Avenue J and 100th Street West in the City of Lancaster.
- Option 3: Previously approved collector substation (Big Sky North Substation) 80th Street West. Under this option, the proposed project would interconnect at a previously approved collector substation located at the approximate intersection of 100th Street West and Avenue G-12 (further north of Avenue H) in the City of Lancaster, Los Angeles County, via Avenue A and 80th Street West. The proposed project would interconnect via an approximately 10 to 12-mile 34 kV and/or 230 kV gen-tie line originating at a DC collection system located at the southwestern portion of the Project Site. Electricity at the previously approved collector substation would ultimately be delivered to the Big Sky Substation (owned and operated by the applicant) located along West Avenue J and 100th Street West in the City of Lancaster.
- <u>Option 4: Los Angeles Department of Water and Power (LADWP) Proposed Substation.</u> Under this option, the proposed project would interconnect at a planned LADWP substation in Kern County, located northwest of the project site, along Rosamond Boulevard near the intersection of Rosamond Boulevard and 110th Street West. An approximate 3-mile 34 kV and/or 230 kV gen-tie line originating at the DC collection system located at the northwest portion of the project site, would run north along 90th Street West, west along Rosamond Boulevard, and interconnect at the planned LADWP substation. This LADWP proposed substation is currently in the design phase and is scheduled to be built and constructed in 2021.

The project would include the following permanent components: solar PV generating facilities and solar modules; substations; operations and maintenance facility (O&M); an electrical collector system and inverters; gen-tie lines and an interconnection to the Statewide grid; telecommunication facilities; and site access and security measures. See Chapter 3, *Project Description*, of this EIR for a detailed project description.

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 photovoltaic (PV) solar facility and associated infrastructure required to generate a combined 291 megawatts (MW) of renewable electrical energy and/or energy storage capacity on the approximately 1,330-acre project site would not occur. No gen-tie lines would be constructed. The No Project Alternative would not require Conditional Use Permits (CUP) for construction and operation of a combined 291 MW solar and/or battery storage project with associated facilities on the six discontinuous sites which make up the total the project site. An amendment to the General Plan and Specific Plan 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: General Plan/Specific Plan and Zoning Build-Out Alternative

Alternative 2, the General Plan and Zoning Build-Out Alternative, would develop the project site to the maximum intensity allowed under the existing Kern County General Plan land use and zoning classifications. According to the Kern County General Plan, the project is located within land use designation of 4.1 (Nonjurisdictional land: Accepted county plan areas) (County of Kern, 2009). The accepted county plan land use designation applies to areas where specific land use plans have already been prepared and approved. The proposed project is located within unincorporated Kern County and within the jurisdiction of the Willow Springs Specific Plan. The project site is designated as Willow Springs Specific Plan Map Codes 7.1 (Light Industrial), 7.1/4.4 (Light Industrial/ Comprehensive Plan Required), 7.2 (Service Industrial), 7.2/4.4 (Service Industrial/ Comprehensive Plan Required), 5.5 (Residential, Maximum 1 units/net acre), 5.5/2.85 (Residential, Maximum 1 units/net acre/Noise Management Area), 5.6 (Residential, Maximum 2.5 gross acres/unit), 5.6/2.85 (Residential, Maximum 2.5 gross acres/unit/Noise Management Area), 5.3 (Residential, Maximum 10 units/net acre), 5.3/4.4 (Residential, Maximum 10 units/net acre/ Comprehensive Plan Required), 5.3/2.85/4.4 (Residential, Maximum 10 units/net acre/Noise Management Area/Comprehensive Plan Required), 5.4 (Residential, Maximum 4 units/net acre) and 5.4/2.85 (Residential, Maximum 4 units/net acre/Noise Management Area). Implementation of Alternative 2 would consist of developing the project site under the current land use classification of 4.1 (Willow Springs Specific Plan), where parcels designated as 5.3, 5.3/4.4, 5.4, 5.4/2.85 5.5, 5.5/2.85, 5.6, and 5.6/2.85 would be developed with residential uses specific to the requirements of

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defined for each residential designation. Parcels designated with 7.1, 7.1/4.4, 7.2, and 7.2/4.4 would be developed with the particular industrial uses defined for each industrial land use designation.

The project site has various zone classifications, which include: A FPS (Exclusive Agriculture – Floodplain Secondary Combining); E-2.5 RS FPS (Estate Residential – 2.5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining); E-2.5 RS MH FPS (Estate Residential – 2.5 acres Minimum – Residential Suburban Combining – Mobile Home Combining – Floodplain Secondary Combining); and OS (Open Space). Given that the zoning designation for the project site is A FPS (Estate Residential Suburban Combining – Floodplain Secondary Combining); E-2.5 RS FPS (Estate Residential – 2.5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining); E-2.5 RS FPS (Estate Residential – 2.5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-2.5 RS MH FPS (Estate Residential – 2.5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-2.5 RS MH FPS (Estate Residential – 2.5 acres Minimum – Residential Suburban Combining – Floodplain Secondary Combining), E-2.5 RS MH FPS (Estate Residential – 2.5 acres Minimum – Residential Suburban Combining – Mobile Home Combining – Floodplain Secondary Combining), E-2.5 RS MH FPS (Estate Residential – 2.5 acres Minimum – Residential Suburban Combining – Mobile Home Combining – Floodplain Secondary Combining); and OS (Open Space) the project site would be developed in-accordance with those designations. The portions of the project site zoned as A would be developed with agricultural uses (approximately 315 acres), the portions of the project site zoned as E would be developed with single-family residential units (approximately 975 acres), and the portion of the project site zoned OS would be developed as open space (approximately 40 acres).

With implementation of Alternative 2, approval of eight (8) Conditional Use Permits (CUP) for construction and operation of commercial solar electrical generating facilities, an Amendment to the General Plan, Willow Springs Specific Plan, and Willow Springs Specific Plan Circulation Element, and removal of public easement vacations would not be required. No solar facilities would be developed under this alternative.

6.4.3 Alternative 3: Reduced Acreage Alternative

Under Alternative 3, the Reduced Acreage Alternative, the project's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would only be allowed on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would remain the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity due to the proportional reduction in project size. Similar to the proposed project, this alternative would require the approval of three (3) CUPs to allow for the construction and operation of 141 MW photovoltaic electrical generating facility with associated facilities on approximately 695 acres encompassed in Sites 1-3; approval of amendments to the Willow Springs Specific Plan to redesignate and rezone the sites with uses that allow for solar development; approval of amendments to the Willow Springs Specific Plan Circulation Element to eliminate various road reservations and mid-section lines; and approval of vacation of existing public access easements on the reduced project site. Decommissioning activities would be the similar as the proposed project but reduced proportionally with the decreased acreage of the reduced project site.

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 1,330 acres of total rooftop area) may be required to attain project's capacity of 291 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 291 MW of electricity, but it would be for on-site use only. This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater availability of large, relatively flat roof areas necessary for efficient solar installations. Similar to the project, this alternative would be designed to operate year-round using PV panels to convert solar energy directly to electrical power. Power generated by such distributed solar PV systems would typically be consumed on-site by the commercial or industrial facility without requiring the construction of new electrical substation or transmission facilities. Decommissioning of this alternative would not be required.

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.

Alternative	Description	Basis for Selection and Summary of Analysis
Project	Construction and operation of a solar facility on approximately 1,330 acres would generate up to 291 MW of electricity and deliver it to the existing grid. Approval of eight Conditional Use Permits (CUP) for construction and operation of commercial solar electrical generating facilities, an Amendment to the General Plan, Willow Springs Specific Plan, and Willow Springs Specific Plan Circulation Element, removal of public easement vacations would be required.	N/A

TABLE 6-1:S	SUMMARY OF DEVELOPMENT ALTERNATIVES
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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 GPAs, CUP, and Amendment to Circulation Plan Avoids all significant and unavoidable impacts Greater impacts to GHGs Less impact in all remaining environmental issue areas Does not meet any of the project objectives 		
Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative	Project site would be developed to the maximum intensity allowed under the Kern County General Plan land use designations and zoning classifications and other existing applicable restrictions.	 Avoids need for CUPs and GPA Similar impacts to biological resources, hazards and hazardous materials, and tribal cultural resources Less impact to aesthetics, agricultural and forestry resources, and land use and planning Greater overall impacts in all remaining environmental issue areas, including two additional 		
		 significant and unavoidable impacts for air quality and transportation Does not meet any of the project objectives 		

TABLE 6-1: SUMMARY OF DEVELOPMENT ALTERNATIVES

Alternative	Description	Basis for Selection and Summary of Analysis
Alternative 3: Reduced Acreage Alternative	Construction and operation of one solar facility on approximately 695 acres on Sites 1-3. This alternative is still expected to contain enough land to construct a solar array field capable of generating approximately 141 MW due to the proportional reduction in project size. The project site would require approval of three CUPs, Amendments to General Plan, Willow Springs Specific Plan and Circulation Element, and vacation of existing public access easements on the reduced project site. Decommissioning activities would be the same as the proposed project.	 Avoids significant and unavoidable impact to agriculture and forestry resources Similar impacts to air quality (cumulative), GHG emissions, hazards and hazardous materials, land use and planning, public services, and tribal cultural resources Less impacts in all remaining environmental issue areas Achieves some but not all of the project objectives
Alternative 4: No Ground-Mounted Utility-Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only	The construction of 291 MW of PV solar distributed on rooftops throughout the Antelope Valley. Electricity generated would be for on-site use only. Decommissioning of this alternative would not be required.	 Avoids need for CUP and GPA 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, agriculture and forest resources, air quality, and biological resources Greater impacts to GHG emissions Similar impacts to energy, noise, tribal cultural resources, and wildfire Less impact in all remaining issue areas Achieves some but not all of the project objectives

TABLE 6-1: SUMMARY OF DEVELOPMENT ALTERNATIVES

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),

agriculture and forest resources (project and cumulative), biological resources (cumulative), noise (project and cumulative), and wildfire (cumulative). Per CEQA, the lead agency may make an initial determination as to which alternatives are feasible and warrant further consideration, and which are infeasible. The following alternatives were initially considered but were eliminated from further consideration in this EIR because they do not meet project objectives or were infeasible.

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

6.5.1 Wind Energy Project Alternative

The Wind Energy Project Alternative would involve the use of wind energy as an alternative to development of 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 (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 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 291 MW of power that the project would produce, the alternative would require more space than what the project site current accommodates and, consequently, the project site would need to be expanded.

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 291 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.

