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Comments on Environmental Documents

I was retained or commissioned to comment on environmental planning and review documents, including:

- The Villages of Lakeview EIR (2017; 28 pp);
- Notes on Proposed Study Options for Trail Impacts on Northern Spotted Owl (2017; 4 pp);
- San Gorgonio Crossings EIR (2017; 22 pp);
- Replies to responses on Jupiter Project IS and MND (2017; 12 pp);
- MacArthur Transit Village Project Modified 2016 CEQA Analysis (2017; 12 pp);
- Central SoMa Plan DEIR (2017; 14 pp);
- Colony Commerce Center Specific Plan DEIR (2016; 16 pp);
- Fairway Trails Improvements MND (2016; 13 pp);
- Review of Avian-Solar Science Plan (2016; 28 pp);
- Replies to responses on Initial Study for Pyramid Asphalt (2016; 5 pp);
- Initial Study for Pyramid Asphalt (2016; 4 pp);
- Agua Mansa Distribution Warehouse Project Initial Study (2016; 14 pp);
- Santa Anita Warehouse IS and MND (2016; 12 pp);
- CapRock Distribution Center III DEIR (2016: 12 pp);
- Orange Show Logistics Center Initial Study and MND (2016; 9 pp);
- City of Palmdale Oasis Medical Village Project IS and MND (2016; 7 pp);
- Comments on proposed rule for incidental eagle take (2016, 49 pp);
- Grapevine Specific and Community Plan FEIR (2016; 25 pp);
- Grapevine Specific and Community Plan DEIR (2016; 15 pp);
- Clinton County Zoning Ordinance for Wind Turbine siting (2016);
- Hallmark at Shenandoah Warehouse Project Initial Study (2016; 6 pp);
- Tri-City Industrial Complex Initial Study (2016; 5 pp);
- Hidden Canyon Industrial Park Plot Plan 16-PP-02 (2016; 12 pp);
- Kimball Business Park DEIR (2016; 10 pp);
- Jupiter Project IS and MND (2016; 9 pp);
- Revised Draft Giant Garter Snake Recovery Plan of 2015 (2016, 18 pp);
- Palo Verde Mesa Solar Project Draft Environmental Impact Report (2016; 27 pp);

- Reply Witness Statement on Fairview Wind Project, Ontario, Canada (2016; 14 pp);
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- Supplementary Reply Witness Statement Amherst Island Wind Farm, Ontario (2015, 38 pp);
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- Second Reply Witness Statement on White Pines Wind Farm, Ontario (2015, 6 pp);
- Reply Witness Statement on White Pines Wind Farm, Ontario (2015, 10 pp);
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- Proposed Section 24 Specific Plan Agua Caliente Band of Cahuilla Indians DEIS (2015, 9 pp);
- Replies to comments 24 Specific Plan Agua Caliente Band of Cahuilla Indians FEIS (2015, 6 pp);
- Willow Springs Solar Photovoltaic Project DEIR (2015; 28 pp);
- Sierra Lakes Commerce Center Project DEIR (2015, 9 pp);
- Columbia Business Center MND (2015; 8 pp);
- West Valley Logistics Center Specific Plan DEIR (2015, 10 pp);
- World Logistic Center Specific Plan FEIR (2015, 12 pp);
- Bay Delta Conservation Plan EIR/EIS (2014, 21 pp);
- Addison Wind Energy Project DEIR (2014, 32 pp);
- Response to Comments on the Addison Wind Energy Project DEIR (2014, 15 pp);
- Addison and Rising Tree Wind Energy Project FEIR (2014, 12 pp);
- Alta East Wind Energy Project FEIS (2013, 23 pp);
- Blythe Solar Power Project Staff Assessment, California Energy Commission (2013, 16 pp);
- Clearwater and Yakima Solar Projects DEIR (2013, 9 pp);
- Cuyama Solar Project DEIR (2014, 19 pp);
- Draft Desert Renewable Energy Conservation Plan (DRECP) EIR/EIS (2015, 49 pp);
- Kingbird Solar Photovoltaic Project EIR (2013, 19 pp);
- Lucerne Valley Solar Project Initial Study & Mitigated Negative Declaration (2013, 12 pp);
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- Rising Tree Wind Energy Project DEIR (2014, 32 pp);
- Response to Comments on the Rising Tree Wind Energy Project DEIR (2014, 15 pp);
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- Comment on the Biological Opinion (08ESMF-00-2012-F-0387) of Oakland Zoo expansion on Alameda whipsnake and California red-legged frog (2014; 3 pp);
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- Declaration in opposition to BLM fracking (2013; 5 pp);
- Rosamond Solar Project Addendum EIR (2013; 13 pp);
- Pioneer Green Solar Project EIR (2013; 13 pp);
- Reply to Staff Responses to Comments on Soccer Center Solar Project Mitigated Negative

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- Reply to the County Staff's Responses on comments to Imperial Valley Solar Company 2 Project (2013; 10 pp);
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- Davidon Homes Tentative Subdivision Map and Rezoning Project DEIR (2013; 9 pp);
- Analysis of Biological Assessment of Oakland Zoo Expansion Impacts on Alameda Whipsnake (2013; 10 pp);
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- City of Lancaster Revised Initial Study for Conditional Use Permits 12-08 and 12-09, Summer Solar and Springtime Solar Projects (2012; 8 pp);
- J&J Ranch, 24 Adobe Lane Environmental Review (2012; 14 pp);
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- Declaration on Initial Study and Proposed Negative Declaration for the Butte Water District 2012 Water Transfer Program (2012; 11 pp);
- Mount Signal and Calexico Solar Farm Projects DEIR (2011; 16 pp);
- City of Elk Grove Sphere of Influence EIR (2011; 28 pp);
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- Statement of Shawn Smallwood, Ph.D. Regarding Proposed Rabik/Gudath Project, 22611 Coleman Valley Road, Bodega Bay (CPN 10-0002) (2011; 4 pp);
- Declaration of K. Shawn Smallwood on Biological Impacts of the Ivanpah Solar Electric Generating System (ISEGS) (2011; 9 pp);
- Comments on Draft Eagle Conservation Plan Guidance (2011; 13 pp);
- Comments on Draft EIR/EA for Niles Canyon Safety Improvement Project (2011; 16 pp);
- Declaration of K. Shawn Smallwood, Ph.D., on Biological Impacts of the Route 84 Safety Improvement Project (2011; 7 pp);
- Rebuttal Testimony of Witness #22, K. Shawn Smallwood, Ph.D, on Behalf of Intervenors Friends of The Columbia Gorge & Save Our Scenic Area (2010; 6 pp);
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- Answers to Questions on 33% RPS Implementation Analysis Preliminary Results Report (2009: 9 pp);
- SEPA Determination of Non-significance regarding zoning adjustments for Skamania County, Washington. Second Declaration to Friends of the Columbia Gorge, Inc. and Save Our Scenic Area (Dec 2008; 17 pp);
- Comments on Draft 1A Summary Report to CAISO (2008; 10 pp);
- County of Placer's Categorical Exemption of Hilton Manor Project (2009; 9 pp);
- Protest of CARE to Amendment to the Power Purchase and Sale Agreement for Procurement of Eligible Renewable Energy Resources Between Hatchet Ridge Wind LLC and PG&E (2009; 3 pp);
- Tehachapi Renewable Transmission Project EIR/EIS (2009; 142 pp);
- Delta Shores Project EIR, south Sacramento (2009; 11 pp + addendum 2 pp);
- Declaration of Shawn Smallwood in Support of Care's Petition to Modify D.07-09-040 (2008; 3 pp);
- The Public Utility Commission's Implementation Analysis December 16 Workshop for the Governor's Executive Order S-14-08 to implement a 33% Renewable Portfolio Standard by 2020 (2008; 9 pp);
- The Public Utility Commission's Implementation Analysis Draft Work Plan for the Governor's Executive Order S-14-08 to implement a 33% Renewable Portfolio Standard by 2020 (2008; 11 pp);
- Draft 1A Summary Report to California Independent System Operator for Planning Reserve Margins (PRM) Study (2008; 7 pp.);
- SEPA Determination of Non-significance regarding zoning adjustments for Skamania County, Washington. Declaration to Friends of the Columbia Gorge, Inc. and Save Our Scenic Area (Sep 2008; 16 pp);
- California Energy Commission's Preliminary Staff Assessment of the Colusa Generating Station (2007; 24 pp);
- Rio del Oro Specific Plan Project Recirculated Draft Environmental Impact Report (2008: 66 pp);
- Replies to Response to Comments Re: Regional University Specific Plan Environmental Impact Report (2008; 20 pp);
- Regional University Specific Plan Environmental Impact Report (2008: 33 pp.);
- Clark Precast, LLC's "Sugarland" project, Negative Declaration (2008: 15 pp.);
- Cape Wind Project Draft Environmental Impact Statement (2008; 157 pp.);
- Yuba Highlands Specific Plan (or Area Plan) Environmental Impact Report (2006; 37 pp.);
- Replies to responses to comments on Mitigated Negative Declaration of the proposed

Mining Permit (MIN 04-01) and Modification of Use Permit 96-02 at North Table Mountain (2006; 5 pp);

- Mitigated Negative Declaration of the proposed Mining Permit (MIN 04-01) and Modification of Use Permit 96-02 at North Table Mountain (2006; 15 pp);
- Windy Point Wind Farm Environmental Review and EIS (2006; 14 pp and 36 Powerpoint slides in reply to responses to comments);
- Shiloh I Wind Power Project EIR (2005; 18 pp);
- Buena Vista Wind Energy Project Notice of Preparation of EIR (2004; 15 pp);
- Negative Declaration of the proposed Callahan Estates Subdivision (2004; 11 pp);
- Negative Declaration of the proposed Winters Highlands Subdivision (2004; 9 pp);
- Negative Declaration of the proposed Winters Highlands Subdivision (2004; 13 pp);
- Negative Declaration of the proposed Creekside Highlands Project, Tract 7270 (2004; 21 pp);
- On the petition California Fish and Game Commission to list the Burrowing Owl as threatened or endangered (2003; 10 pp);
- Conditional Use Permit renewals from Alameda County for wind turbine operations in the Altamont Pass Wind Resource Area (2003; 41 pp);
- UC Davis Long Range Development Plan of 2003, particularly with regard to the Neighborhood Master Plan (2003; 23 pp);
- Anderson Marketplace Draft Environmental Impact Report (2003: 18 pp + 3 plates of photos);
- Negative Declaration of the proposed expansion of Temple B'nai Tikyah (2003: 6 pp);
- Antonio Mountain Ranch Specific Plan Public Draft EIR (2002: 23 pp);
- Response to testimony of experts at the East Altamont Energy Center evidentiary hearing on biological resources (2002: 9 pp);
- Revised Draft Environmental Impact Report, The Promenade (2002: 7 pp);
- Recirculated Initial Study for Calpine's proposed Pajaro Valley Energy Center (2002: 3 pp);
- UC Merced -- Declaration of Dr. Shawn Smallwood in support of petitioner's application for temporary restraining order and preliminary injunction (2002: 5 pp);
- Replies to response to comments in Final Environmental Impact Report, Atwood Ranch Unit III Subdivision (2003: 22 pp);
- Draft Environmental Impact Report, Atwood Ranch Unit III Subdivision (2002: 19 pp + 8 photos on 4 plates);
- California Energy Commission Staff Report on GWF Tracy Peaker Project (2002: 17 pp + 3 photos; follow-up report of 3 pp);
- Initial Study and Negative Declaration, Silver Bend Apartments, Placer County (2002: 13 pp);
- UC Merced Long-range Development Plan DEIR and UC Merced Community Plan DEIR (2001: 26 pp);
- Initial Study, Colusa County Power Plant (2001: 6 pp);
- Comments on Proposed Dog Park at Catlin Park, Folsom, California (2001: 5 pp + 4 photos);
- Pacific Lumber Co. (Headwaters) Habitat Conservation Plan and Environmental Impact Report (1998: 28 pp);
- Final Environmental Impact Report/Statement for Issuance of Take authorization for listed

species within the MSCP planning area in San Diego County, California (Fed. Reg. 62 (60): 14938, San Diego Multi-Species Conservation Program) (1997: 10 pp);
- Permit (PRT-823773) Amendment for the Natomas Basin Habitat Conservation Plan, Sacramento, CA (Fed. Reg. 63 (101): 29020-29021) (1998);
- Draft Recovery Plan for the Giant Garter Snake (*Thamnophis gigas*). (Fed. Reg. 64(176): 49497-49498) (1999: 8 pp);
- Review of the Draft Recovery Plan for the Arroyo Southwestern Toad (*Bufo microscaphus californicus*) (1998);
- Ballona West Bluffs Project Environmental Impact Report (1999: oral presentation);
- California Board of Forestry's proposed amended Forest Practices Rules (1999);
- Negative Declaration for the Sunset Skyranch Airport Use Permit (1999);
- Calpine and Bechtel Corporations' Biological Resources Implementation and Monitoring Program (BRMIMP) for the Metcalf Energy Center (2000: 10 pp);
- California Energy Commission's Final Staff Assessment of the proposed Metcalf Energy Center (2000);
- US Fish and Wildlife Service Section 7 consultation with the California Energy Commission regarding Calpine and Bechtel Corporations' Metcalf Energy Center (2000: 4 pp);
- California Energy Commission's Preliminary Staff Assessment of the proposed Metcalf Energy Center (2000: 11 pp);
- Site-specific management plans for the Natomas Basin Conservancy's mitigation lands, prepared by Wildlands, Inc. (2000: 7 pp);
- Affidavit of K. Shawn Smallwood in Spirit of the Sage Council, et al. (Plaintiffs) vs. Bruce Babbitt, Secretary, U.S. Department of the Interior, et al. (Defendants), Injuries caused by the No Surprises policy and final rule which codifies that policy (1999: 9 pp).

Comments on other Environmental Review Documents:

- Proposed Regulation for California Fish and Game Code Section 3503.5 (2015: 12 pp);
- Statement of Overriding Considerations related to extending Altamont Winds, Inc.'s Conditional Use Permit PLN2014-00028 (2015; 8 pp);
- Draft Program Level EIR for Covell Village (2005; 19 pp);
- Bureau of Land Management Wind Energy Programmatic EIS Scoping document (2003: 7 pp.);
- NEPA Environmental Analysis for Biosafety Level 4 National Biocontainment Laboratory (NBL) at UC Davis (2003: 7 pp);
- Notice of Preparation of UC Merced Community and Area Plan EIR, on behalf of The Wildlife Society—Western Section (2001: 8 pp.);
- Preliminary Draft Yolo County Habitat Conservation Plan (2001; 2 letters totaling 35 pp.);
- Merced County General Plan Revision, notice of Negative Declaration (2001: 2 pp.);
- Notice of Preparation of Campus Parkway EIR/EIS (2001: 7 pp.);
- Draft Recovery Plan for the bighorn sheep in the Peninsular Range (*Ovis candensis*) (2000);
- Draft Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*), on behalf of The Wildlife Society—Western Section (2000: 10 pp.);
- Sierra Nevada Forest Plan Amendment Draft Environmental Impact Statement, on behalf of The Wildlife Society—Western Section (2000: 7 pp.);

- State Water Project Supplemental Water Purchase Program, Draft Program EIR (1997);
- Davis General Plan Update EIR (2000);
- Turn of the Century EIR (1999: 10 pp);
- Proposed termination of Critical Habitat Designation under the Endangered Species Act (Fed. Reg. 64(113): 31871-31874) (1999);
- NOA Draft Addendum to the Final Handbook for Habitat Conservation Planning and Incidental Take Permitting Process, termed the HCP 5-Point Policy Plan (Fed. Reg. 64(45): 11485 - 11490) (1999; 2 pp + attachments);
- Covell Center Project EIR and EIR Supplement (1997).

Position Statements I prepared the following position statements for the Western Section of The Wildlife Society, and one for nearly 200 scientists:

- Recommended that the California Department of Fish and Game prioritize the extermination of the introduced southern water snake in northern California. The Wildlife Society--Western Section (2001);
- Recommended that The Wildlife Society—Western Section appoint or recommend members of the independent scientific review panel for the UC Merced environmental review process (2001);
- Opposed the siting of the University of California's 10th campus on a sensitive vernal pool/grassland complex east of Merced. The Wildlife Society--Western Section (2000);
- Opposed the legalization of ferret ownership in California. The Wildlife Society--Western Section (2000);
- Opposed the Proposed "No Surprises," "Safe Harbor," and "Candidate Conservation Agreement" rules, including permit-shield protection provisions (Fed. Reg. Vol. 62, No. 103, pp. 29091-29098 and No. 113, pp. 32189-32194). This statement was signed by 188 scientists and went to the responsible federal agencies, as well as to the U.S. Senate and House of Representatives.

Posters at Professional Meetings

Leyvas, E. and K. S. Smallwood. 2015. Rehabilitating injured animals to offset and rectify wind project impacts. Conference on Wind Energy and Wildlife Impacts, Berlin, Germany, 9-12 March 2015.