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 291 MW PV solar facility with associated infrastructure on sites totaling 1,330 acres. CEQA *Guidelines* 15126.6(f)(2(a) states that the key and initial step in considering an alternative site is whether "any of the significant effects of the project would be avoided or substantially lessened" in relocating the project, while remaining consistent with the same basic objectives of the 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, agricultural and forestry resources, noise, 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 project are not considered "potentially feasible," as there are no suitable sites within the control of the project proponent that would reduce project impacts. The potential amount of available, similar sites is further reduced because unlike the proposed project, alternative sites may not include sites with close proximity to transmission infrastructure. Therefore, this alternative was eliminated because it would not avoid or substantially reduce the significant environmental effects of the proposed project.

6.6 Analysis Format

In accordance with CEQA *Guidelines* Section 15126.6(d), each alternative is evaluated in sufficient detail to determine whether the overall environmental impacts would be less, similar, or greater than the corresponding impacts of the project. Furthermore, each alternative is evaluated to determine whether the project objectives identified in Chapter 3, *Project Description*, of this EIR would be mostly attained by the alternative. The project's impacts that form the basis of comparison in the alternatives analysis are those impacts, which represent a conservative assessment of project impacts. The evaluation of each of the alternatives follows the process described below.

- a) The net environmental impacts of the alternative after implementation of reasonable mitigation measures are determined for each environmental issue area analyzed in this EIR.
- b) Post-mitigation significant and less than significant environmental impacts of the alternative and the project are compared for each environmental issue area as follows:
 - Less: Where the impact of the alternative after feasible mitigation would be clearly less adverse than the impact of the project, the comparative impact is said to be "less."
 - Greater: Where the impact of the alternative after feasible mitigation would be clearly more adverse than the impact of the project, the comparative impact is said to be "greater."
 - Similar: Where the impacts of the alternative after feasible mitigation and the project would be roughly equivalent, the comparative impact is said to be "similar."
- c) The comparative analysis of the impacts is followed by a general discussion of whether the underlying purpose for the project, as well as the project's basic objectives would be substantially attained by the alternative.

Table 6-2, *Comparison of Alternatives*, provides a summary and side-by-side comparison of the proposed project with the impacts of each of the alternatives analyzed. Please note that in Alternatives 1 through 4 in Table 6-2, the references to "less, similar, or greater," refer to the impact of the alternative compared to the proposed project, and the impacts "no impact (NI), less than significant (LTS), or significant and unavoidable (SU)," in the parentheses refer to the significant impact of the specific alternative.

TABLE 6-2: COMPARISON OF ALTERNATIVES

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: General Plan/ Specific Plan and Zoning Build- Out Alternative	Alternative 3: Reduced 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	Significant and Unavoidable (project and cumulative)	Less (NI)	Less (NI)	Less (NI)	Less (NI)
Air Quality	Less than Significant with Mitigation (project); Significant and Unavoidable (cumulative)	Less (NI)	Greater (SU)	Less (Project LTS); Similar (Cumulative SU)	Less (LTS)
Biological Resources	Less than Significant with Mitigation (project); Significant and Unavoidable (cumulative)	Less (NI)	Less (Project LTS); Similar (Cumulative SU)	Less (Project LTS); Similar (Cumulative SU)	Less (LTS)
Cultural Resources	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Energy	Less than Significant	Less (NI)	Greater (LTS)	Less (LTS)	Similar (LTS)
Geology and Soils	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Greenhouse Gas Emissions	Less than Significant	Greater (LTS)	Greater (LTS)	Similar (LTS)	Greater (LTS)
Hazards and Hazardous Materials	Less than Significant with Mitigation	Less (NI)	Similar (LTS)	Similar (LTS)	Less (LTS)
Hydrology and Water Quality	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Less (LTS)	Less (LTS)
Land Use and Planning	Less than Significant with Mitigation	Less (NI)	Less (NI)	Similar (LTS)	Greater (LTS)

TABLE 6-2: COMPARISON OF ALTERNATIVES

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: General Plan/ Specific Plan and Zoning Build- Out Alternative	Alternative 3: Reduced Acreage Alternative	Alternative 4: No Ground-Mounted Utility-Solar Alternative – Distributed Commercial and Industrial Rooftop Solar Only
Noise	Less than Significant with Mitigation	Less (NI)	Greater (SU)	Less (SU)	Similar (SU)
Public Services	Less than Significant with Mitigation	Less (NI)	Greater (LTS)	Similar (LTS)	Less (LTS)
Transportation	Less than Significant with Mitigation	Less (NI)	Greater (SU)	Less (LTS)	Less (LTS)
Tribal Cultural Resources	No Impact	Less (NI)	Similar (NI)	Similar (NI)	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 (NI)	Greater (SU)	Less (Project LTS); Similar (Cumulative SU)	Less (SU)
Meet Project Objectives?	All	None	None	Partially	Partially
Reduce Significant and Unavoidable Impacts?	N/A	All	Some	Some	Some
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 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 forestland 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, where no construction or operational activities would generate air emissions. No exceedance of the EKAPCD's thresholds for PM_{10} would occur, no confliction or daily with the attainment of the standard, nor would the No Project Alternative contribute to a cumulative net increase of criteria pollutant in the projects' region. Therefore, there would be no impact and this alternative would not require any mitigation measures, unlike the proposed project. Furthermore, the No Project Alternative would eliminate the significant cumulative impacts related to the exceedance of PM_{10} during temporary construction and decommissioning activities. For these reasons, 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 foraging and nesting habitat for including burrowing owls, Swainson's hawk, loggerhead shrike, northern harrier, other raptors, migratory birds, American badger, and desert kit fox 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. 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 impact related to geology and soils compared to the proposed project.

Greenhouse Gas Emissions

Under the No Project Alternative, emissions associated with construction and operation of a solar energy facility 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; or expose people or structures to significant risk of loss, injury, or death involving wildland fires. Therefore, there would 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 substantially increase the rate or amount of surface runoff which would result in flooding onsite or offsite; 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 a CUP. Current land uses on the site are consistent with the zoning and General 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 impact 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

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, subdivision (b). In

addition, the No Project Alternative would not substantially increase hazards due to a geometric design feature or result in inadequate emergency access. Therefore, there would be no impact and the No Project Alternative would result in less impact related to transportation than the project.

Tribal Cultural Resources

Under the No Project Alternative, the project site would remain undeveloped and no ground disturbing activities would occur. According to record searches and tribal resource consultations, no tribal resources are present on the project site. As such, the No Project Alternative would not cause a substantial adverse change in the significant 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. Therefore, there would be no impact and the No Project Alternative would result in less impact to risks associated with wildfires than the proposed project.

Comparison of Impacts

The No Project Alternative would avoid creating all of the significant and unavoidable impacts associated with the project. This alternative would result in 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: General Plan/Specific Plan and Zoning Build-Out Alternative

Environmental Impact Analysis

Aesthetics

Under the General Plan and Zoning Build-Out Alternative, the area of the project site zoned as A would be developed for agricultural uses (approximately 315 acres), the portions of the project site zoned as E would be developed with residential uses (approximately 975 acres), and the portion of the project site zoned OS would be maintained as open space (approximately 40 acres). Solar panels would not be installed and solar energy would not be generated onsite. Development of the project site with agricultural uses and residential uses would be visually similar to the types of uses that are within the project area and, thus, potential impacts to visual character would be reduced under this alternative. Development of residential uses would alter existing views of the project area; however, these single-family dwellings would be spread out in the project area. Furthermore, the development of single-family dwellings would generally cause less visual quality impacts than the development of uniform, large-scale solar facilities, which would remove large areas of Joshua tree woodlands and other natural vegetation. Single-family housing would be able to avoid such 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. Therefore, 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 General Plan and Zoning Build-Out Alternative, the area of the project site zoned as A would be developed for agricultural uses (approximately 315 acres), the portions of the project site zoned as E would be developed with residential uses (approximately 975 acres), and the portion of the project site zoned OS would be maintained as open space (approximately 40 acres). Solar panels would not be installed and solar energy would not be generated onsite. Under this alternative, there would be no zoning change, therefore maintaining the total amount of agricultural land in Kern County as the parcel designated for agricultural purposes could be used as such. Development of the remaining portions of the project site with residential and open space uses would not result in impacts related to the conversion of designated Farmland to non-agricultural uses, as these parcels are not currently designated for agricultural purposes. Furthermore, development under Alternative 2 would be consistent with the existing zoning and the portions of the project site designated as A would remain. Therefore, there would be no impact to agriculture and forest resources under Alternative 2. Thus, this alternative would result in less agricultural resource impacts as compared to the proposed project.

Air Quality

Under the General Plan and Zoning Build-Out Alternative, the area of the project site zoned as A would be developed for agricultural uses (approximately 315 acres), the portions of the project site zoned as E would be developed with residential uses (approximately 975 acres), and the portion of the project site zoned OS would be maintained as open space (approximately 40 acres). Solar panels would not be installed and solar

energy would not be generated onsite. Construction of the agricultural and residential uses under this alternative would require similar heavy construction equipment as the proposed project. 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 MM 4.3-1 and MM 4.3-2 in order to reduce the severity of construction-related emissions. However, under this alternative, approximately 40 acres of the project site would be maintained as open space, where no construction activities would occur, which would reduce the amount of construction emissions generated compared to the proposed project. However, even with development occurring on only 1,290 acres under this alternative, temporary construction emissions would have the potential to exceed construction emissions thresholds established by Eastern Kern Air Pollution Control District (EKAPD) even with implementation of mitigation, especially as different uses (i.e. residential and agricultural) would be constructed under this alternative compared to the proposed project. Since the specific construction activities required for the construction of the residential and agricultural uses under this alternative are unknown, any potential mitigation measures to reduce potential impacts would be speculative at this time. Therefore, it would be reasonably to assume that construction emissions generated under this alternative could exceed EKAPD's thresholds and therefore, impacts would be significant and unavoidable at this time, which would be greater impacts compared to the proposed project. Furthermore, because this alternative is assumed to have significant and unavoidable project impacts related to construction emissions, it is also reasonable to assume that this alternative would also result in cumulatively significant impacts to construction emissions in the basin when considered with other cumulative projects. Cumulative impacts would be considered significant and unavoidable, similar to the project. Operational emissions associated with the proposed agricultural and residential uses under the General Plan and Zoning Build-Out Alternative would be greater than the proposed project due to routine emissions associated with agricultural vehicles, livestock emissions, daily traffic trips, etc. However, impacts associated with operation of this alternative would still be less than significant as this alternative would be designed and developed to be under the thresholds of applicable air quality plans.