Smallwood, K. S., J. Mount, S. Standish, E. Leyvas, D. Bell, E. Walther, B. Karas. 2015. Integrated detection trials to improve the accuracy of fatality rate estimates at wind projects. Conference on Wind Energy and Wildlife Impacts, Berlin, Germany, 9-12 March 2015.

Smallwood, K. S. and C. G. Thelander. 2005. Lessons learned from five years of avian mortality research in the Altamont Pass WRA. AWEA conference, Denver, May 2005.

Neher, L., L. Wilder, J. Woo, L. Spiegel, D. Yen-Nakafugi, and K.S. Smallwood. 2005. Bird's eye view on California wind. AWEA conference, Denver, May 2005.

Smallwood, K. S., C. G. Thelander and L. Spiegel. 2003. Toward a predictive model of avian

fatalities in the Altamont Pass Wind Resource Area. Windpower 2003 Conference and Convention, Austin, Texas.

Smallwood, K.S. and Eva Butler. 2002. Pocket Gopher Response to Yellow Star-thistle Eradication as part of Grassland Restoration at Decommissioned Mather Air Force Base, Sacramento County, California. White Mountain Research Station Open House, Barcroft Station.

Smallwood, K.S. and Michael L. Morrison. 2002. Fresno kangaroo rat (*Dipodomys nitratoides*) Conservation Research at Resources Management Area 5, Lemoore Naval Air Station. White Mountain Research Station Open House, Barcroft Station.

Smallwood, K.S. and E.L. Fitzhugh. 1989. Differentiating mountain lion and dog tracks. Third Mountain Lion Workshop, Prescott, AZ.

Smith, T. R. and K. S. Smallwood. 2000. Effects of study area size, location, season, and allometry on reported *Sorex* shrew densities. Annual Meeting of the Western Section of The Wildlife Society.

Presentations at Professional Meetings and Seminars

Repowering the Altamont Pass. Altamont Symposium, The Wildlife Society – Western Section, 5 February 2017.

Developing methods to reduce bird mortality in the Altamont Pass Wind Resource Area, 1999-2007. Altamont Symposium, The Wildlife Society – Western Section, 5 February 2017.

Conservation and recovery of burrowing owls in Santa Clara Valley. Santa Clara Valley Habitat Agency, Newark, California, 3 February 2017.

Mitigation of Raptor Fatalities in the Altamont Pass Wind Resource Area. Raptor Research Foundation Meeting, Sacramento, California, 6 November 2015.

From burrows to behavior: Research and management for burrowing owls in a diverse landscape. California Burrowing Owl Consortium meeting, 24 October 2015, San Jose, California.

The Challenges of repowering. Keynote presentation at Conference on Wind Energy and Wildlife Impacts, Berlin, Germany, 10 March 2015.

Research Highlights Altamont Pass 2011-2015. Scientific Review Committee, Oakland, California, 8 July 2015.

Siting wind turbines to minimize raptor collisions: Altamont Pass Wind Resource Area. US Fish and Wildlife Service Golden Eagle Working Group, Sacramento, California, 8 January 2015.

Evaluation of nest boxes as a burrowing owl conservation strategy. Sacramento Chapter of the Western Section, The Wildlife Society. Sacramento, California, 26 August 2013.

Predicting collision hazard zones to guide repowering of the Altamont Pass. Conference on wind

power and environmental impacts. Stockholm, Sweden, 5-7 February 2013.

Impacts of Wind Turbines on Wildlife. California Council for Wildlife Rehabilitators, Yosemite, California, 12 November 2012.

Impacts of Wind Turbines on Birds and Bats. Madrone Audubon Society, Santa Rosa, California, 20 February 2012.

Comparing Wind Turbine Impacts across North America. California Energy Commission Staff Workshop: Reducing the Impacts of Energy Infrastructure on Wildlife, 20 July 2011.

Siting Repowered Wind Turbines to Minimize Raptor Collisions. California Energy Commission Staff Workshop: Reducing the Impacts of Energy Infrastructure on Wildlife, 20 July 2011.

Siting Repowered Wind Turbines to Minimize Raptor Collisions. Alameda County Scientific Review Committee meeting, 17 February 2011

Comparing Wind Turbine Impacts across North America. Conference on Wind energy and Wildlife impacts, Trondheim, Norway, 3 May 2011.

Update on Wildlife Impacts in the Altamont Pass Wind Resource Area. Raptor Symposium, The Wildlife Society—Western Section, Riverside, California, February 2011.

Siting Repowered Wind Turbines to Minimize Raptor Collisions. Raptor Symposium, The Wildlife Society - Western Section, Riverside, California, February 2011.

Wildlife mortality caused by wind turbine collisions. Ecological Society of America, Pittsburgh, Pennsylvania, 6 August 2010.

Map-based repowering and reorganization of a wind farm to minimize burrowing owl fatalities. California burrowing Owl Consortium Meeting, Livermore, California, 6 February 2010.

Environmental barriers to wind power. Getting Real About Renewables: Economic and Environmental Barriers to Biofuels and Wind Energy. A symposium sponsored by the Environmental & Energy Law & Policy Journal, University of Houston Law Center, Houston, 23 February 2007.

Lessons learned about bird collisions with wind turbines in the Altamont Pass and other US wind farms. Meeting with Japan Ministry of the Environment and Japan Ministry of the Economy, Wild Bird Society of Japan, and other NGOs Tokyo, Japan, 9 November 2006.

Lessons learned about bird collisions with wind turbines in the Altamont Pass and other US wind farms. Symposium on bird collisions with wind turbines. Wild Bird Society of Japan, Tokyo, Japan, 4 November 2006.

Responses of Fresno kangaroo rats to habitat improvements in an adaptive management framework. California Society for Ecological Restoration (SERCAL) 13th Annual Conference, UC Santa

Barbara, 27 October 2006.

Fatality associations as the basis for predictive models of fatalities in the Altamont Pass Wind Resource Area. EEI/APLIC/PIER Workshop, 2006 Biologist Task Force and Avian Interaction with Electric Facilities Meeting, Pleasanton, California, 28 April 2006.

Burrowing owl burrows and wind turbine collisions in the Altamont Pass Wind Resource Area. The Wildlife Society - Western Section Annual Meeting, Sacramento, California, February 8, 2006.

Mitigation at wind farms. Workshop: Understanding and resolving bird and bat impacts. American Wind Energy Association and Audubon Society. Los Angeles, CA. January 10 and 11, 2006.

Incorporating data from the California Wildlife Habitat Relationships (CWHR) system into an impact assessment tool for birds near wind farms. Shawn Smallwood, Kevin Hunting, Marcus Yee, Linda Spiegel, Monica Parisi. Workshop: Understanding and resolving bird and bat impacts. American Wind Energy Association and Audubon Society. Los Angeles, CA. January 10 and 11, 2006.

Toward indicating threats to birds by California's new wind farms. California Energy Commission, Sacramento, May 26, 2005.

Avian collisions in the Altamont Pass. California Energy Commission, Sacramento, May 26, 2005.

Ecological solutions for avian collisions with wind turbines in the Altamont Pass Wind Resource Area. EPRI Environmental Sector Council, Monterey, California, February 17, 2005.

Ecological solutions for avian collisions with wind turbines in the Altamont Pass Wind Resource Area. The Wildlife Society—Western Section Annual Meeting, Sacramento, California, January 19, 2005.

Associations between avian fatalities and attributes of electric distribution poles in California. The Wildlife Society - Western Section Annual Meeting, Sacramento, California, January 19, 2005.

Minimizing avian mortality in the Altamont Pass Wind Resources Area. UC Davis Wind Energy Collaborative Forum, Palm Springs, California, December 14, 2004.

Selecting electric distribution poles for priority retrofitting to reduce raptor mortality. Raptor Research Foundation Meeting, Bakersfield, California, November 10, 2004.

Responses of Fresno kangaroo rats to habitat improvements in an adaptive management framework. Annual Meeting of the Society for Ecological Restoration, South Lake Tahoe, California, October 16, 2004.

Lessons learned from five years of avian mortality research at the Altamont Pass Wind Resources Area in California. The Wildlife Society Annual Meeting, Calgary, Canada, September 2004.

The ecology and impacts of power generation at Altamont Pass. Sacramento Petroleum Association,

Sacramento, California, August 18, 2004.

Burrowing owl mortality in the Altamont Pass Wind Resource Area. California Burrowing Owl Consortium meeting, Hayward, California, February 7, 2004.

Burrowing owl mortality in the Altamont Pass Wind Resource Area. California Burrowing Owl Symposium, Sacramento, November 2, 2003.

Raptor Mortality at the Altamont Pass Wind Resource Area. National Wind Coordinating Committee, Washington, D.C., November 17, 2003.

Raptor Behavior at the Altamont Pass Wind Resource Area. Annual Meeting of the Raptor Research Foundation, Anchorage, Alaska, September, 2003.

Raptor Mortality at the Altamont Pass Wind Resource Area. Annual Meeting of the Raptor Research Foundation, Anchorage, Alaska, September, 2003.

California mountain lions. Ecological & Environmental Issues Seminar, Department of Biology, California State University, Sacramento, November, 2000.

Intra- and inter-turbine string comparison of fatalities to animal burrow densities at Altamont Pass. National Wind Coordinating Committee, Carmel, California, May, 2000.

Using a Geographic Positioning System (GPS) to map wildlife and habitat. Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

Suggested standards for science applied to conservation issues. Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

The indicators framework applied to ecological restoration in Yolo County, California. Society for Ecological Restoration, September 25, 1999.

Ecological restoration in the context of animal social units and their habitat areas. Society for Ecological Restoration, September 24, 1999.

Relating Indicators of Ecological Health and Integrity to Assess Risks to Sustainable Agriculture and Native Biota. International Conference on Ecosystem Health, August 16, 1999.

A crosswalk from the Endangered Species Act to the HCP Handbook and real HCPs. Southern California Edison, Co. and California Energy Commission, March 4-5, 1999.

Mountain lion track counts in California: Implications for Management. Ecological & Environmental Issues Seminar, Department of Biological Sciences, California State University, Sacramento, November 4, 1998.

"No Surprises" -- Lack of science in the HCP process. California Native Plant Society Annual Conservation Conference, The Presidio, San Francisco, September 7, 1997.

In Your Interest. A half hour weekly show aired on Channel 10 Television, Sacramento. In this episode, I served on a panel of experts discussing problems with the implementation of the Endangered Species Act. Aired August 31, 1997.

Spatial scaling of pocket gopher (*Geomyidae*) density. Southwestern Association of Naturalists 44th Meeting, Fayetteville, Arkansas, April 10, 1997.

Estimating prairie dog and pocket gopher burrow volume. Southwestern Association of Naturalists 44th Meeting, Fayetteville, Arkansas, April 10, 1997.

Ten years of mountain lion track survey. Fifth Mountain Lion Workshop, San Diego, February 27, 1996.

Study and interpretive design effects on mountain lion density estimates. Fifth Mountain Lion Workshop, San Diego, February 27, 1996.

Small animal control. Session moderator and speaker at the California Farm Conference, Sacramento, California, Feb. 28, 1995.

Small animal control. Ecological Farming Conference, Asylomar, California, Jan. 28, 1995.

Habitat associations of the Swainson's Hawk in the Sacramento Valley's agricultural landscape. 1994 Raptor Research Foundation Meeting, Flagstaff, Arizona.

Alfalfa as wildlife habitat. Seed Industry Conference, Woodland, California, May 4, 1994.

Habitats and vertebrate pests: impacts and management. Managing Farmland to Bring Back Game Birds and Wildlife to the Central Valley. Yolo County Resource Conservation District, U.C. Davis, February 19, 1994.

Management of gophers and alfalfa as wildlife habitat. Orland Alfalfa Production Meeting and Sacramento Valley Alfalfa Production Meeting, February 1 and 2, 1994.

Patterns of wildlife movement in a farming landscape. Wildlife and Fisheries Biology Seminar Series: Recent Advances in Wildlife, Fish, and Conservation Biology, U.C. Davis, Dec. 6, 1993.

Alfalfa as wildlife habitat. California Alfalfa Symposium, Fresno, California, Dec. 9, 1993.

Management of pocket gophers in Sacramento Valley alfalfa. California Alfalfa Symposium, Fresno, California, Dec. 8, 1993.

Association analysis of raptors in a farming landscape. Plenary speaker at Raptor Research Foundation Meeting, Charlotte, North Carolina, Nov. 6, 1993.

Landscape strategies for biological control and IPM. Plenary speaker, International Conference on Integrated Resource Management and Sustainable Agriculture, Beijing, China, Sept. 11, 1993.

Landscape Ecology Study of Pocket Gophers in Alfalfa. Alfalfa Field Day, U.C. Davis, July 1993.

Patterns of wildlife movement in a farming landscape. Spatial Data Analysis Colloquium, U.C. Davis, August 6, 1993.

Sound stewardship of wildlife. Veterinary Medicine Seminar: Ethics of Animal Use, U.C. Davis. May 1993.

Landscape ecology study of pocket gophers in alfalfa. Five County Grower's Meeting, Tracy, California. February 1993.

Turbulence and the community organizers: The role of invading species in ordering a turbulent system, and the factors for invasion success. Ecology Graduate Student Association Colloquium, U.C. Davis. May 1990.

Evaluation of exotic vertebrate pests. Fourteenth Vertebrate Pest Conference, Sacramento, California. March 1990.

Analytical methods for predicting success of mammal introductions to North America. The Western Section of the Wildlife Society, Hilo, Hawaii. February 1988.

A state-wide mountain lion track survey. Sacramento County Dept Parks and Recreation. April 1986.

The mountain lion in California. Davis Chapter of the Audubon Society. October 1985.

Ecology Graduate Student Seminars, U.C. Davis, 1985-1990: Social behavior of the mountain lion; Mountain lion control; Political status of the mountain lion in California.

Other forms of Participation at Professional Meetings

- Scientific Committee, Conference on Wind energy and Wildlife impacts, Berlin, Germany, March 2015.
- Scientific Committee, Conference on Wind energy and Wildlife impacts, Stockholm, Sweden, February 2013.
- Workshop co-presenter at Birds & Wind Energy Specialist Group (BAWESG) Information sharing week, Bird specialist studies for proposed wind energy facilities in South Africa, Endangered Wildlife Trust, Darling, South Africa, 3-7 October 2011.
- Scientific Committee, Conference on Wind energy and Wildlife impacts, Trondheim, Norway, 2-5 May 2011.
- Chair of Animal Damage Management Session, The Wildlife Society, Annual Meeting, Reno, Nevada, September 26, 2001.

- Chair of Technical Session: Human communities and ecosystem health: Comparing perspectives and making connection. Managing for Ecosystem Health, International Congress on Ecosystem Health, Sacramento, CA August 15-20, 1999.

- Student Awards Committee, Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

- Student Mentor, Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

Printed Mass Media

Smallwood, K.S., D. Mooney, and M. McGuinness. 2003. We must stop the UCD biolab now. Op-Ed to the Davis Enterprise.

Smallwood, K.S. 2002. Spring Lake threatens Davis. Op-Ed to the Davis Enterprise.

Smallwood, K.S. Summer, 2001. Mitigation of habitation. The Flatlander, Davis, California.

Entrikan, R.K. and K.S. Smallwood. 2000. Measure O: Flawed law would lock in new taxes. Op-Ed to the Davis Enterprise.

Smallwood, K.S. 2000. Davis delegation lobbies Congress for Wildlife conservation. Op-Ed to the Davis Enterprise.

Smallwood, K.S. 1998. Davis Visions. The Flatlander, Davis, California.

Smallwood, K.S. 1997. Last grab for Yolo's land and water. The Flatlander, Davis, California.

Smallwood, K.S. 1997. The Yolo County HCP. Op-Ed to the Davis Enterprise.

Radio/Television

PBS News Hour,

FOX News, Energy in America: Dead Birds Unintended Consequence of Wind Power Development, August 2011.

KXJZ Capital Public Radio -- Insight (Host Jeffrey Callison). Mountain lion attacks (with guest Professor Richard Coss). 23 April 2009;

KXJZ Capital Public Radio -- Insight (Host Jeffrey Callison). Wind farm Rio Vista Renewable Power. 4 September 2008;

KQED QUEST Episode #111. Bird collisions with wind turbines. 2007;

KDVS Speaking in Tongues (host Ron Glick), Yolo County HCP: 1 hour. December 27, 2001;

KDVS Speaking in Tongues (host Ron Glick), Yolo County HCP: 1 hour. May 3, 2001;

KDVS Speaking in Tongues (host Ron Glick), Yolo County HCP: 1 hour. February 8, 2001;

KDVS Speaking in Tongues (host Ron Glick & Shawn Smallwood), California Energy Crisis: 1 hour. Jan. 25, 2001;

KDVS Speaking in Tongues (host Ron Glick), Headwaters Forest HCP: 1 hour. 1998;

Davis Cable Channel (host Gerald Heffernon), Burrowing owls in Davis: half hour. June, 2000;

Davis Cable Channel (hosted by Davis League of Women Voters), Measure O debate: 1 hour. October, 2000;

KXTV 10, In Your Interest, The Endangered Species Act: half hour. 1997.