Implementation of this alternative would expose sensitive receptors to substantial pollutant concentrations. In particular, during construction of this alternative, it is possible that on-site workers could be exposed to Valley Fever as fugitive dust is generated during construction. However, dust-minimizing techniques and safety implementation plans, as implemented through Mitigation Measures MM 4.3-1 and MM 4.3-5, would reduce these impacts to less than significant. As with the proposed project, the General Plan and Zoning Build-Out Alternative would result in less-than-significant impacts related to toxic air contaminants, localized pollutant concentrations, and asbestos.

Overall, even with implementation of similar mitigation proposed for the project, project and cumulative impacts to air quality under the General Plan and Zoning Build-Out Alternative would be significant and unavoidable, which is greater overall impacts to air quality than the proposed project due to the greater construction and operational emissions associated with the agricultural and residential uses.

Biological Resources

Under the General Plan and Zoning Build-Out Alternative, the area of the project site zoned as A would be developed for agricultural uses (approximately 315 acres), the portions of the project site zoned as E would be developed with residential uses (approximately 975 acres), and the portion of the project site zoned OS would be maintained as open space (approximately 40 acres). Solar panels would not be installed and solar energy would not be generated onsite. Under this alternative, development of the residential component would

disturb approximately 975 acres of the project site, which has the potential to disturb existing onsite biological resources, similar to the proposed project. 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 A (Exclusive Agriculture) and OS (Open Space). Conversion of the undeveloped site to agricultural uses would affect biological resources on the project site as this alternative would replace all native vegetation with agricultural crops or grazing areas for these areas of the project site. Agricultural 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.

Furthermore, the single-family dwellings would be spread out in the project area. Given this space, it is likely that impacts to biological resources, particularly the Joshua tree woodland that would be affected by the project, would be less than the proposed project. Similar to the proposed project, this alternative would also be required to implement Mitigation Measures MM 4.4-1 through 4.4-13 as well as 4.9-3, MM 4.10-1 and MM 4.10-2 to reduce impacts to Joshua trees, burrowing owls, Swainson's hawk, loggerhead shrike, northern harrier, other raptors, migratory birds, American badger, and desert kit fox. With implementation of mitigation, this alternative would result in less than significant impacts to existing biological resources. Impacts would be less compared to the proposed project due to less development potential.

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 General 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, impacts under the General Plan and Zoning Build-Out Alternative would be less than significant with implementation of mitigation and would be less to 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 General Plan and Zoning Build-Out Alternative would result in similar impacts related to biological resources when compared to the proposed project.

Cultural Resources

Under the General Plan and Zoning Build-Out Alternative, the area of the project site zoned as A would be developed for agricultural uses (approximately 315 acres), the portions of the project site zoned as E would be developed with residential uses (approximately 975 acres), and the portion of the project site zoned OS would be maintained as open space (approximately 40 acres). Solar panels would not be installed and solar energy would not be generated onsite.

Development of residential and agricultural uses on the project site under this alternative would involve greater ground disturbance as opposed to the proposed project due to activities such as installing utilities, such as water and sewage lines and connections, constructing residences, and soil disturbing farming techniques. Five cultural resources were identified within the project site, which include four built environment resources (P-15- 004414 [State Route 138], P-15-018681 [Owens Gorge 230 kV transmission line], Borgman Ranch, and 502 85th Street West) and one historic-era archaeological site (SPO1704-H-3). None of these five resources have been found eligible for listing in the CRHR and do not qualify as historical resources. Additionally, while the project site has a low likelihood of containing intact subsurface

archaeological deposits, there is still the potential to encounter undocumented archaeological resources that could qualify as historical resources. Similar to the proposed project, the General Plan and Zoning Build-Out Alternative would implement Mitigation Measures MM 4.5-1 and MM 4.5-3 to mitigate impacts to cultural resources. In addition, there is no indication that any particular location within the project site has been used for purposes of human burial in the recent or distant past. However, in the unlikely event that human remains are inadvertently discovered during project construction activities, implementation of Mitigation Measure MM 4.5-4 would ensure that any human remains encountered are appropriately addressed and impacts would be less than significant.

Based on the above, although both the project and this alternative would result in less-than-significant impacts with mitigation as it relates to historical resources, archaeological resources, and human remains, the General Plan and Zoning Build-Out Alternative would result in greater cultural resource impacts compared to the proposed project as greater ground disturbance required under this alternative could affect undocumented subsurface cultural resources.

Energy

Under the General Plan and Zoning Build-Out Alternative, the area of the project site zoned as A would be developed for agricultural uses (approximately 315 acres), the portions of the project site zoned as E would be developed with residential uses (approximately 975 acres), and the portion of the project site zoned OS would be maintained as open space (approximately 40 acres). Solar panels would not be installed and solar energy would not be generated onsite. The portions of the project site that would be developed with agricultural uses would require less-intensive construction and operational activities related to the consumption of natural gas and transportation-related energy (petroleum-based fuels) and less-intensive construction activities related to electricity usage. However, greater operational electricity usage associated with the greater consumption of water associated with the proposed agricultural uses would require less energy consumption.

The portions of the project site that would be developed with residential uses would require similar construction activities and more-intensive operational activities, related to the consumption of natural gas and transportation-related energy. However, greater operational electricity usage associated with the greater consumption of water associated with the proposed residential uses would occur. Overall, the residential uses would require greater energy consumption as compared to the project.

Similar to the proposed project, the General Plan and Zoning Build-Out Alternative would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Based on the above, impacts under the General Plan and Zoning Build-Out Alternative related to energy would be less than significant, but greater than those of the proposed project as the agricultural and residential uses would require greater long-term energy consumption compared to the project. Additionally, this alternative would not be developed the project site with solar panels and would not generate renewable energy; therefore, the General Plan and Zoning Build-Out Alternative would not assist the state in meeting its renewable energy generation goals to the fullest extent as compared to the proposed project.

Geology and Soils

Under the General Plan and Zoning Build-Out Alternative, the area of the project site zoned as A would be developed for agricultural uses (approximately 315 acres), the portions of the project site zoned as E would

be developed with residential uses (approximately 975 acres), and the portion of the project site zoned OS would be maintained as open space (approximately 40 acres). Solar panels would not be installed and solar energy would not be generated onsite. Compared to the project, the General 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 onsite.

Similar to the proposed project, the General Plan and Zoning Build-Out Alternative would not cause, either directly or indirectly, the potential for substantial adverse effects involving rupture of a known earthquake fault. With regard to seismic ground shaking, similar to the proposed project, the General 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), which incorporates substantially the same requirements as the IBC, 2018 Edition, with some modifications and amendments. Adherence to all applicable regulations would ensure that effects from strong seismic ground shaking would be minimized. Additionally, this alternative would implement Mitigation Measures MM 4.7-1 through MM 4.7-4 to reduce impacts related to geology and soils to a less than significant level, similar to the proposed project.

As it relates to unique paleontological resource or site or unique geologic feature, similar to the proposed project, under the General Plan and Zoning Build-Out Alternative any ground disturbance within the project site could result in a potentially significant impact to paleontological resources. As such, the General Plan and Zoning Build-Out Alternative would also implement Mitigation Measure MM 4.7-5 through MM 4.7-7 to reduce impacts to paleontological resources.

With implementation of Mitigation Measures MM 4.7-1 through 4.7-7, this alternative would not result in significant impacts to geology and soils, including paleontological resources. Given the minimal impact and the requirement for similar mitigation for other projects in the Southern San Joaquin Valley, this alternative's incremental effect is not cumulatively considerable when viewed in connection with the effects of other closely related past projects, the effects of other current projects, and the effects of probable future projects. Thus, cumulative impacts to geology and soils, including paleontological resources, would be less than significant, similar to the proposed project.

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, impacts to geology and soils would be slightly greater under this alternative compared to the proposed project as the General Plan and Zoning Build-Out Alternative would result in greater initial soil disturbance during construction and would place a permanent residential population in the vicinity of seismic hazards.

Greenhouse Gas Emissions

Under the General Plan and Zoning Build-Out Alternative, the area of the project site zoned as A would be developed for agricultural uses (approximately 315 acres), the portions of the project site zoned as E would be developed with residential uses (approximately 975 acres), and the portion of the project site zoned OS would be maintained as open space (approximately 40 acres). Solar panels would not be installed and solar energy would not be generated onsite. As portions of the General Plan and Zoning Build-Out Alternative would develop land uses that would emit GHG emissions throughout the life of the project (from increased water usage, traffic, operation of agricultural equipment, and livestock emissions), this would result in a net gain of GHG emissions within California. Unlike the proposed project, the General Plan and Zoning Build-Out Alternative would not assist an off-taker in reducing its GHG emissions as consistent with the
California Global Warming Solutions Act. Therefore, although both this alternative and the project would result in less-than-significant GHG emissions impacts, impacts from the General Plan 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 General Plan and Zoning Build-Out Alternative, the area of the project site zoned as A would be developed for agricultural uses (approximately 315 acres), the portions of the project site zoned as E would be developed with residential uses (approximately 975 acres), and the portion of the project site zoned OS would be maintained as open space (approximately 40 acres). Solar panels would not be installed and solar energy would not be generated onsite. Agricultural uses on the project site could require the use of hazardous materials during operation including herbicides and pesticides. In addition, because the General 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. However, as with the project, standard BMPs would ensure that exposure to potentially hazardous materials used or found onsite would be reduced or minimized. Similar to the proposed project, the General Plan and Zoning Build-Out Alternative would implement Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.13-1, 4.14-1 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, 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 General 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.

Impacts under the General Plan and Zoning Build-Out Alternative and the project would result in less-thansignificant 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 General Plan and Zoning Build-Out Alternative, the area of the project site zoned as A would be developed for agricultural uses (approximately 315 acres), the portions of the project site zoned as E would be developed with residential uses (approximately 975 acres), and the portion of the project site zoned OS would be maintained as open space (approximately 40 acres). Solar panels would not be installed and solar energy would not be generated onsite. Similar to the proposed project, the agricultural development would not substantially increase impervious surfaces.

Use of a portion of the project site for 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 General Plan and Zoning Build-Out Alternative would result in larger areas of change to the landscape and drainage patterns of the project site. Construction of the General Plan and Zoning Build-Out Alternative would also result in an increase in 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, which would result in greater demand under the General Plan and Zoning Build-out Alternative than under the proposed project.