Reviews of Journal Papers (Scientific journals for whom I've provided peer review)

Journal	Journal
American Naturalist	Journal of Animal Ecology
Journal of Wildlife Management	Western North American Naturalist
Auk	Journal of Raptor Research
Biological Conservation	National Renewable Energy Lab reports
Canadian Journal of Zoology	Oikos
Ecosystem Health	The Prairie Naturalist
Environmental Conservation	Restoration Ecology
Environmental Management	Southwestern Naturalist
Functional Ecology	The Wildlife Society--Western Section Trans.
Journal of Zoology (London)	Proc. Int. Congress on Managing for Ecosystem Health
Journal of Applied Ecology	Transactions in GIS
Ecology	Tropical Ecology
Wildlife Society Bulletin	Peer J
Biological Control	The Condor

Committees

- Scientific Review Committee, Alameda County, Altamont Pass Wind Resource Area
- Ph.D. Thesis Committee, Steve Anderson, University of California, Davis
- MS Thesis Committee, Marcus Yee, California State University, Sacramento

Other Professional Activities or Products

Testified in Federal Court in Denver during 2005 over the fate of radio-nuclides in the soil at Rocky Flats Plant after exposure to burrowing animals. My clients won a judgment of $553,000,000. I have also testified in many other cases of litigation under CEQA, NEPA, the Warren-Alquist Act, and other environmental laws. My clients won most of the cases for which I testified.

Testified before Environmental Review Tribunals in Ontario, Canada regarding proposed White Pines, Amherst Island, and Fairview Wind Energy projects.

Testified in Skamania County Hearing in 2009 on the potential impacts of zoning the County for development of wind farms and hazardous waste facilities.

Testified in deposition in 2007 in the case of O'Dell et al. vs. FPL Energy in Houston, Texas.

Testified in Klickitat County Hearing in 2006 on the potential impacts of the Windy Point Wind Farm.

Memberships in Professional Societies

The Wildlife Society
Raptor Research Foundation

Honors and Awards

Fulbright Research Fellowship to Indonesia, 1987
J.G. Boswell Full Academic Scholarship, 1981 college of choice
Certificate of Appreciation, The Wildlife Society—Western Section, 2000, 2001
Northern California Athletic Association Most Valuable Cross Country Runner, 1984
American Legion Award, Corcoran High School, 1981, and John Muir Junior High, 1977
CIF Section Champion, Cross Country in 1978
CIF Section Champion, Track & Field 2 mile run in 1981
National Junior Record, 20 kilometer run, 1982
National Age Group Record, 1500 meter run, 1978

Community Activities

District 64 Little League Umpire, 2003-2007
Dixon Little League Umpire, 2006-07
Davis Little League Chief Umpire and Board member, 2004-2005
Davis Little League Safety Officer, 2004-2005
Davis Little League Certified Umpire, 2002-2004
Davis Little League Scorekeeper, 2002
Davis Visioning Group member
Petitioner for Writ of Mandate under the California Environmental Quality Act against City of Woodland decision to approve the Spring Lake Specific Plan, 2002
Served on campaign committees for City Council candidates

Representative Clients/Funders

Law Offices of Stephan C. Volker	EDF Renewables
Blum Collins, LLP	National Renewable Energy Lab
Eric K. Gillespie Professional Corporation	Altamont Winds LLC
Law Offices of Berger & Montague	Salka Energy
Lozeau | Drury LLP	Comstocks Business (magazine)
Law Offices of Roy Haber	BioResource Consultants
Law Offices of Edward MacDonald	Tierra Data
Law Office of John Gabrielli	Black and Veatch
Law Office of Bill Kopper	Terry Preston, Wildlife Ecology Research Center
Law Office of Donald B. Mooney	EcoStat, Inc.
Law Office of Veneruso & Moncharsh	US Navy
Law Office of Steven Thompson	US Department of Agriculture
Law Office of Brian Gaffney	US Forest Service
California Wildlife Federation	US Fish & Wildlife Service
Defenders of Wildlife	US Department of Justice
Sierra Club	California Energy Commission
National Endangered Species Network	California Office of the Attorney General
Spirit of the Sage Council	California Department of Fish & Wildlife
The Humane Society	California Department of Transportation
Hagens Berman LLP	California Department of Forestry
Environmental Protection Information Center	California Department of Food & Agriculture
Goldberg, Kamin & Garvin, Attorneys at Law	Ventura County Counsel
Californians for Renewable Energy (CARE)	County of Yolo
Seatuck Environmental Association	Tahoe Regional Planning Agency
Friends of the Columbia Gorge, Inc.	Sustainable Agriculture Research & Education Program
Save Our Scenic Area	Sacramento-Yolo Mosquito and Vector Control District
Alliance to Protect Nantucket Sound	East Bay Regional Park District
Friends of the Swainson's Hawk	County of Alameda
Alameda Creek Alliance	Don & LaNelle Silverstien
Center for Biological Diversity	Seventh Day Adventist Church
California Native Plant Society	Escuela de la Raza Unida
Endangered Wildlife Trust	Susan Pelican and Howard Beeman
and BirdLife South Africa	Residents Against Inconsistent Development, Inc.
AquAlliance	Bob Sarvey
Oregon Natural Desert Association	Mike Boyd
Save Our Sound	Hillcroft Neighborhood Fund
G3 Energy and Pattern Energy	Joint Labor Management Committee, Retail Food Industry
Emerald Farms	Lisa Rocca
Pacific Gas & Electric Co.	Kevin Jackson
Southern California Edison Co.	Dawn Stover and Jay Letto
Georgia-Pacific Timber Co.	Nancy Havassy
Northern Territories Inc.	Catherine Portman (for Brenda Cedarblade)
David Magney Environmental Consulting	Ventus Environmental Solutions, Inc.
Wildlife History Foundation	Panorama Environmental, Inc.
NextEra Energy Resources, LLC	Adams Broadwell Professional Corporation
Ogin, Inc.	

Representative special-status species experience

Common name	Species name	Description
Field experience		
California red-legged frog	*Rana aurora draytonii*	Protocol searches; Many detections
Foothill yellow-legged frog	*Rana boylii*	Presence surveys; Many detections
Western spadefoot	*Spea hammondii*	Presence surveys; Few detections
California tiger salamander	*Ambystoma californiense*	Protocol searches; Many detections
Coast range newt	*Taricha torosa torosa*	Searches and multiple detections
Blunt-nosed leopard lizard	*Gambelia sila*	Detected in San Luis Obispo County
California horned lizard	*Phrynosoma coronatum frontale*	Searches; Many detections
Western pond turtle	*Clemmys marmorata*	Searches; Many detections
San Joaquin kit fox	*Vulpes macrotis mutica*	Protocol searches; detections
Sumatran tiger	*Panthera tigris*	Track surveys in Sumatra
Mountain lion	*Puma concolor californicus*	Research and publications
Point Arena mountain beaver	*Aplodontia rufa nigra*	Remote camera operation
Giant kangaroo rat	*Dipodomys ingens*	Detected in Cholame Valley
San Joaquin kangaroo rat	*Dipodomys nitratoides*	Monitoring & habitat restoration
Monterey dusky-footed woodrat	*Neotoma fuscipes luciana*	Non-target captures and mapping of dens
Salt marsh harvest mouse	*Reithrodontomys raviventris*	Habitat assessment, monitoring
Salinas harvest mouse	*Reithrodontomys megalotus distichlus*	Captures; habitat assessment
Bats		Thermal imaging surveys
California clapper rail	*Rallus longirostris*	Surveys and detections
Golden eagle	*Aquila chrysaetos*	Numerical & behavioral surveys
Swainson's hawk	*Buteo swainsoni*	Numerical & behavioral surveys
Northern harrier	*Circus cyaeneus*	Numerical & behavioral surveys
White-tailed kite	*Elanus leucurus*	Numerical & behavioral surveys
Loggerhead shrike	*Lanius ludovicianus*	Large area surveys
Least Bell's vireo	*Vireo bellii pusillus*	Detected in Monterey County
Willow flycatcher	*Empidonax traillii extimus*	Research at Sierra Nevada breeding sites
Burrowing owl	*Athene cunicularia hypugia*	Numerical & behavioral surveys
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	Monitored success of relocation and habitat restoration
Analytical		
Arroyo southwestern toad	*Bufo microscaphus californicus*	Research and report.
Giant garter snake	*Thamnophis gigas*	Research and publication
Northern goshawk	*Accipiter gentilis*	Research and publication
Northern spotted owl	*Strix occidentalis*	Research and reports
Alameda whipsnake	*Masticophis lateralis euryxanthus*	Expert testimony

EXHIBIT B

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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August 6, 2020

Aaron Messing
Adams Broadwell Joseph & Cardozo
601 Gateway Blvd., Suite 1000
South San Francisco, CA 94080

Subject: Comments on Wister Solar Energy Facility Project (SCH No. 2019110140)

Dear Mr. Messing,

We have reviewed the June 2020 Draft Environmental Impact Report ("DEIR") for the Wister Solar Energy Facility Project ("Project") located in the unincorporated area of Imperial County ("City"). The Project proposes to construct solar energy generation equipment and associated facilities, including a 52,500-SF substation and access roads, as well as a 2,500-foot gen-tie line and fiberoptic cable on the 100-acre Project site.

Our review concludes that the DEIR fails to adequately evaluate the Project's hazards and hazardous materials, air quality, health risk, and greenhouse gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project are underestimated and inadequately addressed. An updated EIR should be prepared to adequately assess and mitigate the potential hazards and hazardous materials, air quality, health risk, and greenhouse gas impacts that the project may have on the surrounding environment. F.74

Hazards and Hazardous Materials

Inadequate Analysis of Impacts

A Phase I Environmental Site Assessment (ESA) was not prepared for the Project site. The preparation of a Phase I ESA is a common practice in CEQA matters to identify hazardous materials issues that may pose a risk to the public, workers, or the environment, and which may require further investigation through the conduct of a Phase II ESA. The DEIR only conducted a regulatory database search of the "Cortese List" (p. 6-2) which does not suffice for disclosure of impacts.

Standards for performing a Phase I ESA have been established by the US EPA and the American Society for Testing and Materials Standards (ASTM).[1] Phase I ESAs are conducted to identify conditions indicative of releases of hazardous substances and include:

- a review of all known sites in the vicinity of the subject property that are on regulatory agency databases undergoing assessment or cleanup activities;
- an inspection;
- interviews with people knowledgeable about the property; and
- recommendations for further actions to address potential hazards.

Phase I ESAs conclude with the identification of any "recognized environmental conditions" (RECs) and recommendations to address such conditions. A REC is the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. If RECs are identified, then a Phase II ESA generally follows, which includes the collection of soil, soil vapor and groundwater samples, as necessary, to identify the extent of contamination and the need for cleanup to reduce exposure potential to the public.

F.74, cont.

The preparation of a Phase I ESA is especially important because there is an idle geothermal well on the Project site. The well (Well No. 02591491) is in the northwest quarter of the Project site. According to the DEIR, "the geothermal well would be avoided by the proposed project. Implementation of the proposed project would not impact geothermal wells" (p. 6-3). A Phase I is necessary to examine, through an inspection, the geothermal well and any evidence of leakage of well fluids or any other associated chemicals that might constitute a recognized environmental condition.

Consistent with professional due diligence procedures commonly used in CEQA proceedings, a Phase I ESA, completed by a licensed environmental professional is necessary for inclusion in a revised EIR to identify recognized environmental conditions, if any, at the proposed Project site, including those associated with the idled geothermal well.

If a REC is identified, a Phase II should be conducted to sample for potential contaminants in soil (including pesticides), soil vapor and groundwater. Any contamination that is identified above regulatory screening levels, including California Office of Environmental Health Hazard Assessment's Soil Screening Numbers[2], should be further evaluated and cleaned up, if necessary, in coordination with the Regional Water Quality Control Board and the California Department of Toxics Substances Control.

Valley Fever Potential has not been Evaluated

The DEIR does not consider at all the potential for Project construction to increase the incidence of Valley Fever, a disease that can be caused by inhalation of spores of a soil-dwelling fungus. The impact

F.75

[1] http://www.astm.org/Standards/E1527.htm
[2] http://oehha.ca.gov/risk/chhsltable.html

of Valley Fever on workers constructing large, industrial-scale solar projects was documented in a study examining the October 2011–April 2014 timeframe, a period where 44 California solar construction workers were diagnosed with symptom onset.[3] A revised DEIR must be revised to evaluate Valley Fever impacts resulting from Project construction and to include additional mitigation.

Valley Fever is caused by inhaling the spores of a soil-dwelling fungus, *Coccidioides immitis.*[4] The spores become airborne when infected soils are disturbed during construction activities, agricultural operations, dust storms, or during earthquakes. A 2012 study documented that between 1990 and 2008, more than 3,000 people died in the United States from Valley Fever with about half in California.[5] In recent years, reported Valley Fever cases in southwestern Unites States have increased dramatically.[6]

F.75, cont.

No known cure exists for the disease and there is no vaccine.[7] Common symptoms of Valley Fever include fatigue, fever, cough, headaches, breathing difficulties, rash, muscle aches, and joint pain. Advanced symptoms are marked by chronic pneumonia, meningitis, skin lesions and bone or joint infections. Pneumonia stemming from Valley Fever becomes evident 13 weeks after infection.[8] Project construction and operation will generate dust which is one of the primary routes of exposure for contracting Valley Fever.[9] Construction workers are susceptible to contracting Valley Fever and are one of the most at-risk populations.[10]

The disease is debilitating and prevents those who have contracted Valley Fever from working.[11] The longest period of disability from occupational exposure in California is to construction workers, with 62%

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[3] Coccidioidomycosis among Workers Constructing Solar Power Farms, California, USA, 2011–2014, http://wwwnc.cdc.gov/eid/article/21/11/15-0129_article

[4] http://www.cdc.gov/fungal/diseases/coccidioidomycosis/definition.html

[5] Jennifer Y. Huang, Benjamin Bristow, Shira Shafir, and Frank Sorvillo, Coccidioidomycosis-associated Deaths, United States, 1990–2008; http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3559166/

[6] Center for Disease Control; Fungal Pneumonia: A Silent Epidemic, Coccidioidomycosis (Valley Fever); http://www.cdc.gov/fungal/pdf/cocci-fact-sheet-sw-us-508c.pdf

[7] http://www.cdc.gov/fungal/diseases/coccidioidomycosis/risk-prevention.html.

[8] *See, e.g.*, Lisa Valdivia, David Nix, Mark Wright, Elizabeth Lindberg, Timothy Fagan, Donald Lieberman, Prien Stoffer, Neil M. Ampel, and John N. Galgiani, Coccidioidomycosis as a Common Cause of Community-acquired Pneumonia, Emerging Infectious Diseases, v. 12, no. 6, June 2006; http://europepmc.org/articles/PMC3373055.

[9] Rafael Laniado-Laborin, Expanding Understanding of Epidemiology of Coccidioidomycosis in the Western Hemisphere, Ann. N.Y. Acad. Sci., v. 111, 2007, pp. 20-22;
Frederick S. Fisher, Mark W. Bultman, Suzanne M. Johnson, Demosthenes Pappagianis, and Erik Zaborsky Coccidioides Niches and Habitat Parameters in the Southwestern United States, a Matter of Scale, Ann. N.Y. Acad. Sci., No. 1111, 2007, pp. 47-72 ("All of the examined soil locations are noteworthy as generally 50% of the individuals who were exposed to the dust or were excavating dirt at the sites were infected.")

[10] Lawrence L. Schmelzer and R. Tabershaw, Exposure Factors in Occupational Coccidioidomycosis, Am. J. Public Health Nations Health, v. 58, no. 1, 1968, pp. 107-113, Table 3;
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1228046/?page=1

[11] Frank E. Swatek, Ecology of *Coccidioides Immitis*, Mycopathologia et Mycologia Applicata, V. 40, Nos. 1-2, pp. 3-12, 1970.

of the reported cases resulting in over 60 days of lost work.[12] Another study estimated the average hospital stay for each (non-construction work) case of coccidioidomycosis at 35 days.[13]

The potentially exposed population is much larger than construction workers on or adjacent to the Project site because dust generated during Project construction will carry the very small spores – 0.002-0.005 millimeters in diameter – into other areas, potentially exposing large segments of the public.[14,15]

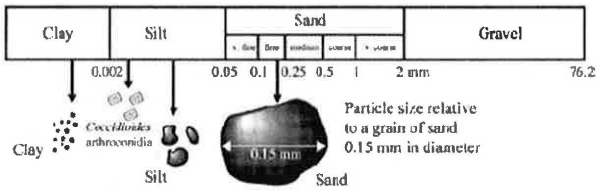

Figure 4: Size of cocci spores compared to soil particles (in mm)
(from: Fisher et al., 2007, Fig. 3)

F.75, cont.

Valley Fever spores have been documented to travel as much as 500 miles[16] and dust raised during construction could potentially expose a large number of people located miles away.