Similar to the proposed project, the General Plan and Zoning Build-Out Alternative would include completion of a NPDES completion form as well as implementation of Mitigation Measure MM 4.9-1, MM 4.10-1 and MM 4.10-2 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 General Plan and Zoning Build-Out Alternative. As it relates to groundwater supplies, water requirements under the General Plan and Zoning Build-Out 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 General Plan and Zoning Build-Out Alternative would alter existing on-site drainage patterns and flow paths to some degree, and could alter the way that stormwater from up-gradient flows across the project site during major events. Similar to the proposed project, the General Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.10-1 and MM 4.10-2, which would require the project to prepare a Stormwater Pollution Prevention Plan (SWPPP) and drainage plan in accordance with the Kern County Development Standards and Kern County Code of Building Regulations. Specifically, a drainage plan would be prepared and submitted 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 off-site discharge. Routine structural BMPs are intended to address water quality impacts related to drainage that are inherent in development. Adherence to these requirements would minimize potential for the operation period to cause any significant water quality degradation. Therefore, with the implementation of Mitigation Measures MM 4.9-1 and MM 4.10-1, the project would not violate water quality standards or waste discharge requirements, or otherwise degrade water quality in surface water or groundwater.

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 General Plan and Zoning Build-Out 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, although both the project and this alternative would result in less-than-significant impacts with the implementation of mitigation, the General Plan and Zoning Build-Out Alternative would result in greater impacts to hydrology and water quality compared with the proposed project as operation of the agricultural and residential uses proposed under this alternative would likely involve continued ground disturbance from activities such as grazing and plowing.

Land Use and Planning

Under the General Plan and Zoning Build-Out Alternative, the area of the project site zoned as A would be developed for agricultural uses (approximately 315 acres), the portions of the project site zoned as E would be developed with residential uses (approximately 975 acres), and the portion of the project site zoned OS would be maintained as open space (approximately 40 acres). Solar panels would not be installed and solar energy would not be generated onsite. Unlike the proposed project, the General Plan and Zoning Build-Out Alternative would not conflict with the existing land use at the project site, because the site would be developed with the current General Plan land use and zoning designations. This alternative would be consistent with current zoning as well as existing land use plans, policies, and regulations and no CUP, public vacations or General Plan/ Specific Plan Circulation Element Amendment would be required. Therefore, there would be no impact and the General Plan and Zoning Build-Out Alternative would result in less impacts related to land use and planning compared to the proposed project. This alternative would eliminate the need for implementation of Mitigation Measures MM 4.11-1 and MM 4.11-2.

Noise

Under the General Plan and Zoning Build-Out Alternative, the area of the project site zoned as A would be developed for agricultural uses (approximately 315 acres), the portions of the project site zoned as E would be developed with residential uses (approximately 975 acres), and the portion of the project site zoned OS would be maintained as open space (approximately 40 acres). Solar panels would not be installed and solar energy would not be generated onsite. 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 construction equipment as required for the construction of the proposed project. In addition, for development of the residential uses, the use of construction vehicles, heavy equipment operation, and worker carpool trips would also be similar 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 and, thus, impacts would be potentially significant, similar to the project. Implementation of Mitigation Measures MM 4.12-1 through MM 4.12-3 are designed to reduce impacts to the extent feasible during construction activities; and would reduce impacts to a less than significant level. 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, this increase would not increase permanent onsite noise to the extent that an impact would occur and impacts would be less than significant.

The closest off-site occupied residential structures would be located over 49 feet from construction activities. As such, the vibration levels at the nearest residences would not reach the vibration level threshold for older residential structures. Operation of the General 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). As such, vibration impacts would be minimal and are not expected to have any measurable effect on the adjacent off-site sensitive receivers.

Both the project and this alternative would result in significant and unavoidable construction impacts, similar to the proposed project. The General Plan and Zoning Build-Out Alternative would result in greater permanent noise impacts than the proposed project due to the proposed agricultural and residential uses, which involve an increase use of agricultural equipment and residential traffic during operation of the alternative.

In regards to cumulative noise impacts, numerous projects are proposed throughout Antelope Valley, where concurrent construction of this alternative and any of the cumulative projects would result in significant cumulative noise impacts. As construction of this alternative would result in less than significant impacts with mitigation, the construction of this alternative concurrently with the construction of adjacent and/or nearby cumulative projects, if it were to occur, would also not result in a cumulatively considerable contribution to construction noise impacts. Therefore, the cumulative noise impacts would be less than significant under this alternative, similar to the proposed project.

Public Services

Under the General Plan and Zoning Build-Out Alternative, the area of the project site zoned as A would be developed for agricultural uses (approximately 315 acres), the portions of the project site zoned as E would be developed with residential uses (approximately 975 acres), and the portion of the project site zoned OS would be maintained as open space (approximately 40 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 General Plan and Zoning Build-Out Alternative would result in a similar number of construction workers on the project site and increased fire service demands would occur during construction of this alternative. However, the General 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 could result in a slight increase in long-term population, while the portions of the project site developed with residential uses would establish a permanent population. Similar to the project, the General Plan and Zoning Build-Out 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. Implementation of Mitigation Measure MM 4.13-1 would also reduce fire risks on-site during operation of this alternative.

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. With regard to the agricultural uses, there would be no construction-related traffic for the conversion of the portion of the project site zoned as A to agricultural uses. The increase in traffic related to development of residential uses would be temporary and thus, would not have a significant adverse effect on the Kern County Sheriff's Office (KCSO) protective service provision or the California Highway Patrol's (CHP) 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. Similar to the project, the General Plan and Zoning Build-Out 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 KCSO or CHP

protection services and facilities resulting from the operation of this alternative. Therefore, impacts to police protection would be less than significant.

Although both this alternative and the project would result in less-than-significant impacts with implementation of mitigation, the General 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 in the project area.

Transportation

Under the General Plan and Zoning Build-Out Alternative, the area of the project site zoned as A would be developed for agricultural uses (approximately 315 acres), the portions of the project site zoned as E would be developed with residential uses (approximately 975 acres), and the portion of the project site zoned OS would be maintained as open space (approximately 40 acres). Solar panels would not be installed and solar energy would not be generated onsite. With regard to the agricultural uses, there would be no constructionrelated traffic for the conversion of the project site to agricultural uses. Once operational, the General Plan and Zoning Build Out Alternative 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 project because development of residential units would likely require similar numbers of constructionrelated workers and material transport trips. Similar to the proposed project, this alternative would also be required to implement Mitigation Measure MM 4.4.14-1, which requires the preparation and submittal of 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. Additionally, like the proposed project, construction of residences could occur within the same timeframe as other projects in the area, thereby contributing to cumulative traffic increases. However, once operational, vehicle trips associated with the proposed project would be limited to the employees that would work on the site. Conversely, with the General 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 General Plan and Zoning Build-Out Alternative, which would require similar construction trips for development of the residential uses, all study roadway segments are forecasted to operate at Caltrans- or County-defined acceptable LOS C conditions or better. As construction impacts would be less than significant, operation of this alternative would also have a less-than-significant impact on area roadways, similar to the project. Additionally, similar to the project, this alternative not include a design feature or utilize vehicles with incompatible uses that would create a hazard on the roadways surrounding the project site. Impacts would be less than significant.

With regard to consistency with CEQA *Guidelines* Section 15064.3, subdivision (b), as 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). While the agricultural use of the project site would generate routine operational trips, the residential component would generate a substantial increase in operational daily trips associated with typical resident's activities, such as driving to work or shopping, taking children to school, driving around town, etc. While the exact number of operational trips are unknown at this time, it can be assumed that development of the residential component would greatly increase operational trips within the project and surrounding area, where VMT threshold could be exceeded. However, without knowing the actual VMT

for this alternative, any potential mitigation measures to reduce potential impacts would be speculative at this time. Therefore, it would be reasonably to assume that operational trips associated with the residential component could exceed VMT thresholds and therefore, impacts would be significant and unavoidable at this time, which would be greater impacts compared to the proposed project.

Tribal Cultural Resources

Under the General Plan and Zoning Build-Out Alternative, the area of the project site zoned as A would be developed for agricultural uses (approximately 315 acres), the portions of the project site zoned as E would be developed with residential uses (approximately 975 acres), and the portion of the project site zoned OS would be maintained as open space (approximately 40 acres). Solar panels would not be installed and solar energy would not be generated onsite. No tribal cultural resources were identified by the Sacred Lands File (SLF) search or the as a result the County's government-to-government notification and consultation efforts with interested Native American groups conducted pursuant to SB 18 and AB 52. Given that no tribal cultural resources have been identified within or immediately adjacent to the project site, this alternative would not cause a substantial adverse change in the significance of a tribal cultural resource that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant and no mitigation is required. Similar to the proposed project, no impact to tribal cultural resources would occur under this alternative.

Utilities and Service Systems

Under the General Plan and Zoning Build-Out Alternative, the area of the project site zoned as A would be developed for agricultural uses (approximately 315 acres), the portions of the project site zoned as E would be developed with residential uses (approximately 975 acres), and the portion of the project site zoned OS would be maintained as open space (approximately 40 acres). Solar panels would not be installed and solar energy would not be generated onsite. While the proposed residential uses would increase impervious surfaces, as with the proposed project, the proposed agricultural uses would not likely increase impervious surfaces compared to the proposed project. In addition, water demand from the proposed agricultural and residential uses would increase substantially in comparison to the proposed project due to the consistent demand from agricultural and residential uses. Additionally, the proposed agricultural and residential uses under this alternative would produce solid waste associated with the employees operating agricultural uses and the residential activities that would need to be disposed of at local landfills. In addition, similar to the proposed project, this alternative would also be required to implement MM 4.16-1, which requires debris and waste generated shall be recycled to the extent feasible during all phases of this alternative.

As with the proposed project, conversion of the project site to agricultural and residential uses would require water usage for dust suppression as well as minimal generation of wastewater, usage of electrical power, natural gas, and telecommunications. In addition, construction of the General Plan 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. Wastewater and solid waste generation associated with this alternative would also greatly 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 activity. Development of the residential component of the General Plan and Zoning Build–Out Alternative would increase impervious surfaces compared to the proposed project. However, similar to the proposed project, the General Plan and Zoning Build-Out Alternative would implement Mitigation MM 4.10-1, would include 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 General 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 General Plan and Zoning Build-Out Alternative, the area of the project site zoned as A would be developed for agricultural uses (approximately 315 acres), the portions of the project site zoned as E would be developed with residential uses (approximately 975 acres), and the portion of the project site zoned OS would be maintained as open space (approximately 40 acres). Solar panels would not be installed and solar energy would not be generated onsite. 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 and may introduce additional vegetation associated with the residential development. Furthermore, the proposed agricultural uses may introduce additional sources of vegetation, which may serve as fuel and 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 from wildfire risks.

Similar to the proposed project, the General 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 and operation of the alternative, 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, similar to the proposed project. The installation of electrical infrastructure would not be placed within a high fire hazard zone and any present vegetation would be cleared. Thus, implementation of this alternative would not result in increased fire risks that could result in temporary or ongoing impacts to the environment. Similar to the proposed project, the General Plan and Zoning Build-Out Alternative would not include significant risks related to downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes with implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2.

Based on the above, with implementation of similar mitigation as proposed for the project, impacts would remain less than significant under this alternative as it relates to wildfire impacts. However, the General Plan and Zoning Build-Out Alternative would have greater impacts from risks associated with wildfires than the proposed project due to the 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 General Plan and Zoning Build-Out Alternative and related projects have the potential to result in a cumulative impact related to conflict with an adopted emergency response plan or emergency evacuation plan, exposing people to pollutant concentrations from a wildfire, the installation or maintenance of associated infrastructure, exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. Therefore, this alternative, similar to the project, would result in a significant and unavoidable cumulative impact.

Comparison of Impacts

The General Plan and Zoning Build-Out Alternative would result in less impact to aesthetics, agricultural and forestry resources, and land use and planning. The alternative would result in similar impacts to biological resources, hazards and hazardous materials, 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, such as agricultural vehicles and livestock emissions, and residential uses on-site. 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 and the application of pesticides or herbicides from the proposed agricultural uses. 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. The increase in human population on-site is also responsible for greater impacts to public services, transportation, utilities and service systems, and wildfires.

This alternative would eliminate significant and unavoidable impact associated with aesthetics and agriculture and forestry resources but would not eliminate significant and unavoidable impacts associated with air quality (cumulative only), biological resources (cumulative only), noise (project and cumulative), and wildfires (cumulative). In addition, this alternative would result in two additional significant and unavoidable impact related to air quality and transportation. The new significant and unavoidable air quality impacts would occur at the project-level as construction emissions are assumed to potentially exceed established EKAPD construction emissions thresholds. The new transportation significant and unavoidable impact would occur as it is uncertain that VMT associated with the residential component would not exceed applicable thresholds and no specific mitigation measures can be prescribed at this time to reduce the potential impact.

Relationship to Project Objectives

The General 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's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would be developed solely on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity due to the proportional reduction in project size. Under this alternative, all visual impacts that would occur on Sites 4-6 under the proposed project; however, the PCT, which is designated as a National Scenic Trail by the U.S. Forest Service, is located approximately 14 miles southwest of the Raceway Solar Sites 1-3 in the foothills of the Tehachapi Mountains. Given this long distance, views of the reduced project site are likely non-existent and if there were a view, it would not be a predominant subject of views from the PCT. Therefore, impacts to scenic vistas would be less than significant, similar to the proposed project.

With regard to scenic resources, the project site would not be visible from any Officially Designated State or County Scenic Highway and therefore, neither would the reduce project site. Thus, similar to the project, this alternative would result in less than significant impacts to scenic resources.

While this alternative would avoid development of a portion of the project section, this alternative would also include the installation of solar panels and other facilities. Similar to the proposed project, the Reduced Acreage Alternative would similarly 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 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 reduced 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. Nevertheless, similar to the proposed project, impacts would be significant and unavoidable because there are no feasible mitigation measures that can be implemented to maintain the existing open and undeveloped desert landscape character of the reduced project site.

In addition, in combination with other projects, particularly the wind turbines and other solar development that exist near the project site, the Reduced Acreage Alternative would contribute to added visual modifications in the project area. 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 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. 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 relatively less impact than the proposed project due to the reduced project footprint. Furthermore, per Mitigation

Measure MM 4.1-5 would 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. Thus, implementation of these mitigation measures would reduce impacts to light and glare to less than significant under the Reduced Acreage Alternative.

Since decommissioning activities of this alternative would be similar to the project but on a reduced scale, impacts to visual resources associated with decommissioning would be less compared to the project.

Overall, due to the reduction in project site size, the Reduced Acreage Alternative would have less impact to aesthetics than the proposed project.

Agriculture and Forestry Resources

Under the Reduced Acreage Alternative, the project's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would be developed solely on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity due to the proportional reduction in project size.

While the proposed project would require the cancellation of an existing Williamson Act Contract, the Reduced Acreage Alternative would not include the need to cancel an active Williamson Act Contract as none of the parcels included in the reduced project footprint are designated or zoned for agricultural uses. Because none of the parcels included in the reduced project site could be used for agricultural purposes, implementation of this alternative would not impact agricultural or forestry resources and no impact would occur. Compared to the project, a significant and unavoidable impact to agriculture and forestry resources would be eliminated under this alternative and impacts would be greatly reduced.

Air Quality

Under the Reduced Acreage Alternative, the project's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would be developed solely on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity due to the proportional reduction in project size.

While construction of the Reduced Acreage Alternative would require similar heavy construction equipment as the proposed project, short-term construction emissions are assumed to be reduce by approximately 50 percent, as only about half of the project would be developed under this alternative. However, this alternative would still require implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 in order to reduce the severity of construction-related emissions below a level of significance. Therefore, project impacts related to construction emissions would be less than significant with implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 and the reduction in acreage, cumulative impacts associated with temporary construction emissions would be considered cumulatively significant as emissions from this alternative in combination with other cumulative projects in the basin could exceed the

EKAPD's thresholds for construction emissions, similar to the project. While construction emissions would be reduced under this alternative, project and cumulative impacts would be similar to the proposed project.

Operational emissions would be generated in the same manner as the proposed project but would be reduced due to the reduction in necessary maintenance activities required under this alternative. Furthermore, this alternative would be consistent with all applicable air quality plans. Impacts associated with operation of this alternative would be less than significant and would be reduced compared to the proposed project.

Implementation of this alternative would expose sensitive receptors to substantial pollutant concentrations. In particular, during construction of this alternative, it is possible that on-site workers could be exposed to Valley Fever as fugitive dust is generated during construction. However, dust-minimizing techniques and safety implementation plans, as implemented through Mitigation Measures MM 4.3-1 and MM 4.3-5, 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.

Since decommissioning activities of this alternative would be similar to the project but on a reduced scale, impacts to air quality associated with decommissioning would be less compared to the project.

Overall, with implementation of similar mitigation proposed for the project, impacts to air quality under the Reduced Acreage Alternative would less than significant similar to the proposed project. Impacts to air quality would be less under this alternative compared to the proposed project due to the reduction in the project's footprint.

Biological Resources

Under the Reduced Acreage Alternative, the project's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would be developed solely on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity due to the proportional reduction in project size.

While development of the Reduce Acreage Alternative would occur on a reduced project site, approximately 635 acres less than the project site, this alternative still has the potential to disturb existing onsite biological resources, similar to the proposed project. There are a number of special-status species, both plants and wildlife, which currently utilize the reduced project site and surrounding vicinity. Implementation of the alternative has the potential to impact transient wildlife species, including burrowing owls, Swainson's hawk, loggerhead shrike, northern harrier, 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. However, implementation of Mitigation Measures MM 4.4-1 through 4.4-13 as well as 4.9-3 and MM 4.10-1 to reduce impacts to Joshua trees, burrowing owls, Swainson's hawk, loggerhead shrike, northern harrier, other raptors, migratory birds, American badger, and desert kit fox. With implementation of mitigation, this alternative would result in less than significant impacts to existing biological resources. Impacts would be less compared to the proposed project due to the reduced project footprint.

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.

Since decommissioning activities of this alternative would be similar to the project but on a reduced scale, impacts to biological resources associated with decommissioning would be less compared to the project.

Based on the above, 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. 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 Reduced Acreage Alternative would result in similar impacts related to biological resources when compared to the proposed project.

Cultural Resources

Under the Reduced Acreage Alternative, the project's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would be developed solely on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity due to the proportional reduction in project size.

Given a smaller project footprint than the proposed project, the construction area and activities would be substantially reduced under the Reduced Acreage Alternative. Five cultural resources were identified within the vicinity of the reduced project site, which include 4 built environment resources (P-15- 004414 [State Route 138], P-15-018681 [Owens Gorge 230 kV transmission line], Borgman Ranch, and 502 85th Street West) and one historic-era archaeological site (SPO1704-H-3). None of these five resources have been found eligible for listing in the CRHR and do not qualify as historical resources. Additionally, while the reduced project site has a low likelihood of containing intact subsurface archaeological deposits, there is still 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 and MM 4.5-3 to mitigate impacts to cultural resources. In addition, there is no indication that any particular location within the reduced project site has been used for purposes of human burial in the recent or distant past. However, in the unlikely event that human remains are inadvertently discovered during project construction activities, implementation of Mitigation Measure MM 4.5-4 would ensure that any human remains encountered are appropriately addressed and impacts would be less than significant.

Since decommissioning activities of this alternative would be similar to the project but on a reduced scale, impacts to cultural resources associated with decommissioning would be less compared to the project.

Based on the above, the implementation of mitigation impacts to cultural resources would be less than significant under this alternative. 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's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would be developed solely on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity 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. 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's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would be developed solely on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity due to the proportional reduction in project size.

Given the reduction in acreage under this alternative there would be less potential for erosion and exposure to geologic hazards compared to the project. Similar to the proposed project, the Reduced Acreage Alternative would not cause, either directly or indirectly, the potential for substantial adverse effects involving rupture of a known earthquake fault. With regard to seismic ground shaking, similar to the proposed project, the Reduced Acreage Alternative would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08). Kern County has adopted the CBC 2019 Edition (CCR Title 24), which incorporates substantially the same requirements as the IBC, 2018 Edition, with some modifications and amendments. Adherence to all applicable regulations would ensure that effects from strong seismic ground shaking would be minimized. Additionally, this alternative would implement Mitigation Measures MM 4.7-1 through MM 4.7-4 to reduce impacts related to geology and soils to a less than significant level, similar to the proposed project.

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. As such, the Reduced Acreage Alternative would also implement Mitigation Measure MM 4.7-5 through MM 4.7-7 to reduce impacts to paleontological resources.