A revised DEIR should consider the following mitigation measures that would be specific to Valley Fever:

1. Minimize Exposure to Potential Valley Fever–Containing Dust through:
    - Cleaning equipment and vehicles of dust
    - Conducting earth-moving activities downwind of worker when possible
    - Spraying areas to be graded with water
    - Ceasing work if water runs out until a water truck can return
    - Using earth-moving vehicles with closed-cabs and equipped with a HEPA-filtered air systems
    - Training workers about Valley Fever and proving informational handouts.
2. Providing respirators to workers when requested and providing training on the proper use of personal protective equipment.
3. Payment of a monetary fee to Imperial County for implementation of Valley Fever public awareness programs.

[12] Schmelzer and Tabershaw, 1968, Table 4.
[13] Demosthenes Pappagianis and Hans Einstein, Tempest from Tehachapi Takes Toll or Coccidioides Conveyed Aloft and Afar, West J. Med., v. 129, Dec. 1978, pp. 527-530; http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1238466/pdf/westjmed00256-0079.pdf.
[14] Schmelzer and Tabershaw, 1968, p. 110; Pappagianis and Einstein, 1978.
[15] Pappagianis and Einstein, 1978, p. 527 ("The northern areas were not directly affected by the ground level windstorm that had struck Kern County but the dust was lifted to several thousand feet elevation and, borne on high currents, the soil and arthrospores along with some moisture were gently deposited on sidewalks and automobiles as "a mud storm" that vexed the residents of much of California." The storm originating in Kern County, for example, had major impacts in the San Francisco Bay Area and Sacramento).
[16] David Filip and Sharon Filip, Valley Fever Epidemic, Golden Phoenix Books, 2008, p. 24.

4. To require a respiratory protection program that is compliant with California Code of Regulations, Title 8, Section 5144.[17]

F.75, cont.

Implementation of these mitigation measures is feasible and would significantly reduce public health impacts. A revised DEIR must be revised to include these mitigation measures and to acknowledge the potential impact of an increase in the incidence in Valley Fever caused by Project construction.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The DEIR's air quality analysis relies on emissions calculated with CalEEMod.2016.3.2.[18] CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence.[19] Once all of the values are inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters were utilized in calculating the Project's air pollutant emissions and make known which default values were changed as well as provide justification for the values selected.[20]

F.76

As previously stated, the DEIR's air quality analysis relies on air pollutant emissions calculated using CalEEMod. When reviewing the Project's CalEEMod output files, provided in the Air Quality Technical Study as Appendix D to the DEIR, we found that several model inputs were not consistent with information disclosed in the DEIR. As a result, the Project's construction and operational emissions are underestimated. An updated EIR should be prepared to include an updated air quality analysis that adequately evaluates the impacts that construction and operation of the Project will have on local and regional air quality.

Use of an Incorrect Land Use Size

According to the DEIR, the Project proposes the construction of solar energy generation equipment, including 12 blocks of 2,520 3.5-foot by 4.8-foot PV panels, a 300-foot by 175-foot substation, and a fiberoptic cable and gen-tie line (p. 2-9 – 2-11). As such, the Project would include 508,032-SF[21] of PV

F.77

[17] California Department of Public Health and California Department of Industrial Relations, Protection from Valley Fever https://www.dir.ca.gov/dosh/valley-fever-home.html

[18] CAPCOA (November 2017) CalEEMod User's Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4.

[19] CAPCOA (November 2017) CalEEMod User's Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 1, 9.

[20] CAPCOA (November 2017) CalEEMod User's Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 11, 12 – 13. A key feature of the CalEEMod program is the "remarks" feature, where the user explains why a default setting was replaced by a "user defined" value. These remarks are included in the report.

[21] Calculated: (3.5 feet * 4 feet) * (2,520 panels) * (12 blocks) = 508,032-SF of PV panels.

panels and a 52,500-SF substation, as well as a fiber optic cable and gen-tie line. However, review of the Project's operational CalEEMod model, "Wister Solar Project - Operational Emissions," demonstrates that the model included 0-acres and 0-SF of "User Defined Industrial" land use space (see excerpt below) (Appendix D, pp. 50, 69, 84).

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.00	0.00	0

As you can see in the excerpt above, the Project's operational model fails to include the PV panels and the substation facility. This presents an issue, as the land use type and size features are used throughout CalEEMod to determine default variable and emission factors that go into the model's calculations.[22] The square footage of a land use is used for certain calculations such as determining the wall space to be painted (i.e., VOC emissions from architectural coatings) and volume that is heated or cooled (i.e., energy impacts). By failing to include the proposed PV panels and substation, the model underestimates the Project's operational emissions and should not be relied upon to determine Project significance.

Unsubstantiated Changes to Operational Vehicle Fleet Mix

F.77, cont.

Review of the Project's CalEEMod output files demonstrates that the model included several changes to the Project's anticipated operational vehicle fleet mix percentage values (see excerpt below) (Appendix D, pp. 51-52, 70-71, 85-86).

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.12	0.00
tblFleetMix	LDA	0.51	0.34
tblFleetMix	LDT1	0.03	0.33
tblFleetMix	LDT2	0.16	0.33
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.1290e-003	0.00
tblFleetMix	MCY	5.2230e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	6.9400e-004	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	3.3610e-003	0.00
tblFleetMix	SBUS	7.3900e-004	0.00
tblFleetMix	UBUS	1.1890e-003	0.00

As you can see in the excerpt above, the fleet mix percentage values for heavy-heavy duty trucks ("HHD"), light-heavy-duty trucks ("LHD1" and "LHD2"), medium-duty trucks ("MDV"), motorcycles ("MCY"), motor homes ("MH"), medium-heavy duty diesel trucks ("MHD"), and buses ("OBUS," "SBUS," and "UBUS") were reduced to 0, while the fleet mix percentage values for light-duty trucks ("LDT1" and "LDT2") were increased. As previously mentioned, the CalEEMod User's Guide requires any changes to

[22] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 18.

model defaults be justified.[23] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "Workers vehicle class assumed LD_Mix, consistent with construction workers vehicles" (Appendix D, pp. 51, 70, 85). However, the justification provided refers to the Project's *construction-related* vehicle fleet mix, while these changes impact the Project's *operational* vehicle fleet mix. Furthermore, the DEIR fails to justify this statement or mention these changes. As such, we cannot verify that these revised fleet mix percentages apply to the proposed Project. This presents an issue, as CalEEMod utilizes the vehicle fleet mix to calculate the emissions associated with on-road motor vehicle use throughout the Project's operation.[24] By including unsubstantiated changes to the Project's anticipated vehicle fleet mix, the model may underestimate the Project's mobile-related operational emissions and should not be relied upon to determine Project significance.

F.77, cont.

Underestimated Operational Vehicle Trips

Review of the Project's CalEEMod output files demonstrates that the model included only 4 Weekday, 0 Saturday, and 0 Sunday daily operational vehicle trips (see excerpt below) (Appendix D, pp. 59, 79, 94).

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	4.00	0.00	0.00	10,400	10,400
Total	4.00	0.00	0.00	10,400	10,400

However, according to the DEIR:

> "[I]t is conservatively assumed that for day-to-day inspection and minor maintenance, some employees would commute to the project site. The annual operations are assumed to be as follows:
>
> - For site inspection and minor repairs, up to 4 one-way worker trips per day would be generated.
> - Routine maintenance activities would include panel washing, which is expected to occur four times annually over a total of 20 days. Panel washing activities are estimated to require additional daily trips of 4 work 6 haul trucks for transport of water during each event" (p. 3.10-8).

F.78

By including only 4 one-way trips per day for site inspection and minor repairs, the Project's CalEEMod model fails to account for the trips associated with routine maintenance activities, which would generate an additional 4 worker and 6 hauling trips. Thus, in order to be consistent with the information provided in the DEIR and conduct the most conservative analysis as required by CEQA, the model should have included 14 daily one-way trips.[25] Failing to account for the correct number of daily operational trips presents an issue, as operational vehicle trips are used by CalEEMod to calculate the emissions

[23] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[24] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 37
[25] Calculated: (4 worker trips for site inspection and minor repairs) + (4 worker trips for routine maintenance activities) + (6 hauling trips for routine maintenance activities) = 14 average daily trips

associated with operational on-road vehicles.[26] As a result, the model may underestimate the Project's operational emissions and should not be relied upon to determine Project significance.

Unsubstantiated Changes to Operational Vehicle Trip Lengths

Review of the Project's CalEEMod output files demonstrates that the model included changes to the Project's anticipated operational vehicle trip lengths (see excerpt below) (Appendix D, pp. 52, 71, 86).

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	CC_TL	9.50	10.00
tblVehicleTrips	CNW_TL	11.90	10.00
tblVehicleTrips	CW_TL	16.40	10.00
tblVehicleTrips	HO_TL	0.00	10.00
tblVehicleTrips	HS_TL	0.00	10.00
tblVehicleTrips	HW_TL	0.00	10.00

As you can see in the excerpt above, the model changed the Project's anticipated operational trip lengths from the default CalEEMod value to 10 miles. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[27] Here, however, the "User Entered Comments & Non-Default Data" table fails to mention or provide a justification for these changes (Appendix D, pp. 51, 70, 85). Furthermore, the DEIR and associated documents fail to justify or mention these changes, and as a result, we cannot verify the revised operational trip lengths. These unsubstantiated changes present an issue, as operational vehicle trip lengths are used by CalEEMod to calculate the emissions associated with operational on-road vehicles.[28] As a result, the Project's operational emissions may be underestimated, and the model should not be relied upon to determine Project significance.

F.78, cont.

Unsubstantiated Changes to Operational Vehicle Trip Purpose Percentages

Review of the Project's CalEEMod output files demonstrates that the model included a change to the Residential Home-to-Work Trip Purpose Percentage from 0% to 100% (Appendix D, pp. 52, 71, 86).

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	HW_TTP	0.00	100.00

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[29] Here, however, the "User Entered Comments & Non-Default Data" table fails to mention or provide a justification for this change (Appendix D, pp. 51, 70, 85). Furthermore, the DEIR and associated documents fail to justify or mention this change, and as a result, we cannot verify the revised Residential Home-to-Work Trip Purpose Percentage. This unsubstantiated change presents an issue, as operational vehicle trip purpose percentages are used by CalEEMod to calculate the emissions associated with

[26] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 35
[27] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[28] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 35
[29] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

operational on-road vehicles.[30] As a result, the Project's operational emissions may be underestimated, and the model should not be relied upon to determine Project significance.

Unsubstantiated Changes to Hauling, Vendor, and Worker Trip Percent Paved Values

Review of the Project's CalEEMod output files demonstrates that the model included changes to the Project's construction and operational paved roads percentages.

The CalEEMod output files reveal that the model increased the Project's *construction* hauling, vendor, and worker trips from 50% on paved roads to 98% on paved roads (see excerpt below) (Appendix D, pp. 100-101, 115-116, 130-131).

Table Name	Column Name	Default Value	New Value
tblOnRoadDust	HaulingPercentPave	50.00	98.00
tblOnRoadDust	HaulingPercentPave	50.00	98.00
tblOnRoadDust	HaulingPercentPave	50.00	98.00
tblOnRoadDust	VendorPercentPave	50.00	98.00
tblOnRoadDust	VendorPercentPave	50.00	98.00
tblOnRoadDust	VendorPercentPave	50.00	98.00
tblOnRoadDust	WorkerPercentPave	50.00	98.00
tblOnRoadDust	WorkerPercentPave	50.00	98.00
tblOnRoadDust	WorkerPercentPave	50.00	98.00

F.78, cont.

In addition, the CalEEMod output files reveal that the model increased the Project's *operational* hauling, vendor, and worker trips from 50% on paved roads to 98% on paved roads (see excerpt below) (Appendix D, pp. 52, 71, 86).

Table Name	Column Name	Default Value	New Value
tblOnRoadDust	HaulingPercentPave	50.00	98.00
tblOnRoadDust	VendorPercentPave	50.00	98.00
tblOnRoadDust	WorkerPercentPave	50.00	98.00

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[31] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "Project site is accessible through paved roads" (Appendix D, pp. 51, 70, 85, 99, 114, 129). However, simply because the Project site would be accessible via paved roads does not justify the increase to the Project's anticipated construction- and operational-related road percent paved value. Furthermore, the DEIR discusses 6 roadways "that would be utilized for access to the project site during construction, and subsequent operation (e.g. maintenance) activities," 2 of which are unpaved or dirt service roads (p. 3.10-2). Thus, the increase in percentage of paved roads to 98% is incorrect. This presents an issue as CalEEMod uses the percentage of paved roads to determine the

[30] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 35
[31] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

fugitive dust emissions from on-road vehicles.[32] As a result, the Project's construction-related and operational emissions may be underestimated, and the model should not be relied upon to determine Project significance.

Incorrect Application of Construction-Related Mitigation Measures

Review of the Project's CalEEMod output files demonstrates that the model includes construction-related mitigation measures without sufficient justification. As a result, the Project's construction-related emissions may be underestimated.

The CalEEMod output files reveal that the model includes the following construction-related mitigation measures: "Water Exposed Area" and "Reduce Vehicle Speed on Unpaved Roads" (see excerpt below) (Appendix D, 106, 121, 136).

F.78, cont.

3.1 Mitigation Measures Construction

Water Exposed Area
Reduce Vehicle Speed on Unpaved Roads

Furthermore, the unpaved road vehicle speed was changed to 15 miles per hour ("MPH") as a result of the "Reduce Vehicle Speed on Unpaved Roads" and the unpaved road moisture content was changed to 0.5% as a result of the "Water Exposed Area" mitigation measures (see excerpt below) (Appendix D, pp. 99, 115, 130).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

F.79

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[33] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "Water 2 times per day" (Appendix D, pp. 99, 114, 129). However, this fails to justify a vehicle speed of 15 miles per hour and an unpaved road moisture content of 0.5%. Furthermore, according to the Imperial County Air Pollution Control District's ("ICAPCD") CEQA Handbook, as referenced by the DEIR, the following mitigation measures are only *recommended*: "water exposed soil with adequate frequency for continued moist soil" and "vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site"[34] (p. 3.3-18). However, simply because these measures are *recommended* by the ICAPCD does not demonstrate that the proposed Project has *committed* to their implementation on the Project site. As a result, we cannot

[32] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 35
[33] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[34] ICAPCD's CEQA Handbook, available at: https://apcd.imperialcounty.org/wp-content/uploads/2020/01/CEQAHandbk.pdf, p. 24

verify the inclusion of these measures, and the model may underestimate the Project's construction-related emissions.

F.79, cont.

Failure to Evaluate Emissions from Decommissioning

According to the DEIR, the Project would have a 20-year lifespan (p. 3.7-13). Therefore, 20 years after operation of the Project commences, the solar panels and associated structures will need to be removed, impacted soils will need to be restored, and debris will need to be hauled off-site. As a result, the DEIR should have evaluated the potential emissions associated with the decommissioning of the Project and compared those emissions to applicable thresholds.

However, the DEIR fails to consider the proposed Project's emissions from decommissioning. According to the DEIR:

> "The emissions associated with decommissioning of the Project are not quantitatively estimated, as the extent of activities and emissions factors for equipment and vehicles at the time of decommissioning are unknown. The overall activity would be anticipated to be somewhat less than project construction, and the emissions from offroad and on-road equipment are expected to be much lower than those for the Project construction. However, without changes in fugitive dust control methods it is likely that fugitive dust emissions would be closer to those estimated for construction. Overall, similar to construction, emissions associated with decommissioning would be less than significant." (p. 53).

As such, the DEIR fails to quantify emissions associated with these activities and compare them to applicable thresholds prior to Project approval. Until an adequate analysis is conducted that quantifies these impacts, the emissions generated by decommissioning activities remain unknown. As such, there is a large gap in the DEIR's analysis of the Project's impacts on regional air quality, and the Project should not be approved until an updated EIR is prepared to evaluate the emissions associated with decommissioning activities.

F.80

Failure to Evaluate Emissions from Fiberoptic Cable and Gen-tie Line

According to the DEIR, the Project proposes the installation of a fiberoptic cable and gen-tie line, along with the solar PV modules and substation facility (p. 2-1). However, the DEIR fails to quantify emissions resulting from construction and operation of the fiberoptic cable and gen-tie line. Specifically, regarding the air quality emission associated with these components of the Project, the DEIR states:

> "The installation of the fiberoptic cable would require substantially less construction equipment and shorter duration compared to the construction of the solar energy facility and gen-tie line. Based on this consideration, the installation of the fiberoptic cable would result in GHG emissions below allowable thresholds. This is considered a less than significant impact" (p. 3.7-15).

As such, the DEIR fails to quantify emissions related to the fiberoptic cable and gen-tie line and compare them to applicable thresholds prior to Project approval. Until an adequate analysis is conducted that quantifies these impacts, the emissions generated by the fiberoptic cable and gen-tie line remain unknown. As such, there is a large gap in the DEIR's analysis of the Project's impacts on regional air

quality, and the Project should not be approved until an updated EIR is prepared to evaluate the emissions associated with the installation of the fiberoptic cable and gen-tie line.