With implementation of Mitigation Measures MM 4.7-1 through 4.7-7, this alternative would not result in significant impacts to geology and soils, including paleontological resources. Given the minimal impact and the requirement for similar mitigation for other projects in the Southern San Joaquin Valley, this alternative's incremental effect is not cumulatively considerable when viewed in connection with the effects of other closely related past projects, the effects of other current projects, and the effects of probable future

projects. Thus, cumulative impacts to geology and soils, including paleontological resources, would be less than significant, similar to the proposed project.

Since decommissioning activities of this alternative would be similar to the project but on a reduced scale, impacts to geology and soils, including paleontological resource, associated with decommissioning would be less compared to the project.

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. However, 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's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would be developed solely on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity due to the proportional reduction in project size.

Given a smaller project footprint than the proposed project, the construction and operational impacts from the Reduced Alternative would remain 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. Impacts to GHG emissions would be less than significant.

However, eliminating 635 acres from project development would also reduce solar energy generation, as the Reduced Acreage Alternative would only generate approximately 141 MW due to the proportional reduction in project size compared to the proposed 291 MW under the project. Additionally, the reduction in solar energy generated by this alternative would also have a smaller potential to offset GHG emissions through the replacement of traditional electricity generation by solar power. When taking into account the reduction of construction and operation emissions in combination with the reduction of potential GHG emission offset, it could be reasonably determined that the differences would balance out and impacts would be similar to the proposed project.

Hazards and Hazardous Materials

Under the Reduced Acreage Alternative, the project's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would be developed solely on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity due to the proportional reduction in project size.

Under the Reduced Acreage Alternative all construction and operational methods, workforce, and timing would be reduced when compared with the proposed project. Even with reduced construction and operational efforts, this alternative would still have the potential to expose the public to potentially hazardous materials, such as fuels, solvents, paint, lubricants, and other potentially hazardous materials. However, as with the project, standard BMPs would ensure that exposure to potentially hazardous materials

used or found on-site would be reduced or minimized. Furthermore, similar to the proposed project, the Reduced Acreage Alternative would also implement Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.13-1, 4.14-1 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, 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, while the reduced project site is not within an area of high or very high fire hazard, the Reduced Acreage 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 alternative in the event of a fire on the reduced project site. Implementation of Mitigation Measure MM 4.13-1 would reduce impacts related to wildfire to less than significant under this alternative.

Since decommissioning activities of this alternative would be similar to the project but on a reduced scale, impacts to hazards and hazardous materials associated with decommissioning would be less compared to the project.

Impacts under the Reduced Acreage 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 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's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would be developed solely on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity due to the proportional reduction in project size. The reduced footprint would result in 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 completion of a NPDES completion form as well as implementation of Mitigation Measure MM 4.9-1, MM 4.10-1, and MM 4.10-2 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 on-site drainage patterns and flow paths to some degree, and could alter the way that stormwater from up-gradient flows across the project site during major events. Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.10-1 and 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 onsite or offsite 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.

Since decommissioning activities of this alternative would be similar to the project but on a reduced scale, impacts to hydrology and water quality associated with decommissioning would be less compared to the project.

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's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would be developed solely on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity due to the proportional reduction in project size. Nevertheless, development of the Reduced Acreage Alternative would still require three CUPs, amendments to General Plan, Willow Springs Specific Plan and Circulation Element, and vacation of existing public access easements on the reduced project site. In addition, this alternative would also require implementation of Mitigation Measures MM 4.11-1 and MM 4.11-2, which require the submittal and approval of a Decommissioning Plan and coordinated use of telemetry to avoid potential frequency conflicts with military operations. 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 project.

Noise

Under the Reduced Acreage Alternative, the project's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would be developed solely on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity due to the proportional reduction in project size.

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 and decommissioning activities would result in the generation of a substantial temporary increase in ambient noise levels near the reduced project site in excess of standards, similar to the project. Implementation of Mitigation Measures MM 4.12-1 through MM 4.12-3 are designed to reduce impacts to the extent feasible during construction activities; however, impacts would still be significant and unavoidable during construction and decommissioning of this alternative. In addition, this alternative would utilize similar construction equipment as the proposed project, where the range of vibration levels that could occur at the analyzed sensitive receptors to the reduced project site would not exceed the applicable structural damage criteria of 0.25 in/sec PPV. Therefore, groundborne vibration impacts resulting from construction of this alternative would be less than significant.

Operational noise generated from the Reduced Acreage Alternative would be similar to that of the proposed project and would require implementation of mitigation measure MM 4.12-4 to reduce operational noise impacts to a less than significant level. Operation of the Reduced Acreage Alternative would involve mostly regular maintenance trucks accessing the project site and panel washing activities, similar to the propose project, that would be a sufficient distance from structures (i.e., over 100 feet away from structures). As such, operational vibration impacts would be minimal and are not expected to have any measurable effect on the adjacent off-site sensitive receivers.

In regards to cumulative noise impacts, numerous projects are proposed throughout Antelope Valley, where concurrent construction of this alternative and any of the cumulative projects would result in significant cumulative noise impacts. As construction of this alternative would result in less than significant impacts, the construction of this alternative concurrently with the construction of adjacent and/or nearby cumulative projects, if it were to occur, would also not result in a cumulatively considerable contribution to construction noise impacts. Therefore, the cumulative noise impacts would be less than significant with mitigation under this alternative, similar to the proposed project.

Even though construction, operation, and decommissioning activities are reduced under the Reduce Acreage Alternative, this alternative is still expected to result in significant and unavoidable noise impacts during construction and decommissioning activities as well as contribute to a cumulatively significant noise impact. However, since the construction, operation, and decommissioning activities would be reduced, it is anticipated that this alternative would result in less impacts than the proposed project. All other noise and vibration impacts would be less than significant.

Public Services

Under the Reduced Acreage Alternative, the project's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would be developed solely on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity due to the proportional reduction in project size.

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 reduced 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 project site would not require any

additional employees to be on-site on a permanent basis. Similar to the project, the Reduced Acreage 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. 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 reduced 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 reduced project 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 minimal and is not expected to adversely affect traffic levels. Therefore, the slight increase in traffic levels caused by operation of this alternative is not likely to have a significant adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways. Impacts to police protection would be less than significant under the Reduced Acreage Alternative.

The Reduced Acreage Alternative would also be required to implement Mitigation Measures MM 4.13-3 through MM 4.13-5, which establish various fee payment schemes for other public services within the County and other development requirements for use of the utility. Impacts to all public services would be reduced to a less than significant level with mitigation, similar to the project.

Since decommissioning activities of this alternative would be similar to the project but on a reduced scale, impacts to public services associated with decommissioning would be less compared to the project.

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

Under the Reduced Acreage Alternative, the project's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would be developed solely on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity due to the proportional reduction in project size.

Under the Reduced Acreage Alternative all construction and operational methods, workforce, and timing would be reduced when compared with the proposed project. Construction trips associated with bringing construction materials and construction workers to the reduced project site would use the same study roadways as the proposed project, where those study roadways are forecasted to operate at Caltrans- or County-defined acceptable LOS C conditions or better. Similar to the proposed project, this alternative would also be required to implement Mitigation Measure MM 4.14-1, which requires the preparation and submittal of 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.

Implementation of Mitigation Measure MM 4.14-1 would reduce impacts related to deficient roadway operations during construction to a less than significant level.

During operation of this alternative, day-to-day operations and maintenance trips would be reduced 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 for the proposed project. Consequently, since the Reduced Acreage Alternative would reduce the amount of construction workers and activities required for the project, traffic impacts under this alternative would be reduced compared to the project. Traffic impacts would be less than significant for the Reduced Acreage Alternative.

Impacts due to construction activities would be temporary and would not result in any meaningful longterm 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 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 would generally be assumed to cause less than significant transportation impacts. Under the Reduced Acreage Alternative, there will not be any full-time site personnel for on-going operation and maintenance, and therefore vehicle trips generated are expected to minimal and infrequent. Therefore, daily passenger vehicle trips generated by the project would be well below OPR's recommended small-project screening criterion threshold of 110 trips per day, and the project's impact to VMT would be less than significant, similar to the proposed project.

Since decommissioning activities of this alternative would be similar to the project but on a reduced scale, impacts to transportation associated with decommissioning would be less compared to the project.

Based on the above, impacts would be less than significant. Given that the Reduced Acreage Alternative would require less construction and operational trips compared to the proposed project, impacts would be less than those determined for the project.

Tribal Cultural Resources

Under the Reduced Acreage Alternative, the project's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would be developed solely on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity due to the proportional reduction in project size.

No tribal cultural resources were identified by the SLF search or the as a result the County's governmentto-government notification and consultation efforts with interested Native American groups conducted pursuant to SB 18 and AB 52. Given that no tribal cultural resources have been identified within or immediately adjacent to the project site, this alternative would not cause a substantial adverse change in the significance of a tribal cultural resource that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant. Similar to the proposed project, no impact to tribal cultural resources would occur under this alternative.

Utilities and Service Systems

Under the Reduced Acreage Alternative, the project's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would be developed solely on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity due to the proportional reduction in project size.

Under the Reduced Acreage Alternative all construction and operational methods, workforce, and timing would be reduced when compared with the proposed project. As with the proposed project, installation of solar panels would require water usage for dust suppression as well as minimal generation of wastewater, usage of electrical power, natural gas, and telecommunications. In addition, construction of the 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 and MM 4.10-2, would include measures to offset increases in stormwater runoff caused by the Reduced Acreage Alternative, which would further reduce impacts. Since decommissioning activities of this alternative would be similar to the project but on a reduced scale, impacts to utilities and service systems associated with decommissioning would be less compared to the project.

While the Reduced Acreage Alternative would result in less than significant impact similar to the project, since demand for utilities would be reduced due to a reduce project footprint, impacts would be less compared to the project.

Wildfires

Under the Reduced Acreage Alternative, the project's footprint would be reduced from 1,330 acres to 695 acres as development of the solar panels and associated facilities would be developed solely on Sites 1-3. The solar panels and associated infrastructure would all be located in the reduced project site, and gen-tie route options 1 through 4 would the same as proposed under the project. The reduced project acreage under this alternative is still expected to contain enough land to construct a combined solar array field capable of generating approximately 141 MW capacity due to the proportional reduction in project size.

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 onsite. 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 any present vegetation would be cleared. Thus, implementation of this alternative 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 Mitigation Measures MM 4.10-1 and MM 4.10-2.

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 result in slightly less impact than the proposed project due to the reduced footprint compared with the proposed project.

Since decommissioning activities of this alternative would be similar to the project but on a reduced scale, impacts to wildfires associated with decommissioning would be less compared to the project.