F.80, cont.

Updated Analysis Indicates Significant Pollutant Emissions

In an effort to accurately determine the proposed Project's construction and operational emissions, we prepared an updated CalEEMod model that includes more site-specific information and correct input parameters, as provided by the DEIR. In our updated model for the Project's construction, we omitted the unsubstantiated construction-related mitigation measures and changes to the Project's anticipated hauling, vendor, and worker trip percent paved values. When correct, site-specific input parameters are used to model emissions, we find that the Project's construction-related PM_{10} emissions increase when compared to the DEIR's model and exceed the 150 pounds per day ("lbs/day") threshold set by the ICAPCD, as referenced by the DEIR (see tables below) (p. 3.3-13, Table 3.3-7).

Maximum Daily Construction Emissions (Winter) (lbs/day):

Model	PM10
DEIR	17.6999
SWAPE	639.7735
% Increase	3515%
ICAPCD Regional Threshold (lbs/day)	**150**
Threshold Exceeded?	***Yes***

When correct input parameters are used to model the Project's emissions, construction-related PM_{10} emissions increase by approximately 3,515%, and exceed the ICAPCD threshold of 150 lbs/day. Our updated model demonstrates that when the Project's emissions are estimated correctly, the Project would result in a potentially significant air quality impact that was not previously identified or addressed in the DEIR. A revised EIR should be prepared and recirculated to include an updated air pollution model to adequately estimate the Project's construction and operational emissions, disclose the severity of the Project's individual and cumulative criteria pollutant impacts, and incorporate mitigation to reduce these emissions to a less than significant level.[35]

F.81

Diesel Particulate Matter Health Risk Emissions Inadequately Evaluated

The DEIR concludes that the proposed Project's health risk impact would be less than significant without conducting a quantified construction or operational health risk assessment ("HRA") (p. 3.3-20). Specifically, the DEIR states:

> "As there would be minimal and temporary emissions of DPM during project construction, and the nearest sensitive receptor is approximately 2,000 feet southwest of the project site, implementation of the project would not expose sensitive receptors to substantial pollutant concentrations, and impacts would be less than significant" (DEIR, p. 3.3-20).

[35] See section titled "Feasible Mitigation Measures Available to Reduce Emissions" on p. 15 of this comment letter. These measures would effectively reduce construction-related PM_{10} emissions.

However, these justifications and subsequent less than significant impact finding are incorrect for several reasons.

First, review of Google Maps demonstrates that the nearest sensitive receptors are residences located approximately 395 meters, or 1,297 feet, west of the Project site (see excerpt below).

As you can see in the excerpt above, there are residential receptors approximately 395 meters west of the Project site. As such, the DEIR's claim that "the nearest sensitive receptor is approximately 2,000 feet southwest of the project site" is incorrect (p. 3.3-20). As a result, the DEIR's evaluation of the Project's health risk impacts, as well as the subsequent less than significant impact conclusion, is incorrect and should not be relied upon to determine Project significance.

Second, the DEIR's claim that "the project would not expose sensitive receptors to substantial pollutant concentrations" is unsupported. The omission of a quantified HRA is inconsistent with the most recent guidance published by the Office of Environmental Health Hazard Assessment ("OEHHA"), the organization responsible for providing guidance on conducting HRAs in California. In February of 2015, OEHHA released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments.*[36] This guidance document describes the types of projects that warrant the preparation of an HRA. Construction of the Project will produce emissions of DPM, a human carcinogen, through the exhaust stacks of construction equipment over a construction period of approximately 221

F.81, cont.

[36] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/hotspots2015.html

days (Appendix D, pp. 104, 119, 134). The OEHHA document recommends that all short-term projects lasting at least two months be evaluated for cancer risks to nearby sensitive receptors.[37] Therefore, per OEHHA guidelines, we recommend that health risk impacts from Project construction be evaluated by an updated EIR. Furthermore, once construction of the Project is complete, the Project will operate for a long period of time. Project operation will generate a net increase of approximately 4 daily vehicle trips, as well as an additional 4 worker trips and 6 haul truck trips during panel washing, which will generate additional exhaust emissions and continue to expose nearby sensitive receptors to DPM emissions (p. 3.10-8). The OEHHA document recommends that exposure from projects lasting more than 6 months be evaluated for the duration of the project, and recommends that an exposure duration of 30 years be used to estimate individual cancer risk for the maximally exposed individual resident ("MEIR").[38] According to the DEIR, the Project would have an approximately 20-year lifespan (p. 3.7-13). Therefore, we recommend that health risk impacts from Project operation also be evaluated in an updated EIR, as a 20-year exposure duration vastly exceeds the 2-month and 6-month requirements set forth by OEHHA. These recommendations reflect the most recent health risk policy, as adopted by the air district, and as such, an updated assessment of health risks to nearby sensitive receptors from Project construction and operation should be included in an updated EIR for the Project.

F.81, cont.

Third, by claiming a less than significant impact without conducting a quantified construction or operational HRA for nearby, existing sensitive receptors, the DEIR fails to compare the excess health risk impact to the ICAPCD's specific numeric threshold of 10 in one million.[39] Thus, the DEIR cannot conclude less than significant health risk impacts resulting from Project construction without quantifying emissions to compare to the proper threshold.

Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Impacts

The DEIR concludes that the proposed Project would result in a less than significant GHG impact based on the Project's renewable energy generation, which would offset any GHG emissions associated with the proposed Project (p. 3.7-13). Furthermore, the DEIR concludes that the proposed Project would result in a less than significant GHG impact as a result of the Project's consistency with CARB's 2008 AB 32 *Scoping Plan* (p. 3.7-14). Specifically, according to the DEIR:

F.82

> "The proposed project is consistent with the *AB 32 Scoping Plan* strategies to increase the total amount of renewable energy sources consistent with the *State's* RPS requirements. The project would help the state meet this goal by generating up to 20 MW of power to California's current renewable portfolio. In addition, the *project would not conflict with CARB's emission reduction strategies in the Scoping Plan*. As the project would not exceed applicable GHG screening

[37] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf, p. 8-18
[38] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf, p. 8-6, 8-15
[39] "Section 4.1 Air Quality/Greenhouse Gas Emissions." ICAPCD, October 2016, *available at:* http://www.icpds.com/CMS/Media/4.1-Air-Quality-Greenhouse-Gases.pdf, p. 4.1-12.

thresholds and would provide a GHG emissions benefit, the project would be consistent with the Scoping Plan's goal of achieving cost-effective emissions reductions while accelerating the transition to a low-carbon economy.

Neither the County of Imperial or ICAPCD have any specific plans, policies, nor regulations adopted for reducing the emissions of GHGs; however, since the long-term operational GHG emissions are minimal and the construction emissions are short-term, the project would not conflict with any applicable plan, policy, or regulation adopted for reducing the emissions of GHGs. Implementation of the proposed project would result in a less than significant impact associated with the potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHG" (emphasis added) (p. 3.7-14).

However, the DEIR's GHG analysis and subsequent less-than-significant impact conclusion is unsupported, as the DEIR's reliance on CARB's 2008 AB 32 Scoping Plan is incorrect for two reasons. F.82, cont.

First, according to the *Scoping Plan*:

> "As the lead agency for implementing AB 32, the California Air Resources Board (ARB or the Board) released a Draft Scoping Plan on June 26, 2008, which laid out a comprehensive statewide plan to reduce California's greenhouse gas emissions to 1990 levels by 2020."[40]

As demonstrated above, this plan implements AB 32 and thus, only contains emission reduction goals through 2020. Given that it is already August of 2020, and the Project has not yet been approved, this plan is outdated and does not apply to the proposed Project.

Second, the DEIR states that the Project "would not conflict with CARB's emission reduction strategies in the Scoping Plan" (p. 3.7-14). However, simply not conflicting with CARB's implementation of this Plan does not mean that the Project would comply or participate in the measures included.

Thus, we cannot verify that the proposed Project will result in a less than significant GHG impact, as claimed in the DEIR. As a result, we recommend that an updated EIR be prepared, including further information and analysis utilizing an adequate GHG reduction plan.

Feasible Mitigation Measures Available to Reduce Emissions

As discussed above, the Project's air quality, health risk, and GHG emissions may result in potentially significant impacts. In an effort to reduce the Project's emissions, we identified several mitigation measures that are applicable to the proposed Project from NEDC's *Diesel Emission Controls in* F.83

[40] "Climate Change Scoping Plan: A Framework for Change Pursuant to AB 32 The California Global Warming Solutions Act of 2006." California Air Resources Board (CARB), December 2008, *available at:* https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/document/adopted_scoping_plan.pdf, p. 1.

Construction Projects.[41] Therefore, to reduce the Project's emissions, consideration of the following measures should be made:

NEDC's *Diesel Emission Controls in Construction Projects*[42]
Measures – Diesel Emission Control Technology
a. Diesel Onroad Vehicles All diesel nonroad vehicles on site for more than 10 total days must have either (1) engines that meet EPA onroad emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
b. Diesel Generators All diesel generators on site for more than 10 total days must be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
c. Diesel Nonroad Construction Equipment i. All nonroad diesel engines on site must be Tier 2 or higher. Tier 0 and Tier 1 engines are not allowed on site ii. All diesel nonroad construction equipment on site for more than 10 total days must have either (1) engines meeting EPA Tier 4 nonroad emission standards or (2) emission control technology verified by EPA or CARB for use with nonroad engines to reduce PM emissions by a minimum of 85% for engines 50hp and greater and by a minimum of 20% for engines less than 50hp.
d. Upon confirming that the diesel vehicle, construction equipment, or generator has either an engine meeting Tier 4 non road emission standards or emission control technology, as specified above, installed and functioning, the developer will issue a compliance sticker. All diesel vehicles, construction equipment, and generators on site shall display the compliance sticker in a visible, external location as designated by the developer.
e. Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.
f. All diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend[43] approved by the original engine manufacturer with sulfur content of 15 ppm or less.
Measures – Idling Requirements
During periods of inactivity, idling of diesel onroad vehicles and nonroad equipment shall be minimized and shall not exceed the time allowed under state and local laws.
Measures – Additional Diesel Requirements

F.83, cont.

[41] "Diesel Emission Controls in Construction Projects." Northeast Diesel Collaborative (NEDC), December 2010, *available at:* https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf.

[42] "Diesel Emission Controls in Construction Projects." Northeast Diesel Collaborative (NEDC), December 2010, *available at:* https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf.

[43] Biodiesel blends are only to be used in conjunction with the technologies which have been verified for use with biodiesel blends and are subject to the following requirements: http://www.arb.ca.gov/diesel/verdev/reg/biodieselcompliance.pdf.

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a. Construction shall not proceed until the contractor submits a certified list of all diesel vehicles, construction equipment, and generators to be used on site. The list shall include the following: i. Contractor and subcontractor name and address, plus contact person responsible for the vehicles or equipment. ii. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation. iii. For the emission control technology installed: technology type, serial number, make, model, manufacturer, EPA/CARB verification number/level, and installation date and hour-meter reading on installation date.
b. If the contractor subsequently needs to bring on site equipment not on the list, the contractor shall submit written notification within 24 hours that attests the equipment complies with all contract conditions and provide information.
c. All diesel equipment shall comply with all pertinent local, state, and federal regulations relative to exhaust emission controls and safety.
d. The contractor shall establish generator sites and truck-staging zones for vehicles waiting to load or unload material on site. Such zones shall be located where diesel emissions have the least impact on abutters, the general public, and especially sensitive receptors such as hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.
Reporting
a. For each onroad diesel vehicle, nonroad construction equipment, or generator, the contractor shall submit to the developer's representative a report prior to bringing said equipment on site that includes: i. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, and engine serial number. ii. The type of emission control technology installed, serial number, make, model, manufacturer, and EPA/CARB verification number/level. iii. The Certification Statement signed and printed on the contractor's letterhead.
b. The contractor shall submit to the developer's representative a monthly report that, for each onroad diesel vehicle, nonroad construction equipment, or generator onsite, includes: i. Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date. ii. Any problems with the equipment or emission controls. iii. Certified copies of fuel deliveries for the time period that identify: 1. Source of supply 2. Quantity of fuel 3. Quality of fuel, including sulfur content (percent by weight)

F.83, cont.

Furthermore, in an effort to reduce the Project's emissions, we identified several mitigation measures that are applicable to the proposed Project from the Sacramento Metropolitan Air Quality Management District's ("SMAQMD") *Basic Construction Emission Control Practices (Best Management Practices)* and

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Enhanced Exhaust Control Practices.[44, 45] Therefore, to reduce the Project's emissions, consideration of the following measures should be made:

SMAQMD's *Basic Construction Emission Control Practices*[46]
The following Basic Construction Emissions Control Practices are considered feasible for controlling fugitive dust from a construction site. The practices also serve as best management practices (BMPs), allowing the use of the non-zero particulate matter significance thresholds. Lead agencies should add these emission control practices as Conditions of Approval (COA) or include in a Mitigation Monitoring and Reporting Program (MMRP).
Control of fugitive dust is required by District Rule 403 and enforced by District staff.
Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
The following practices describe exhaust emission control from diesel powered fleets working at a construction site. California regulations limit idling from both on-road and offroad diesel-powered equipment. The California Air Resources Board (CARB) enforces idling limitations and compliance with diesel fleet regulations.
Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
Provide current certificate(s) of compliance for CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1].
Although not required by local or state regulation, many construction companies have equipment inspection and maintenance programs to ensure work and fuel efficiencies

F.83, cont.

[44] "Basic Construction Emission Control Practices (Best Management Practices)." Sacramento Metropolitan Air Quality Management District (SMAQMD), July 2019, *available at:* https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf.
[45] "Enhanced Exhaust Control Practices." Sacramento Metropolitan Air Quality Management District (SMAQMD)October 2013, *available at:* http://www.airquality.org/LandUseTransportation/Documents/Ch3EnhancedExhaustControlFINAL10-2013.pdf.
[46] "Basic Construction Emission Control Practices (Best Management Practices)." Sacramento Metropolitan Air Quality Management District (SMAQMD), July 2019, *available at:* https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf.

Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.
SMAQMD's *Enhanced Exhaust Control Practices*[47]
1. The project representative shall submit to the lead agency and District a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. • The inventory shall include the horsepower rating, engine model year, and projected hours of use for each piece of equipment. • The project representative shall provide the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman. • This information shall be submitted at least 4 business days prior to the use of subject heavy-duty off-road equipment. • The District's Equipment List Form can be used to submit this information. • The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.
2. The project representative shall provide a plan for approval by the lead agency and District demonstrating that the heavy-duty off-road vehicles (50 horsepower or more) to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20% NOX reduction and 45% particulate reduction compared to the most recent California Air Resources Board (ARB) fleet average. • This plan shall be submitted in conjunction with the equipment inventory. • Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available. • The District's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.
3. The project representative shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour. • Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. • Non-compliant equipment will be documented and a summary provided to the lead agency and District monthly. • A visual survey of all in-operation equipment shall be made at least weekly. • A monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period

F.83, cont.

[47] "Enhanced Exhaust Control Practices." Sacramento Metropolitan Air Quality Management District (SMAQMD)October 2013, *available at:* http://www.airquality.org/LandUseTransportation/Documents/Ch3EnhancedExhaustControlFINAL10-2013.pdf.

	in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.
4.	The District and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this mitigation shall supersede other District, state or federal rules or regulations.

These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduce emissions released during Project construction and operation. An updated EIR should be prepared to include all feasible mitigation measures, as well as include an updated air quality and GHG analysis to ensure that the necessary mitigation measures are implemented to reduce emissions to below thresholds. The EIR should also demonstrate a commitment to the implementation of these measures prior to Project approval, to ensure that the Project's significant emissions are reduced to the maximum extent possible.

F.83, cont.

SWAPE has received limited discovery regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

Matt Hagemann, P.G., C.Hg.

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Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
Industrial Stormwater Compliance
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Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2104, 2017;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at more than 100 industrial facilities.
- Expert witness on numerous cases including, for example, MTBE litigation, air toxins at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted

public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9.

Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific

principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F.** 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examinations, 2009-2011.

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on VOC filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience

Dr. Rosenfeld is the Co-Founder and Principal Environmental Chemist at Soil Water Air Protection Enterprise (SWAPE). His focus is the fate and transport of environmental contaminants, risk assessment, and ecological restoration. His project experience ranges from monitoring and modeling of pollution sources as they relate to human and ecological health. Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing, petroleum, MtBE and fuel oxygenates, chlorinated solvents, pesticides, radioactive waste, PCBs, PAHs, dioxins, furans, volatile organics, semi-volatile organics, perchlorate, heavy metals, asbestos, PFOA, unusual polymers, and odor. Significant projects performed by Dr. Rosenfeld include the following:

Litigation Support

Client: Missouri Department of Natural Resources (Jefferson City, Missouri)
Serving as an expert in evaluating air pollution and odor emissions from a Republic Landfill in St. Louis, Missouri. Conducted. Project manager overseeing daily, weekly and comprehensive sampling of odor and chemicals.

Client: Louisiana Department of Transportation and Development (Baton Rouge, Louisiana)
Serving as an expert witness, conducting groundwater modeling of an ethylene dichloride DNAPL and soluble plume resulting from spill caused by Conoco Phillips.

Client: Missouri Department of Natural Resources (St. Louis, Missouri)
Serving as a consulting expert and potential testifying expert regarding a landfill fire directly adjacent to another landfill containing radioactive waste. Implemented an air monitoring program testing for over 100 different compounds using approximately 12 different analytical methods.

Client: Baron & Budd, P.C. (Dallas, Texas) and Weitz & Luxeinberg (New York, New York)
Served as a consulting expert in MTBE Federal Multi District Litigation (MDL) in New York. Consolidated ground water data, created maps for test cases, constructed damage model, evaluated taste and odor threshold levels. Resulted in a settlement of over $440 million.

Client: The Buzbee Law Firm (Houston, Texas)
Served as a as an expert in ongoing litigation involving over 50,000+ plaintiffs who are seeking compensation for chemical exposure and reduction in property value resulting from chemicals released from the BP facility.

Client: Environmental Litigation Group (Birmingham, Alabama)
Serving as an expert on property damage, medical monitoring and toxic tort claims that have been filed on behalf of over 13,000 plaintiffs who were exposed to PCBs and dioxins/furans resulting from emissions from Monsanto and Cerro Copper's operations in Sauget, Illinois. Developed AERMOD models to demonstrate plaintiff's exposure.

Client: Baron & Budd P.C. (Dallas Texas) and Korein Tillery (St. Louis, Missouri)
Served as a consulting expert for a Class Action defective product claim filed in Madison County, Illinois against Syngenta and five other manufacturers for atrazine. Evaluated health issues associated with atrazine and deterimied treatment cost for filtration of public drinking water supplies. Resulted in $105 million dollar settlement.

Client: The Buzbee Law Firm (Houston, Texas)
Served as a consulting expert in catalyst release and refinery emissions cases against the BP Refinery in Texas City. A jury verdict for 10 employees exposed to catalyst via BP's irresponsible behavior.

Client: Baron & Budd, P.C. (Dallas, Texas)
Served as a consulting expert to calculate the Maximum Allowable Dose Level (MADL) and No Significant Risk Level (NSRL), based on Cal EPA and OEHHA guidelines, for Polychlorinated Biphenyls (PCBs) in fish oil dietary supplements.

Client: Girardi Keese (Los Angeles, California)
Served as an expert testifying on hydrocarbon exposure of a woman who worked on a fuel barge operated by Chevron. Demonstrated that the plaintiff was exposed to excessive amounts of benzene.

Client: Mason & Cawood (Annapolis, Maryland) and Girardi & Keese (Los Angeles, California)
Serving as an expert consultant on the Battlefield Golf Club fly ash disposal site in Chesapeake, VA, where arsenic, other metals and radionuclides are leaching into groundwater, and ash is blowing off-site onto the surrounding communities.

Client: California Earth Mineral Corporation (Culver City, California)
Evaluating the montmorillonite clay deposit located near El Centro, California. Working as a Defense Expert representing an individual who owns a 2,500 acre parcel that will potentially be seized by the United States Navy via eminent domain.

Client: Matthews & Associates (Houston, Texas)
Serving as an expert witness, preparing air model demonstrating residential exposure via emissions from fracking in natural gas wells in Duncan, Texas.

Client: Baron & Budd P.C. (Dallas, Texas) and Korein Tillery (St. Louis, Missouri)
Served as a consulting expert for analysis of private wells relating to litigation regarding compensation of private well owners for MTBE testing. Coordinated data acquisition and GIS analysis evaluating private well proximity to leaking underground storage tanks.

Client: Lurie & Park LLP (Los Angeles, California)
Served as an expert witness evaluating a vapor intrusion toxic tort case that resulted in a settlement. The Superfund site is a 4 ½ mile groundwater plume of chlorinated solvents in Whittier, California.

Client: Mason & Cawood (Annapolis, Maryland)
Evaluated data from the Hess Gasoline Station in northern Baltimore, Maryland that had a release resulting in flooding of plaintiff's homes with gasoline-contaminated water, foul odor, and biofilm growth.

Client: The Buzbee Law Firm (Houston, Texas)
Evaluated air quality resulting from grain processing emissions in Muscatine, Iowa.

Client: Anderson Kill & Olick, P.C. (Ventura, California)
Evaluated historical exposure and lateral and vertical extent of contamination resulting from a ~150 million gallon Exxon Mobil tank farm located near Watts, California.

Client: Packard Law Firm (Petaluma, California)
Served as an expert witness, evaluated lead in Proposition 65 Case where various products were found to have elevated lead levels.

Client: The Buzbee Law Firm (Houston, Texas)
Evaluated data resulting from an oil spill in Port Arthur, Texas.

Client: Nexsen Pruet, LLC (Charleston, South Carolina)
Serving as expert in chlorine exposure in a railroad tank car accident where approximately 120,000 pounds of chlorine were released.

Client: Girardi & Keese (Los Angeles, California)
Serving as an expert investigating hydrocarbon exposure and property damage for ~600 individuals and ~280 properties in Carson, California where homes were constructed above a large tank farm formerly owned by Shell.

Client: Brent Coon Law Firm (Cleveland, Ohio)
Served as an expert, calculating an environmental exposure to benzene, PAHs, and VOCs from a Chevron Refinery in Hooven, Ohio. Conducted AERMOD modeling to determine cumulative dose.

Client: Lundy Davis (Lake Charles, Louisiana)
Served as consulting expert on an oil field case representing the lease holder of a contaminated oil field. Conducted field work evaluating oil field contamination in Sulphur, Louisiana. Property is owned by Conoco Phillips, but leased by Yellow Rock, a small oil firm.

Client: Cox Cox Filo (Lake Charles, Louisiana)
Served as testifying expert on a multimillion gallon oil spill in Lake Charles which occurred on June 19, 2006, resulting in hydrocarbon vapor exposure to hundreds of workers and residents. Prepared air model and calculated exposure concentration. Demonstrated that petroleum odor alone can result in significant health harms.

Client: Cotchett Pitre & McCarthy (San Francisco, California)
Served as testifying expert representing homeowners who unknowingly purchased homes built on an old oil field in Santa Maria, California. Properties have high concentrations of petroleum hydrocarbons in subsurface soils resulting in diminished property value.

Client: Law Offices Of Anthony Liberatore P.C. (Los Angeles, California)
Served as testifying expert representing individuals who rented homes on the Inglewood Oil Field in California. Plaintiffs were exposed to hydrocarbon contaminated water and air, and experienced health harms associated with the petroleum exposure.

Client: Orange County District Attorney (Orange County, California)
Coordinated a review of 143 ARCO gas stations in Orange County to assist the District Attorney's prosecution of CCR Title 23 and California Health and Safety Code violators.

Client: Environmental Litigation Group (Birmingham, Alabama)
Served as a testifying expert in a health effects case against ABC Coke/Drummond Company for polluting a community with PAHs, benzene, particulate matter, heavy metals, and coke oven emissions. Created air dispersion models and conducted attic dust sampling, exposure modeling, and risk assessment for plaintiffs.

Client: Masry & Vitatoe (Westlake Village, California), Engstrom Lipscomb Lack (Los Angeles, Califronia) and Baron & Budd P.C. (Dallas, Texas)
Served as a consulting expert in Proposition 65 lawsuit filed against major oil companies for benzene and toluene releases from gas stations and refineries resulting in contaminated groundwater. Settlement included over $110 million dollars in injunctive relief.

Client: Tommy Franks Law Firm (Austin, Texas)
Served as expert evaluating groundwater contamination which resulted from the hazardous waste injection program and negligent actions of Morton Thiokol and Rohm Hass. Evaluated drinking water contamination and community exposure.

Client: Baron & Budd P.C. (Dallas, Texas) and Sher Leff (San Francisco, California)
Served as consulting expert for several California cities that filed defective product cases against Dow Chemical and Shell for 1,2,3-trichloropropane groundwater contamination. Generated maps showing capture zones of impacted wells for various municipalities.

Client: Weitz & Luxenberg (New York, New York)
Served as expert on Property Damage and Nuisance claims resulting from emissions from the Countywide Landfill in Ohio. The landfill had an exothermic reaction or fire resulting from aluminum dross dumping, and the EPA fined the landfill $10,000,000 dollars.

Client: Baron & Budd P.C. (Dallas, Texas)
Served as a consulting expert for a groundwater contamination case in Pensacola, Florida where fluorinated compounds contaminated wells operated by Escambia County.

Client: Environmental Litigation Group (Birmingham, Alabama)
Served as an expert on groundwater case where Exxon Mobil and Helena Chemical released ethylene dichloride into groundwater resulting in a large plume. Prepared report on the appropriate treatment technology and cost, and flaws with the proposed on-site remediation.

Client: Environmental Litigation Group (Birmingham, Alabama)
Served as an expert on air emissions released when a Bartlo Packaging Incorporated facility in West Helena, Arkansas exploded resulting in community exposure to pesticides and smoke from combustion of pesticides.

Client: Omara & Padilla (San Diego, California)
Served as a testifying expert on nuisance case against Nutro Dogfood Company that constructed a large dog food processing facility in the middle of a residential community in Victorville, California with no odor control devices. The facility has undergone significant modifications, including installation of a regenerative thermal oxidizer.

Client: Environmental Litigation Group (Birmingham, Alabama)
Serving as an expert on property damage and medical monitoring claims that have been filed against International Paper resulting from chemical emissions from facilities located in Bastrop, Louisiana; Prattville, Alabama; and Georgetown, South Carolina.

Client: Estep and Shafer L.C. (Kingwood, West Virginia)
Served as expert calculating acid emissions doses to residents resulting from coal-fired power plant emissions in West V
irginia using various air models.

Client: Watts Law Firm (Austin, Texas), Woodfill & Pressler (Houston, Texas) and Woska & Associates (Oklahoma City, Oklahoma)
Served as testifying expert on community and worker exposure to CCA, creosote, PAHs, and dioxins/furans from a BNSF and Koppers Facility in Somerville, Texas. Conducted field sampling, risk assessment, dose assessment and air modeling to quantify exposure to workers and community members.

Client: Environmental Litigation Group (Birmingham, Alabama)
Served as expert regarding community exposure to CCA, creosote, PAHs, and dioxins/furans from a Louisiana Pacific wood treatment facility in Florala, Alabama. Conducted blood sampling and environmental sampling to determine environmental exposure to dioxins/furans and PAHs.

Client: Sanders Law Firm (Colorado Springs, Colorado) and Vamvoras & Schwartzberg (Lake Charles, Louisiana)
Served as an expert calculating chemical exposure to over 500 workers from large ethylene dichloride spill in Lake Charles, Louisiana at the Conoco Phillips Refinery.

Client: Baron & Budd P.C. (Dallas, Texas)
Served as consulting expert in a defective product lawsuit against Dow Agroscience focusing on Clopyralid, a recalcitrant herbicide that damaged numerous compost facilities across the United States.

Client: Sullivan Papain Block McGrath & Cannavo (New York, New York) and The Cochran Firm (Dothan, Mississippi)

Served as an expert regarding community exposure to metals, PAHs PCBs, and dioxins/furans from the burning of Ford paint sludge and municipal solid waste in Ringwood, New Jersey.

Client: Rose, Klein & Marias LLP (Los Angeles, California)
Served as an expert in 55 Proposition 65 cases against individual facilities in the Port of Los Angeles and Port of Long Beach. Prepared air dispersion and risk models to demonstrate that each facility emits diesel particulate matter that results in risks exceeding 1/100,000, hence violating the Proposition 65 Statute.

Client: Rose, Klein & Marias LLP (Los Angeles, California) and Environmental Law Foundation (San Francisco, California)
Served as an expert in a Proposition 65 case against potato chip manufacturers. Conducted an analysis of several brands of potato chips for acrylamide concentrations and found that all samples exceeded Proposition 65 No Significant Risk Levels.

Client: Gonzales & Robinson (Westlake Village, California)
Served as a testifying expert in a toxic tort case against Chevron (Ortho) for allowing a community to be contaminated with lead arsenate pesticide. Created air dispersion and soil vadose zone transport models, and evaluated bioaccumulation of lead arsenate in food.

Client: Environment Now (Santa Monica, California)
Served as expert for Environment Now to convince the State of California to file a nuisance claim against automobile manufactures to recover MediCal damages from expenditures on asthma-related health care costs.

Client: Trutanich Michell (Long Beach, California)
Served as expert representing San Pedro Boat Works in the Port of Los Angeles. Prepared air dispersion, particulate air dispersion, and storm water discharge models to demonstrate that Kaiser Bulk Loading is responsible for copper concentrate accumulating in the bay sediment.

Client: Azurix of North America (Fort Myers, Florida)
Provided expert opinions, reports and research pertaining to a proposed County Ordinance requiring biosolids applicators to measure VOC and odor concentrations at application sites' boundaries.

Client: MCP Polyurethane (Pittsburg, Kansas)
Provided expert opinions and reports regarding metal-laden landfill runoff that damaged a running track by causing the reversion of the polyurethane due to its catalytic properties.

Risk Assessment And Air Modeling

Client: Hager, Dewick & Zuengler, S.C. (Green Bay, Wisconsin)
Conducted odor audit of rendering facility in Green Bay, Wisconsin.

Client: ABT-Haskell (San Bernardino, California)
Prepared air dispersion model for a proposed state-of-the-art enclosed compost facility. Prepared a traffic analysis and developed odor detection limits to predict 1, 8, and 24-hour off-site concentrations of sulfur, ammonia, and amine.

Client: Jefferson PRP Group (Los Angeles, California)
Evaluated exposure pathways for chlorinated solvents and hexavalent chromium for human health risk assessment of Los Angeles Academy (formerly Jefferson New Middle School) operated by Los Angeles Unified School District.

Client: Covanta (Susanville, California)
Prepared human health risk assessment for Covanta Energy focusing on agricultural worker exposure to caustic fertilizer.

Client: CIWMB (Sacramento, California)
Used dispersion models to estimate traveling distance and VOC concentrations downwind from a composting facility for the California Integrated Waste Management Board.

Client: Carboquimeca (Bogotá, Columbia)
Evaluated exposure pathways for human health risk assessment for a confidential client focusing on significant concentrations of arsenic and chlorinated solvents present in groundwater used for drinking water.

Client: Navy Base Realignment and Closure Team (Treasure Island, California)
Used Johnson-Ettinger model to estimate indoor air PCB concentrations and compared estimated values with empirical data collected in homes.

Client: San Diego State University (San Diego, California)
Measured CO_2 flux from soils amended with different quantities of biosolids compost at Camp Pendleton to determine CO_2 credit values for coastal sage under fertilized and non-fertilized conditions.

Client: Navy Base Realignment and Closure Team (MCAS Tustin, California)
Evaluated cumulative risk of a multiple pathway scenario for a child resident and a construction worker. Evaluated exposure to air and soil via particulate and vapor inhalation, incidental soil ingestion, and dermal contact with soil.

Client: MCAS Miramar (San Diego, California)
Evaluated exposure pathways of metals in soil by comparing site data to background data. Risk assessment incorporated multiple pathway scenarios assuming child resident and construction worker particulate and vapor inhalation, soil ingestion, and dermal soil contact.

Client: Naval Weapons Station (Seal Beach, California)
Used a multiple pathway model to generate dust emission factors from automobiles driving on dirt roads. Calculated bioaccumulation of metals, PCBs, dioxin congeners and pesticides to estimate human and ecological risk.

Client: King County, Douglas County (Washington State)
Measured PM_{10} and $PM_{2.5}$ emissions from windblown soil treated with biosolids and a polyacrylamide polymer in Douglas County, Washington. Used Pilat Mark V impactor for measurement and compared data to EPA particulate regulations.

Client: King County (Seattle, Washington)
Created emission inventory for several compost and wastewater facilities comparing VOC, particulate, and fungi concentrations to NIOSH values estimating risk to workers and individuals at neighboring facilities.

Air Pollution Investigation and Remediation

Client: Republic Landfill (Santa Clarita, California)
Managed a field investigation of odor around a landfill during 30+ events. Used hedonic tone, butanol scale, dilution-to-threshold values, and odor character to evaluate odor sources and character and intensity.

Client: California Biomass (Victorville, California)
Managed a field investigation of odor around landfill during 9+ events. Used hedonic tone, butanol scale, dilution-to-threshold values, and odor character to evaluate odor sources, character and intensity.

Client: ABT-Haskell (Redlands, California)
Assisted in permitting a compost facility that will be completely enclosed with a complex scrubbing system using acid scrubbers, base scrubbers, biofilters, heat exchangers and chlorine to reduce VOC emissions by 99 percent.

Client: Synagro (Corona, California)
Designed and monitored 30-foot by 20-foot by 6-foot biofilter for VOC control at an industrial composting facility in Corona, California to reduce VOC emissions by 99 percent.