With regard to cumulative wildfire impacts, given the location in a rural area and limited infrastructure, the Reduced Acreage Alternative and related projects have the potential to result in a cumulative impact related to conflict with an adopted emergency response plan or emergency evacuation plan, exposing people to pollutant concentrations from a wildfire, the installation or maintenance of associated infrastructure, exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. Therefore, the Reduced Acreage Alternative would result in a significant and unavoidable cumulative impact, similar to the proposed project.

Comparison of Impacts

The Reduced Acreage Alternative would be reduced in size compared to the proposed project, and would generate approximately 141 MW due to the proportional reduction in project size. Therefore, all construction and operational methods, workforce, and timing for the Reduced Acreage Alternative would be reduced in comparison with the proposed project. Due to the reduced project footprint, the Reduced Acreage Alternative would result in less or similar impacts for all of the environmental issue areas, with the exception of eliminating the significant and unavoidable impact to agriculture and forestry resources that would occur under the proposed project. However, this alternative would not eliminate significant and unavoidable impacts associated with aesthetics (project and cumulative), air quality (cumulative only), biological resources (cumulative only), noise (project and cumulative), and wildfires (cumulative).

Relationship to Project Objectives

The Reduced Acreage Alternative would meet most of the project objectives listed above in Section 6.2. Under the Reduced Acreage Alternative, the project would avoid developing within Sites 4-6, would reduce the project's footprint from 1,330 acres to 695 acres, and would generate approximately 141 MW of solar energy. While the Reduced Acreage Alternative would meet most of the Project Objectives, it would not maximize renewable energy production and economic viability through the installation of solar PV panels on private lands with high solar insolation values as it would reduce the amount of potential solar energy generation by approximately 150 MW. Furthermore, this alternative avoids one significant and unavoidable impact caused by the proposed project, which would be impacts to agriculture and forestry resources.

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. Under the No Ground-Mounted Utility-Solar Development Alternative, solar installation would occur on the roofs of the existing buildings throughout Antelope Valley, where exact locations are not currently known. Therefore, scenic vistas could be in the vicinity of the locations where the solar PV systems would be installed. However, given the moderate to low visual quality of the solar PV systems and existing visual obstructions caused by the building themselves, implementation of the No Ground-Mounted Utility-Solar Development Alternative would minimal potential to cause a substantial adverse effect on a scenic vista. Impacts would be less than significant, similar to the proposed project.

The installation of small to medium solar PV systems on large commercial and industrial rooftops would be visually unobtrusive or unnoticeable from receptors at ground level. However, from other vantage points, the installation of rooftop small to medium solar PV systems may be visible. However, the presence of the small to medium solar PV systems would not likely affect the visual character or quality of an area because the character or quality of that area has already been altered as a result of the existing building's construction. The exceptions may be if rooftop solar were proposed on historic buildings, which could affect the historic character and integrity of the buildings. Implementation of this alternative would require historic surveys and investigations to evaluate the eligibility of potentially historic structures that are over 50 years old, and recommend either avoidance of such buildings, or incorporation of design measures to minimize impacts on historic integrity of historically significant structures.

Additionally, under this alternative, large acres of undeveloped desert land would not be disturbed or developed with a solar array field. For that reason, the No Ground-Mounted Utility-Solar Development Alternative would eliminate the significant and unavoidable project-level and cumulative impacts to visual quality that would occur under the proposed project. With requirement of historical structure investigations for buildings over 50 years old 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, this alternative would not create any changes in the existing environment that would convert land that is designated Farmland to non-agricultural use. As such, no impacts to agriculture or forestry resources would occur. Therefore, the No Ground-Mounted Utility-Solar

Development Alternative would reduce the significant and unavoidable impacts associated with the project to a less than significant level. This alternative would result in substantially less impacts related to agriculture and forest resources compared to the proposed project.

Air Quality

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. Under this alternative, no construction activities associated with ground disturbance would occur and construction impacts related to regional air quality emissions and implementation of applicable air quality plans would be reduced compared to the project. Emissions would be limited to trucks transporting the solar panels. The reduction in construction activities would also reduce the exposure of sensitive receptors to substantial pollutant concentrations, including valley fever. During operation, this alternative would have similar impacts on air quality as the proposed project related to occasional vehicular visits for maintenance. As such, operational impacts would be less than significant. Overall, air quality impacts under this alternative would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would eliminate the significant cumulative impacts related to the exceedance of PM₁₀ during temporary construction and decommissioning activities. For these reasons, 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 be unlikely to provide habitat for special-status species. Development of this alternative would not disturb any land or remove habitat for special-status plants and wildlife or have a substantial adverse effect on any riparian habitat. As such, Mitigation Measures MM 4.4-1 through MM 4.4-13 would not be required. Therefore, this alternative would not contribute to a cumulative loss of foraging and nesting habitat for burrowing owls, Swainson's hawk, loggerhead shrike, northern harrier, other raptors, migratory birds, American badger, and desert kit fox. As such, the significant and unavoidable cumulative impacts associated with the project would be eliminated under this alternative 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 project construction to identify known eligible historical resources and to evaluate the eligibility of potentially historic structures that are 45-years or older; historic structures would be either avoided or the alternative would be required to incorporate mitigation and design measures to minimize the impact on these structures. In the case of eligible historical resources, design measures must be in accordance with the Secretary of the Interior standards and the impact must not affect the eligibility of such resources or adjacent resources. Therefore, unanticipated impacts to unknown or known cultural resources would not occur under this alternative. Impacts would be less than significant. With the appropriate mitigation measures in place to reduce impacts to historical resources, the potential to disturb or discover unknown cultural resources within the project area would be less than significant. However, given the inability to impact archaeological resources under this alternative, the No Ground-Mounted Utility-Solar Development Alternative would result in fewer impacts related to cultural resources compared to the proposed project.

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. 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. As similar energy generation capabilities would be provided, impacts would be 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. This alternative would not require implementation of Mitigation Measures MM 4.7-1 through MM 4.7-7. 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, but distributed systems on rooftops would lack tracking systems and be less efficient. As such, this alternative's overall GHG emission offset potential would be smaller compared to the proposed project. Therefore, this alternative 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. However, impacts related to GHG emissions would be greater under this alternative due to the lower efficiency of the distributed systems, which would not include solar tracking technology, and smaller overall GHG emission offset potential.

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 construction of the proposed project 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 4.17-1 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 require a battery storage component. However, due to the numerous power lines that would be required to harness the distributed solar panel energy, this alternative could exacerbate fire risks. As such, similar to the proposed project, Mitigation Measure MM 4.13-1 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 completion forms would not be required under the No Ground-Mounted Utility-Solar Development Alternative, similar to the proposed project, this alternative would require implementation of Mitigation Measure MM 4.9-1 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. This alternative would not require implementation of Mitigation Measures MM 4.10-1\.

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, 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 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 under this alternative. 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, General Plan or Specific Plan Circulation Element Amendment or public access vacations required for the project site. Installation of rooftop solar would be consistent with current zoning as well as existing land use plans, policies, and regulations. The No Ground-Mounted Utility-Solar Development Alternative would also achieve the County's goals and policies relative to accommodating renewable energy facilities. However, the placement of solar panels on other structures throughout the region would result in unknown entitlement requirements, depending on the project location, zoning, land use, and potential environmental impacts on the site and surrounding areas. Nonetheless, to allow such development, the project proponent would be required to comply with the specific entitlements needed to construct solar PV systems consistent with this alternative. However, since this alternative would need to obtain a substantially greater number of existing properties to generate a similar 291 MW output, the number of potential land use and zoning entitlements that could be required is assumed to be greater than the number of entitlements required for the proposed project. Therefore, while impacts to land use and planning under this alternative would be less than significant, impacts would be greater 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, which could result in significant impacts. This alternative would be required to implement Mitigation Measures MM 4.12-1 through MM 4.12-3 in order to mitigate construction noise levels below the established thresholds. However, since the exact locations proposed for installation of the PV systems is not known, it is uncertain if these mitigation measures would reduce construction impacts to nearby sensitive receptors to a less than significant level. Therefore, construction noise impacts under this alternative would remain significant and unavoidable, similar to the proposed project.

Operational noise generated from these solar PV systems would be similar to that of the proposed project and would require implementation of mitigation measure MM 4.12-4 to reduce operational noise impacts to a less than significant level. With regard to vibration, construction of the No Ground-Mounted Utility-Solar Development Alternative would not require the use of vibratory rollers or other construction equipment with high groundborne vibration levels. Therefore, it is likely that construction vibration would have a less than significant construction vibration impact. Similar to the proposed project, operation of the No Ground-Mounted Utility-Solar Development Alternative would require regular maintenance trucks (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.

In regards to cumulative noise impacts, numerous projects are proposed throughout Antelope Valley, where concurrent construction of this alternative and any of the cumulative projects would result in significant cumulative noise impacts. As construction of this alternative would result in significant and unavoidable impacts, the construction of this alternative concurrently with the construction of adjacent and/or nearby cumulative projects, if it were to occur, would result in a cumulatively considerable contribution to construction noise impacts in the vicinity of the project. Therefore, the cumulative noise impacts would be significant and unavoidable under this alternative, similar to the proposed project.

As discussed above, construction and cumulative noise impacts would be significant and unavoidable under this alternative. Operational vibration and noise impacts would be less than significant. Therefore, the No Ground-Mounted Utility-Solar Development Alternative would result in similar impacts related to 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 temporarily or permanently increase the concentration of persons in an area.

With regard to fire protection, it is expected that the areas where the solar PV systems would be installed are in more urbanized areas compared to the project site. In addition, this alternative would not require a battery storage component. However, due to the numerous power lines that would be required to harness the distributed solar panel energy, this alternative could exacerbate fire risks. As such, similar to the proposed project, Mitigation Measure MM 4.13-1 would be implemented to reduce wildfire risks under this alternative. In addition, similar to the proposed project, in the event that a fire occurs during operation of the No Ground-Mounted Utility-Solar Development Alternative, 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. Therefore, impacts related to fire protection under this alternative would be less than significant with mitigation, similar to the proposed project.

With regard to police protection, as the proposed small to medium solar PV systems would be installed in more urbanized areas on existing buildings, it is unlikely that construction and operation of the No Ground-Mounted Utility-Solar Development Alternative would attract attention. Similar to the proposed project, this alternative would increase traffic with truck trips during construction and routine maintenance during operation of this alternative. However, the additional volume of trips during construction and operation would be minimal and would not likely have a significant and adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways. Therefore, impacts to police protection under this alternative would be less than significant.