Client: Jeff Gage (Tacoma, Washington)
Conducted emission inventory at industrial compost facility using GC/MS analyses for VOCs. Evaluated effectiveness of VOC and odor control systems and estimated human health risk.

Client: Daishowa America (Port Angeles Mill, Washington)
Analyzed industrial paper sludge and ash for VOCs, heavy metals and nutrients to develop a land application program. Metals were compared to federal guidelines to determine maximum allowable land application rates.

Client: Jeff Gage (Puyallup, Washington)
Measured effectiveness of biofilters at composting facility and conducted EPA dispersion models to estimate traveling distance of odor and human health risk from exposure to volatile organics.

Surface Water, Groundwater, and Wastewater Investigation/Remediation

Client: Confidential (Downey, California)
Managed groundwater investigation to determine horizontal extent of 1,000 foot TCE plume associated with a metal finishing shop.

Client: Confidential (West Hollywood, California)
Designing soil vapor extraction system that is currently being installed for confidential client. Managing groundwater investigation to determine horizontal extent of TCE plume associated with dry cleaning.

Client: Synagro Technologies (Sacramento, California)
Managed groundwater investigation to determine if biosolids application impacted salinity and nutrient concentrations in groundwater.

Client: Navy Base Realignment and Closure Team (Treasure Island, California)
Assisted in the design and remediation of PCB, chlorinated solvent, hydrocarbon and lead contaminated groundwater and soil on Treasure Island. Negotiated screening levels with DTSC and Water Board. Assisted in the preparation of FSP/QAPP, RI/FS, and RAP documents and assisted in CEQA document preparation.

Client: Navy Base Realignment and Closure Team (MCAS Tustin, California)
Assisted in the design of groundwater monitoring systems for chlorinated solvents at Tustin MCAS. Contributed to the preparation of FS for groundwater treatment.

Client: Mission Cleaning Facility (Salinas, California)
Prepared a RAP and cost estimate for using an oxygen releasing compound (ORC) and molasses to oxidize diesel fuel in soil and groundwater at Mission Cleaning in Salinas.

Client: King County (Washington)
Established and monitored experimental plots at a US EPA Superfund Site in wetland and upland mine tailings contaminated with zinc and lead in Smelterville, Idaho. Used organic matter and pH adjustment for wetland remediation and erosion control.

Client: City of Redmond (Richmond, Washington)
Collected storm water from compost-amended and fertilized turf to measure nutrients in urban runoff. Evaluated effectiveness of organic matter-lined detention ponds on reduction of peak flow during storm events. Drafted compost amended landscape installation guidelines to promote storm water detention and nutrient runoff reduction.

Client: City of Seattle (Seattle, Washington)
Measured VOC emissions from Renton wastewater treatment plant in Washington. Ran GC/MS, dispersion models, and sensory panels to characterize, quantify, control and estimate risk from VOCs.

Client: Plumas County (Quincy, California)

Installed wetland to treat contaminated water containing 1% copper in an EPA Superfund site. Revegetated 10 acres of acidic and metal laden sand dunes resulting from hydraulic mining. Installed and monitored piezometers in wetland estimating metal loading.

Client: Adams Egg Farm (St. Kitts, West Indies)
Designed, constructed, and maintained 3 anaerobic digesters at Springfield Egg Farm, St. Kitts. Digesters treated chicken excrement before effluent discharged into sea. Chicken waste was converted into methane cooking gas.

Client: BLM (Kremmling, Colorado)
Collected water samples for monitoring program along upper stretch of the Colorado River. Rafted along river and protected water quality by digging and repairing latrines.

Soil Science and Restoration Projects

Client: Hefner, Stark & Marois, LLP (Sacramento, California)
Facilitated in assisting Hefner, Stark & Marois, LLP in working with the Regional Water Quality board to determine how to utilize Calcium Participate as a by-product of processing sugar beets.

Client: Kinder Morgan (San Diego County, California)
Designed and monitored the restoration of a 110-acre project on Camp Pendleton along a 26-mile pipeline. Managed crew of 20, planting coastal sage, riparian, wetland, native grassland, and marsh ecosystems. Negotiated with the CDFW concerning species planting list and success standards.

Client: NAVY BRAC (Orote Landfill, Guam)
Designed and monitored pilot landfill cap mimicking limestone forest. Measured different species' root-penetration into landfill cap. Plants were used to evapotranspirate water, reducing water leaching through soil profile.

Client: LA Sanitation District Puente Hills Landfill (Whittier, California)
Monitored success of upland and wetland mitigation at Puente Hills Landfill operated by Sanitation Districts of Los Angeles. Negotiated with the Army Corps of Engineers and CDFG to obtain an early sign-off.

Client: City of Escondido (Escondido, California)
Designed, managed, installed, and monitored a 20-acre coastal sage scrub restoration project at Kit Carson Park, Escondido, California.

Client: Home Depot (Encinitas, California)
Designed, managed, installed and monitored a 15-acre coastal sage scrub and wetland restoration project at Home Depot in Encinitas, California.

Client: Alvarado Water Filtration Plant (San Diego, California)
Planned, installed and monitored 2-acre riparian and coastal sage scrub mitigation in San Diego California.

Client: Monsanto and James River Corporation (Clatskanie, Oregon)
Served as a soil scientist on a 50,000-acre hybrid poplar farm. Worked on genetically engineering study of Poplar trees to see if glyphosate resistant poplar clones were economically viable.

Client: World Wildlife Fund (St. Kitts, West Indies)
Managed 2-year biodiversity study, quantifying and qualifying the various flora and fauna in St. Kitts' expanding volcanic rainforest. Collaborated with skilled botanists, ornithologists and herpetologists.

Publications

Chen, J. A., Zapata, A R., Sutherland, A. J., Molmen, D. R,. Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. American Journal of Environmental Science, 2012, 8 (6), 622-632

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Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

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Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries*, Amsterdam: Elsevier Publishing.

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Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). 'Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States', in Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modelling, Monitoring and Management of Air Pollution*, Tallinn, Estonia. 20-22 July, 2009, Southampton, Boston. WIT Press.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. Organohalogen Compounds, Volume 70 (2008) page 002254.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. Organohalogen Compounds, Volume 70 (2008) page 000527.

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Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007) "The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities" –Water Science & Technology 55(5): 345-357.

Rosenfeld, P. E., M. Suffet. (2007) "The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment " Water Science & Technology 55(5): 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.,** (2007) "Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities," Elsevier Publishing, Boston Massachusetts.

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Rosenfeld, P.E., and Suffet I.H. (2004) "Control of Compost Odor Using High Carbon Wood Ash", Water Science and Technology, Vol. 49, No. 9. pp. 171-178.

Rosenfeld, P.E., Clark J. J. and Suffet, I.H. (2004) "Value of and Urban Odor Wheel." (2004). WEFTEC 2004. New Orleans, October 2 - 6, 2004.

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Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004) Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. Water Environment Research. 76 (4): 310-315 JUL-AUG 2004.

Rosenfeld, P. E., Grey, M., (2003) Two stage biofilter for biosolids composting odor control. Seventh International In Situ And On Site Bioremediation Symposium. Batelle Conference Orlando Florida. June 2 and June 6, 2003.

Rosenfeld, P.E., Grey, M and Suffet, M. 2002. "Controlling Odors Using High Carbon Wood Ash." Biocycle, March 2002, Page 42.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). "Compost Demonstration Project, Sacramento, California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility Integrated Waste Management Board Public Affairs Office, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008. April 2002.

Rosenfeld, P.E., and C.L. Henry. 2001. Characterization of odor emissions from three different biosolids. Water Soil and Air pollution. Vol. 127 Nos. 1-4, pp. 173-191.

Rosenfeld, P.E., and Henry C. L., 2000. Wood ash control of odor emissions from biosolids application. Journal of Environmental Quality. 29:1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. 2001. Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. Water Environment Research. 73: 363-367.

Rosenfeld, P.E., and C.L. Henry. 2001. Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants Water Environment Research, 73: 388-392.

Rosenfeld, P.E., and Henry C. L., 2001. High carbon wood ash effect on biosolids microbial activity and odor. Water Environment Research. Volume 131 No. 1-4, pp. 247-262.

Rosenfeld, P.E, C.L. Henry, R. Harrison. 1998. Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Bellevue Washington.

Chollack, T. and **P. Rosenfeld.** 1998. Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

P. Rosenfeld. 1992. The Mount Liamuiga Crater Trail. Heritage Magazine of St. Kitts, Vol. 3 No. 2.

P. Rosenfeld. 1993. High School Biogas Project to Prevent Deforestation On St. Kitts. Biomass Users Network, Vol. 7, No. 1, 1993.

P. Rosenfeld. 1992. British West Indies, St. Kitts. Surf Report, April issue.

P. Rosenfeld. 1998. Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

P. Rosenfeld. 1994. Potential Utilization of Small Diameter Trees On Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

P. Rosenfeld. 1991. How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

England Environmental Agency, 2002. Landfill Gas Control Technologies. Publishing Organization Environment Agency, Rio House, Waterside Drive, Aztec West, Almondsbury BRISTOL, BS32 4UD.

Presentations

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** "Atrazine: A Persistent Pesticide in Urban Drinking Water." Urban Environmental Pollution, Boston, MA, June 20-23, 2010.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** "Bringing Environmental Justice to East St. Louis, Illinois." Urban Environmental Pollution, Boston, MA, June 20-23, 2010.

Rosenfeld, P.E. (2009) "Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States" Presentation at the 2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting, April 19-23, 2009. Tuscon, AZ.

Rosenfeld, P.E. (2009) "Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States" Presentation at the 2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting, April 19-23, 2009. Tuscon, AZ.

Rosenfeld, P. E. (2007) "Moss Point Community Exposure To Contaminants From A Releasing Facility" Platform Presentation at the 23rd Annual International Conferences on Soils Sediment and Water, October 15-18, 2007. University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (2007) "The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant" Platform Presentation at the 23rd Annual International Conferences on Soils Sediment and Water, October 15-18, 2007. University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (2007) "Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions" Poster Presentation at the 23rd Annual International Conferences on Soils Sediment and Water, October 15-18, 2007. University of Massachusetts, Amherst MA.

Rosenfeld P. E. "Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP)" – Platform Presentation at the Association for Environmental Health and Sciences (AEHS) Annual Meeting, San Diego, CA, 3/2007.

Rosenfeld P. E. "Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama" – Platform Presentation at the AEHS Annual Meeting, San Diego, CA, 3/2007.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (2006) "Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." APHA 134 Annual Meeting & Exposition, Boston Massachusetts. November 4 to 8th, 2006.

Paul Rosenfeld Ph.D. "Fate, Transport and Persistence of PFOA and Related Chemicals." Mealey's C8/PFOA Science, Risk & Litigation Conference" October 24, 25. The Rittenhouse Hotel, Philadelphia.

Paul Rosenfeld Ph.D. "Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation PEMA Emerging Contaminant Conference. September 19. Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. "Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP." PEMA Emerging Contaminant Conference. September 19. Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. "Fate, Transport and Persistence of PDBEs." Mealey's Groundwater Conference. September 26, 27. Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. "Fate, Transport and Persistence of PFOA and Related Chemicals." International Society of Environmental Forensics: Focus On Emerging Contaminants. June 7,8. Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. "Rate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals". 2005 National Groundwater Association Ground Water And Environmental Law Conference. July 21-22, 2005. Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. "Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation." 2005 National Groundwater Association Ground Water And Environmental Law Conference. July 21-22, 2005. Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. National Groundwater Association. Environmental Law Conference. May 5-6, 2004. Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D., 2004. Perchlorate Toxicology. Presentation to a meeting of the American Groundwater Trust. March 7th, 2004. Pheonix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse, 2004. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal representatives, Parker, AZ.

Paul Rosenfeld, Ph.D. A National Damage Assessment Model For PCE and Dry Cleaners. Drycleaner Symposium. California Ground Water Association. Radison Hotel, Sacramento, California. April 7, 2004.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants. February 20-21, 2003. Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. Underground Storage Tank Litigation and Remediation. California CUPA Forum. Marriott Hotel. Anaheim California. February 6-7, 2003.

Paul Rosenfeld, Ph.D. Underground Storage Tank Litigation and Remediation. EPA Underground Storage Tank Roundtable. Sacramento California. October 23, 2002.

Rosenfeld, P.E. and Suffet, M. 2002. Understanding Odor from Compost, Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association. Barcelona Spain. October 7- 10.

Rosenfeld, P.E. and Suffet, M. 2002. Using High Carbon Wood Ash to Control Compost Odor. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association. Barcelona Spain. October 7- 10.

Rosenfeld, P.E. and Grey, M. A. 2002. Biocycle Composting For Coastal Sage Restoration. Northwest Biosolids Management Association. Vancouver Washington. September 22-24.

Rosenfeld, P.E. and Grey, M. A. 2002. Soil Science Society Annual Conference. Indianapolis, Maryland. November 11-14.

Rosenfeld. P.E. 2000. Two stage biofilter for biosolids composting odor control. Water Environment Federation. Anaheim California. September 16, 2000.

Rosenfeld. P. E. 2000. Wood ash and biofilter control of compost odor. Biofest. October 16, 2000.Ocean Shores, California.

Rosenfeld, P. E. 2000. Bioremediation Using Organic Soil Amendments. California Resource Recovery Association. Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. 1998. Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. 1999. An evaluation of ash incorporation with biosolids for odor reduction. Soil Science Society of America. Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. 1998. Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. Brown and Caldwell, Seattle Washington.

Rosenfeld, P.E., C.L. Henry. 1998. Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. Biofest Lake Chelan, Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. 1997. Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. Soil Science Society of America, Anaheim California.

Professional History

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Founding And Managing Partner
UCLA School of Public Health; 2007 to 2010; Lecturer (Asst Res)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist
Bureau of Land Management, Kremmling Colorado 1990; Scientist

Teaching Experience

UCLA Department of Environmental Health (Summer 2003 through 2010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focuses on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course In Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5 2002 Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University. Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993.

Cases that Dr. Rosenfeld Provided Deposition or Trial Testimony

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., *Plaintiffs,* vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)

In the Court of Common Pleas for the Second Judicial Circuit, State of South Carolina, County of Aiken
David Anderson, et al., *Plaintiffs*, vs. Norfolk Southern Corporation, et al., *Defendants.*
Case Number: 2007-CP-02-1584

In the Circuit Court of Jefferson County Alabama
Jaeanette Moss Anthony, et al., *Plaintiffs*, vs. Drummond Company Inc., et al., *Defendants*
Civil action No. CV 2008-2076

In the Ninth Judicial District Court, Parish of Rapides, State of Louisiana
Roger Price, et al., *Plaintiffs*, vs. Roy O. Martin, L.P., et al., *Defendants.*
Civil Suit Number 224,041 Division G

In the United States District Court, Western District Lafayette Division
Ackle et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants.*
Case Number 2:07CV1052

In the United States District Court for the Southern District of Ohio
Carolyn Baker, et al., *Plaintiffs*, vs. Chevron Oil Company, et al., *Defendants.*
Case Number 1:05 CV 227

In the Fourth Judicial District Court, Parish of Calcasieu, State of Louisiana
Craig Steven Arabie, et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants.*
Case Number 07-2738 G

In the Fourteenth Judicial District Court, Parish of Calcasieu, State of Louisiana
Leon B. Brydels, *Plaintiffs*, vs. Conoco, Inc., et al., *Defendants.*
Case Number 2004-6941 Division A

In the District Court of Tarrant County, Texas, 153rd Judicial District
Linda Faust, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, Witco Chemical Corporation A/K/A Witco Corporation, Solvents and Chemicals, Inc. and Koppers Industries, Inc., *Defendants*.
Case Number 153-212928-05

In the Superior Court of the State of California in and for the County of San Bernardino
Leroy Allen, et al., *Plaintiffs*, vs. Nutro Products, Inc., a California Corporation and DOES 1 to 100, inclusive, *Defendants*.
John Loney, Plaintiff, vs. James H. Didion, Sr.; Nutro Products, Inc.; DOES 1 through 20, inclusive, *Defendants*.
Case Number VCVVS044671

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., *Plaintiffs*, vs. International Paper Company, *Defendant.*
Civil Action Number 2:09-cv-232-WHA-TFM

In the Superior Court of the State of California in and for the County of Los Angeles
Leslie Hensley and Rick Hensley, *Plaintiffs*, vs. Peter T. Hoss, as trustee on behalf of the Cone Fee Trust; Plains Exploration & Production Company, a Delaware corporation; Rayne Water Conditioning, Inc., a California corporation; and DOES 1 through 100, *Defendants.*
Case Number SC094173

In the Superior Court of the State of California in and for the County of Santa Barbara, Santa Maria Branch
Clifford and Shirley Adelhelm, et al., all individually, *Plaintiffs*, vs. Unocal Corporation, a Delaware Corporation; Union Oil Company of California, a California corporation; Chevron Corporation, a California corporation; ConocoPhillips, a Texas corporation; Kerr-McGee Corporation, an Oklahoma corporation; and DOES 1 though 100, *Defendants.*
Case Number 1229251 (Consolidated with case number 1231299)

In the United States District Court for Eastern District of Arkansas, Eastern District of Arkansas
Harry Stephens Farms, Inc, and Harry Stephens, individual and as managing partner of Stephens Partnership, *Plaintiffs*, vs. Helena Chemical Company, and Exxon Mobil Corp., successor to Mobil Chemical Co., *Defendants.*
Case Number 2:06-CV-00166 JMM (Consolidated with case number 4:07CV00278 JMM)

In the United States District Court for the Western District of Arkansas, Texarkana Division
Rhonda Brasel, et al., *Plaintiffs*, vs. Weyerhaeuser Company and DOES 1 through 100, *Defendants.*
Civil Action Number 07-4037

In The Superior Court of the State of California County of Santa Cruz
Constance Acevedo, et al. *Plaintiffs* Vs. California Spray Company, et al. *Defendants*
Case No CV 146344

In the District Court of Texas 21st Judicial District of Burleson County
Dennis Davis, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, *Defendant.*
Case Number 25,151

In the United States District Court of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs,* vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622

Letter F

Adams Broadwell Joseph & Cardozo

August 14, 2020

F.1 This comment is an introductory comment and provides a general summary of the proposed project's characteristics. This comment does not raise a specific issue related to the adequacy of the Draft EIR; therefore, no further response is required, and the comment is noted for the record.