Based on the above, impacts are expected to be less than significant with mitigation. The No Ground-Mounted Utility-Solar Development Alternative would result in less impact related to public services compared to the proposed project, as the proposed small to medium solar PV systems would be developed in urbanized areas that already receive fire and police protection services.

Transportation

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Antelope Valley. Similar to the proposed project, this alternative would require vehicular trips during construction to transport and install the solar panels at the various locations throughout Antelope Valley. However, the trips would be more dispersed than the proposed project given the locations of the existing buildings and facilities, thereby reducing impacts on the roadways surrounding the project site. As such, roadway segments within the Antelope Valley are not expected to operate at levels that would trigger a significant transportation impact during construction of this alternative. During operation of this alternative, day-to-day operations and maintenance trips would be more dispersed than the proposed project given 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.

Impacts due to construction activities would be temporary and would not result in any meaningful longterm 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 provide a screening criterion that could be used to determine if VMT analysis is warranted for small projects, which are defined as projects that

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would generate fewer than 110 trips per day and would generally be assumed to cause less than significant transportation impacts. Under the No Ground-Mounted Utility-Solar Development Alternative, there will not be any full-time personnel for on-going operation and maintenance, and therefore vehicle trips generated are expected to minimal and infrequent. For those reasons, daily passenger vehicle trips generated by the project would be well below OPR's recommended small-project screening criterion threshold of 110 trips per day. Therefore, impacts related to CEQA *Guidelines* Section 15064.3, subdivision (b) 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 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. While it is unlikely that the proposed rooftop solar systems would have an impact on tribal cultural resources, the Native American Heritage Commission would be contacted for a SLF record search for the construction area(s) prior to start of construction of this alternative. In addition, the County would conduct additional consultation with California Native American tribes on the County's Master List for AB 52, apprising them of the alternative project description. 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 that could be impacted by the No Ground-Mounted Utility-Solar Development Alternative should it be determined the potential exists, this alternative would avoid impacting any such resources through avoidance and re-design. As such, the No Ground-Mounted Utility-Solar Development Alternative would have no impact to tribal cultural resources under this alternative would be similar 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 or concrete mixing would be required during construction. This alternative would also require minimal generation of wastewater, usage of electrical power, natural gas, and telecommunications. In addition, construction of the No Ground-Mounted Utility-Solar Development Alternative would not substantially alter stormwater drainage. With regard to operation, solar panel washing is expected to be less frequent, as compared to the proposed project, given the location of panels on top of buildings throughout the Antelope Valley (rather than directly on sediment). 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, this alternative would not result in impervious surfaces and implementation of Mitigation Measures MM 4.10-1 would not be required. In addition, similar to the proposed project, this

alternative would also be required to implement MM 4.16-1, which requires debris and waste generated shall be recycled to the extent feasible during all phases of this alternative.

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. As such, similar to the proposed project, the No Ground-Mounted Utility-Solar Development 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. With regard to the installation or maintenance of associated infrastructure, solar panels would require installation of the electrical collector line, similar to the proposed project. The installation of the electrical collector line would not be placed within a high fire hazard zone and thus, would not result in increased fire risks that could result in temporary or ongoing impacts to the environment. Similar to the proposed project, the No Ground-Mounted Utility-Solar Development Alternative would not include significant risks related to downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

With implementation of similar mitigation, this alternative is expected to result in less-than-significant impacts to wildfires. The No Ground-Mounted Utility-Solar Development Alternative would likely result in slightly less impacts than the proposed project as solar panels would be located in more urbanized areas.

With regard to cumulative wildfire impacts, given the location in a rural area and limited infrastructure, the No Ground-Mounted Utility-Solar Development Alternative and related projects have the potential to result in a cumulative impact related to conflict with an adopted emergency response plan or emergency evacuation plan, exposing people to pollutant concentrations from a wildfire, the installation or maintenance of associated infrastructure, exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. Thus, this alternative in combination with surrounding cumulative project would result in a significant and unavoidable cumulative impact, similar to the proposed project.

Comparison of Impacts

The No Ground-Mounted Utility-Solar Development Alternative would result in less impacts related 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 utilities and service systems. Furthermore, this alternative would result in similar impacts to energy (less than significant), noise (significant and unavoidable for alternative and cumulative), tribal cultural resources (no impact) and wildfire (significant and unavoidable for cumulative. This alternative would result in greater impacts to GHG emissions due to the smaller potential for overall GHG emission offset compared to the project. Additionally, this alternative would eliminate significant and unavoidable impacts to aesthetics (project and cumulative), agriculture and forestry resources (project and cumulative), and biological resources (cumulative).

Relationship to Project Objectives

This alternative would satisfy some of the project objective of assisting California in reducing GHG emissions. This alternative theoretically has the potential to generate of up to 291 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. The alternative would not achieve other project objectives including utilizing existing transmission infrastructure to minimize costs. It is also unlikely the project would have an average insolation value of 6 kWh/m2/day or greater given the lack of efficiency of rooftop solar compared to solar tracking technology. Additionally, there are some drawbacks to this alternative that include, but not limited to those listed below.

- The 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 291 MW of solar power.
- A distributed system of the scale of the project would be cost-prohibitive.

Given the size of the proposed project, the project objectives, and the need to arrange a suitable assemblage of participating commercial and industrial properties, it is impractical and infeasible to propose a distributed generation project of this type and still proceed within a reasonably similar timeframe.

6.8 Environmentally Superior Alternative

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

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

Because the No Project Alternative cannot be the Environmentally Superior Alternative under CEQA, the Environmentally Superior Alternative is considered to be the No Ground-Mounted Utility-Solar Development Alternative. This alternative would avoid significant and unavoidable impacts to aesthetics, agriculture and forestry resources, air quality, and biological resources. Impacts related to GHG emissions would be greater under this alternative due to the lower efficiency of the distributed solar PV systems, which would not include solar tracking technology. This alternative could potentially result in greater impacts to land use and wildfire risks due to the numerous power lines that would be required to harness the distributed solar panel energy. In addition, this 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 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 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 291 MW of distributed solar generated electricity. In addition, this alternative would not achieve the project objective of assisting California load-serving entities in meeting their obligations under California's RPS Program. Nonetheless, because this alternative reduces impacts to a greater degree than the General Plan and Zoning Build-Out Alternative and Reduced Acreage Alternative, the No Ground-Mounted Utility-Solar Development Alternative is considered the Environmentally Superior Alternative.

This chapter is being reserved for, and will be included with, the Final EIR.

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8.1 Federal

Edwards Air Force Base China Lake Naval Weapons Center Federal Aviation Administration Federal Communications Commission U.S. Air Force U.S. Army U.S. Army Corp of Engineers U.S. Bureau of Land Management U.S. Department of Agriculture, Natural Resource Conservation ServiceU.S. Environmental Protection Agency Region IXU.S. Fish and Wildlife ServiceU.S. Marine CorpsU.S. Navy

8.2 State of California

California Air Resources Board California Department of Conservation California Department of Fish & Wildlife, Fresno Region California Department of Toxic Substances Control California Department of Water Resources California Environmental Protection Agency California Energy Commission California Highway Patrol California Public Utilities Commission, Energy Division California Regional Water Quality Control Board, Lahontan Region California State Clearinghouse California State Lands Commission California State University Bakersfield Caltrans District 6 Caltrans District 9

8.3 Regional and Local

Adams, Broadwell, Joseph & Cardozo Aero Sports Skypark Corporation AES Midwest Wind Generation Antelope Valley-East Kern Water Agency Bakersfield City Planning Department Kern County Library Beale Branch Kern County Local Agency Formation Commission Inyo County Planning Department Kelly Group Kern Audubon Society

Southern California Edison Structure Cast Tehachapi Area Association of Realtors Terra-Gen Power, LLC The Gorman Law Firm Tulare County Planning and Development Department Renewal Resources Group

Bakersfield City Public Works Department Beyond Coal Campaign Carol Vaughn California City Planning Department California Farm Bureau Center on Race, Poverty & the Environment/California 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 David Laughing Horse Robinson Defenders of Wildlife Delano City Planning Department **EDP** Renewables Company East Kern Air Pollution Control District East Kern Airport District Eastern Kern Resource **Conservation District** Fairmont Town Council Fotowatio Renewable Ventures Iderdrola Renewables Joyce LoBasso

Kern County Administrative Officer Kern County Parks and Recreation Kern County Council of Governments Kern County Fire Department Kern County Agriculture Department Kern County Airports Department Kern County Library Wanda Kirk/Rosamond Branch Kern County Environmental Health Services Department Kern County Public Works Department Kern County Sheriff's Department Kern County Superintendent of Schools Kern County Water Agency Kern Valley Indian Council Kings County Planning Agency Laborers' International Union of North America (LIUNA) Los Angeles Audubon Los Angeles County **Regional Planning Department** Mojave Foundation Mojave Airport

Rosamond Municipal Advisory Council Mojave Town Council National Public Lands News Native American Heritage Council of Kern County Northcutt and Associates Pacific Gas & Electric Company Pleistocene Foundation **Recurrent Energy** Robert Burgett Rosamond Skypark/Airport Santa Barbara County Resource Management Department Santa Rosa Rancheria San Bernardino County Planning Department San Luis Obispo County Planning Department Sierra Club South San Joaquin Valley Archaeological Information Center Southern Kern Unified School District Tulare County Planning and **Development Department** Ventura County Resource Management Agency, Planning Division Verizon California, Inc. Wayne Mayes

Wind Stream, LLC

Draft Environmental Impact Report Raceway Solar 2.0 Project
8.4 Other

Chumash Council of Bakersfield Kitanemuk & Yowlumne Tejon Indians Santa Rosa Rancheria Tribe San Fernando Band of Mission Indians Tubatulabals of Kern County Tule River Indian Tribe Tejon Indian Tribe This page intentionally left blank

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

Environmental Science Associates (ESA)

Kimberly Comacho– Project Director Ryan Todaro – Project Manager Aaron Weiner – Deputy Project Manager and Technical Analyst Eric Schniewind – Senior Geologist, Hydrologist, and Hazardous Materials Analyst Alan Sako – Senior Air Quality Analyst Heather Dubois – Senior Air Quality Analyst Olivia Chan – Senior Noise Analyst Jaclyn Catino-Davenport – Senior Biological Resource Analyst Michael Vader – Cultural Analyst Shadde Rosenblum – Senior Traffic Analyst Sylvia Palomera – Technical Analyst This page intentionally left blank

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