F.2 This comment provides an introductory summary of the more specific comments provided in the comment letter. This summary does not provide any details on the specific issues previewed.

Based on review of the substance of the Draft EIR and responses to these comments, the County disagrees that revision and recirculation of the Draft EIR is necessary.

The introduction and overview provided in this comment regarding the adequacy of the Draft EIR is acknowledged. However, this comment does not provide any specific information regarding the manner in which the Draft EIR is inadequate or how the Draft EIR fails to meet CEQA requirements. Please refer to responses to comments below, including, but not limited to, responses F.6 through F.58 for additional detailed responses to each of the individual comments.

Under CEQA, recirculation is only required when the lead agency adds "significant new information" to an EIR after the public comment period and prior to certification of the EIR (*Laurel Heights Improvement Association v. Regents of the University of California* [1993] 6 Cal. 4th 1112, 1128). "Information" can include changes in the project or environmental setting as well as additional data or other information (CEQA Guidelines Section 15088.5[a]). In addition, CEQA does not require revisions to the analysis based upon argument, speculation, or unsubstantial opinion (CEQA Guidelines Section 15064[f][5]). No comments received in this comment letter result in any new impact or change in the significance level of impacts disclosed in the Draft EIR, or the require new mitigation, consideration of new alternatives, or any other substantial change to the Draft EIR. Therefore, recirculation of the Draft EIR is not required.

This comment does not raise any other specific issues related to the adequacy of the Draft EIR; therefore, no further response is required.

F.3 The proffered qualifications of the comment preparers and the attached letters are noted. This specific comment does not provide any specific or substantive comments or concerns regarding the adequacy of the Draft EIR; therefore, no further response is necessary. Please see also responses to comments F.6 through F.58.

F.4 The overview of the Citizens for Responsible Solar (Citizens) organization and the concerns related to solar projects is noted. This comment does not raise a specific issue related to the adequacy of the Draft EIR, therefore, no further response is required.

F.5 This comment provides a "Legal Background", an overview summary of the purpose and requirements of CEQA. This comment does not raise a specific issue related to the adequacy of the Draft EIR, therefore, no further response is required.

F.6 This comment states that the Draft EIR fails to properly disclose, analyze, and mitigate the project's significant impacts on biological resources, air quality, public health, and climate change. The comment also states that some of the proposed mitigation measures fail to mitigate the impact to a less than significant level or to the degree purported by the Draft EIR, and that some mitigation measure. Comments specific to each topic are addressed in the response to comments. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

The County disagrees with the assertion that the Draft EIR fails to consider all of the project's potentially significant effects, including those referenced in this comment – biological resources, air quality, public health, and climate change. Please refer to responses to comments below, including but not limited to responses F.6 through F.58.

Additionally, this comment states that the Project's impacts are not supported by substantial evidence. The commenter does not provide specifics regarding where the analysis in the Draft EIR is purportedly inadequate. The County complied with CEQA and provided substantial evidence, as defined by the CEQA Guidelines Section 15384(a)(b). Argument, speculation, unsubstantiated opinion or narrative, evidence that is inaccurate or erroneous, or evidence that is not credible shall not constitute substantial evidence. The analysis and conclusions within the Draft EIR were supported by relevant information and technical studies prepared by experts. The analysis related to the commenters identified topics specifically by this comment and elsewhere in the comments (including but not limited to biological resources, air quality, public health, and climate change) are addressed within the Draft EIR, prepared by HDR, and supported by technical studies prepared by Stantec Consulting Services (Stantec). These reports were therefore, prepared by experts, provide substantial evidence, and are available to aid decision-makers are they consider the merits of the Project.

F.7 This comment is summarizes more specific comments provided in, and responded to in responses F.8 through F.24g. The comment does not provide any specific comments or concerns regarding the environmental setting in the Draft EIR; therefore, no further response is necessary.

F.8 The overview of the requirements under CEQA for the existing environmental setting is acknowledged. The comment does not provide any specific comments or concerns regarding the environmental setting in the Draft EIR; therefore, no further response is necessary.

F.9 The overview of the requirements under CEQA for the existing environmental setting is acknowledged. The comment does not provide any specific comments or concerns regarding the environmental setting in the Draft EIR; therefore, no further response is necessary.

F.10 The commenter states that the terms used for the baseline study are not defined. The commenter is referred to the second and third paragraphs in Section 2.21 of Appendix E of the Draft EIR that detail the habitat assessment and reconnaissance-level survey procedures.

The commenter further states no protocol level surveys were performed for desert tortoise or burrowing owl. Biologists performed a reconnaissance-level survey as detailed in Appendix E, Section 2.21. The reconnaissance-level survey was conducted instead of species specific protocol-level surveys to initially "identify and assess habitat that may be capable of supporting special-status wildlife species and to document the presence/absence of special-status biological resources." For species-specific

surveys, the commenter is referred to Mitigation Measure BIO-4 that states, "A qualified biologist shall conduct focused presence/absence surveys for Desert Tortoise for 100-percent of the project footprint pursuant to the October 19, 2019 Version of the USFWS Desert Tortoise Survey Protocol." and Mitigation Measure BIO-6 that states "Take Avoidance (pre-construction) surveys for burrowing owl shall be completed prior to project construction. Surveys shall be conducted as detailed within Appendix D of the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game [CDFG] 2012)." The commenter is also referred to the Stantec letter to The County dated August 4, 2020 that further outlines the compensatory mitigation for desert tortoise (see comment Letter E).

The commenter's assertions suggest that CEQA requires additional studies until all uncertainty regarding existing environmental conditions or a project's impacts thereon have been removed. This is incorrect. As the California Supreme Court has emphasized, an EIR need not achieve "technical perfection or scientific certainty." Sierra Club v. County of Fresno (2018) 6 Cal.5th 502, 515. Instead, CEQA requires "adequacy, completeness, and a good-faith effort at full disclosure." CEQA Guidelines § 15003(i). The appropriate degree of specificity and analysis a given issue warrants depends on "the nature of the project and the rule of reason." North Coast Rivers Alliance v. Kawamura (2015) 243 Cal.App.4th 647, 679; see also CEQA Guidelines Section 15151 ("An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible."). "CEQA does not require a lead agency to conduct every recommended test and perform all recommended research to evaluate the impacts of a proposed project. The fact that additional studies might be helpful does not mean that they are required." Ass'n of Irritated Residents v. Cty. of Madera, (2003) 107 Cal. App. 4th 1383, 1396, 133 Cal. Rptr. 2d 718. In addition, see responses to comments F.11-F.14, among others. Otherwise, the comment does not provide any specific comments or concerns regarding the environmental setting in the Draft EIR; therefore, no further response is necessary.

F.11 The commenter states that a survey cited in the Draft EIR found the flat-tailed horned lizard to occur in the Project area as well as the loggerhead shrike. The commenter further states that the survey completed by Stantec did not report or properly characterize the loggerhead shrike species and, subsequently, the Draft EIR did not analyze the species' likelihood to occur in the Project site. The loggerhead shrike occurrence in the Appendix F of the Draft EIR is listed as being observed in or near the Project site, therefore, since the observation was not expressly stated as being within the Project site the species was listed with a moderate potential to occur both in Section 5.4 of Appendix E of the Draft EIR and Section 3.4 of the Draft EIR. The commenter is referred to the Mitigation Measure BIO-7 which outlines the pre-construction nesting bird surveys that would also include nesting loggerhead shrike observed within and 500 feet surrounding the impact areas. The project site was properly characterized in the Draft EIR. Otherwise, the comment does not provide any specific comments or concerns regarding the environmental setting in the Draft EIR; therefore, no further response is necessary.

F.12 The commenter states that the Draft EIR only addresses 28 species, while subsequent data review performed by a Mr. Smallwood concluded there are 91 special-status species with a potential to occur near the Project site. Please refer to response to comment F.14, which discusses the inclusion of special-status species in the Draft EIR. Mr. Smallwood's assertions are also addressed in response to comments F.59 through F.73. The comment is noted, and no further response is necessary.

F.13 In relation to response to comment F.12, the commenter asserts that the Draft EIR does not adequately analyze all special status species with the potential to occur in the Project area and provides evidence in the form of a table in the following comment. The commenters concerns are addressed in response to comment F.14. The cross reference to Section III(A)(3) is noted and addressed in responses to comments F.20 through F.24a-h below. The comment is noted, and no further response is necessary.

F.14 The commenter provides a table of special-status species with a potential to occur in the Project area (91 total species). Special-status species with a potential to occur in the vicinity of the Project area were reviewed using various databases (as outlined in Section 2.1 of Appendix E of the Draft EIR) and are listed in the tables in Section 5.3 and 5.4 of Appendix E of the Draft EIR. These tables identifying the potential presence of special-status species were then used as a screening tool to determine which potential special-status species could occur within the Project area. Field surveys were then conducted within the Project site to determine the ground-truth of potential special-status species to occur within the Project area. Based on several factors, including lack of suitable habitat present within the Project area, Project area occurring outside known geographic and/or elevation range of species, and the results of desktop data review, the special-status species with a potential to be impacted by the Project were then developed and analyzed in the Draft EIR. The additional species provided by the commenter are acknowledged, however, these species do not have the potential to occur based on survey results and data review, provided in Appendix E of the Draft EIR. The comment is noted, and no further response is necessary.

F.15 The comment regarding the purported failure of the Draft EIR to adequately analyze impacts on special status species is acknowledged. This is an introductory comment, and subsequent comments are provided in an effort to support this claim. Please refer to responses to comments F.16 through F.26 which address the specific comments.

F.16 The comment regarding fatality rates for burrowing owls and the conclusions in the Draft EIR regarding this analysis is acknowledged. As discussed in the Draft EIR, burrowing owls were not identified during surveys, however, occurrence data for burrowing owls occurs within one mile of the Project site and suitable nesting and foraging habitat occurs within the Project site. The Draft EIR further states that the high visibility of solar panels reduces the potential for avian collisions and any burrowing owls present in the area would likely utilize the fencing as perches, rather than collide with the fencing at the perimeter of the site. The source provided by the commenter relies on the assumption that burrowing owls would collide with PV solar panels after losing their habitat. Because the Project would not result in substantial loss to burrowing owl habitat and since there is suitable habitat in the surrounding landscape, the potential for collisions as a result of the new solar panels would be limited. Mr. Smallwood's methodologies and predictions are acknowledged but not affirmed. Otherwise, the comment does not provide any specific comments or concerns regarding the environmental setting in the Draft EIR; therefore, no further response is necessary.

F.17 The commenter states that habitat loss is not adequately analyzed in the Draft EIR. The Draft EIR discusses habitat loss on pages 3.4-25 through 3.4-29. Additionally, Mitigation Measures BIO-1 through BIO-9 are proposed which would to avoid and minimize potential impacts to special-status species to a less than significant level. Specifically, habitat related to special-status bird species is discussed on Draft EIR page 3.4-28. The Draft EIR states that 115.6 acres of potential suitable foraging habitat would be lost as a result of the Project. This loss would represent less than 0.0003 percent of available habitat in the area. A less than 0.0003 percent loss of habitat does not represent a significant impact related to special-status bird species. Additionally,

the commenter states that cumulative impacts related to habitat loss were not discussed in the Draft EIR. The commenter is referred to Draft EIR pages 5-9 and 5-10 which adequately discuss cumulative impacts related to biological resources, and habitat loss, specifically. Smallwood's methodologies and predictions are acknowledged but not affirmed. Otherwise, the comment does not provide any specific comments or concerns regarding the environmental setting in the Draft EIR; therefore, no further response is necessary. Therefore, no further response is necessary on this topic.

F.18 The comment states that the Draft EIR does not adequately address wildlife movement and provides evidence as to why the Draft EIR does not adequately address this topic. The Project site and immediately surrounding area currently includes features that could block and hinder the movement of wildlife including features such as canals, transmission lines, an access road, paved and unpaved roads, and a residence. Additionally, there are numerous waterways, which when flowing, would prevent small species from moving through the Project site. The Project site in its pre-project, baseline condition is fragmented and only includes a small portion of important habitat which is surrounded by larger expanses of developed areas. Further a similar, large expanse of habitat occurs to the east of the Project site, which would provide a larger, more useful swath of land that would likely be used for wildlife movement through the area. Therefore, the analysis related to wildlife movement within the Draft EIR and the related conclusions are adequate. The comment is noted, and no further response is necessary.

F.19 The commenter states that the Draft EIR does not adequately address the cumulative impact of collision fatalities and loss of breeding capacity due to habitat loss. The CEQA Guidelines Section 15130(b) provides the following parameters relative to cumulative impact analysis: the discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness and should focus on the cumulative impact to which the identified related projects contribute, rather than the attributes of other projects which do not contribute to the cumulative impact. As discussed in Section 3.4 of the Draft EIR, the Project would not result in a significant impact related to collisions and loss of habitat with mitigation incorporated. Additionally, Mitigation Measures BIO-1 through BIO-9 also address the Project's potential impact which if not mitigated could have the potential to contribute incrementally to potential cumulative impacts. Therefore, the cumulative analysis in the Draft EIR (Section 5.3.3 of the Draft EIR) reflects this level of detail in the cumulative analysis. The cumulative analysis concludes that the Project would comply with the relevant laws, regulations, and guidelines pertaining to biological resources, thus the Project would not contribute to a cumulative biological resources impact. Compliance with laws, regulations, and guidelines is sufficient analysis and no further analysis or mitigation is required related to potential cumulative impacts. The comment is noted, and no further response is necessary.

F.20 The commenter states that the Draft EIR fails to adequately mitigate impacts related to biological resources and does not include all feasible mitigation measures to reduce potential impacts to biological resources. This is an introductory comment, and subsequent comments are provided to support this claim. Please refer to responses to comments F.21 through F.24h for detailed responses to each of these comments. The comment is noted, and no further response is necessary.

F.21 The commenter claims that the pre-construction mitigation measures included in the Draft EIR are not sufficient and that detection surveys should be included. Please refer

to Mitigation Measures BIO-1, BIO-4, BIO-6, BIO-7, and BIO-9 in the Draft EIR that detail the focused species surveys to be conducted. Specifically, Mitigation Measures BIO-4 and BIO-6 outline the agency survey protocols and guidelines to be used. Please also refer to Mitigation Measures BIO-2 and BIO-3 in the Draft EIR that outline additional measures to further reduce potential impacts to special-status biological resources including the requirement for a "Project Biologist who shall be responsible for overseeing compliance with protective measures for the biological resources during vegetation clearing and work activities within and adjacent to areas of native habitat." Mr. Smallwood's methodologies and predictions are acknowledged but not affirmed. See also response to comments E.2 and F.10. The comment is noted, and no further response is necessary.

F.22 The commenter reiterates claims addressed in the responses to comments above. The commenter states that the mitigation measures (Mitigation Measures BIO-2, BIO-3, and BIO-5 specifically) do not address potential avian collisions or habitat loss. Please refer to Mitigation Measure BIO-2 which specifically states that, "to reduce the potential indirect impact on migratory birds, bats and raptors, the project will comply with the Avian Powerline Interaction Committee (APLIC) 2012 Guidelines for overhead utilities, as appropriate, to minimize avian collisions with transmission facilities."

Further, as discussed in the Draft EIR, avian collisions related to electrocution is not anticipated since the distance between energized components along the transmission lines is generally insufficient to present avian electrocution risk (Draft EIR page 3.4-28). Further, avian collisions with the solar panels or any ancillary facilities associated with the solar facility such as the gen-tie line would be reduced to a less than significant impact with implementation of Mitigation Measures BIO-5 and BIO-8. Therefore, with compliance with the provisions of the APLIC guidance as well as the requirements in Mitigation Measures BIO-5 and BIO-8, the project would result in a less than significant impact associated with avian collisions, and no additional mitigation measures would be required to further reduce potential impacts. Additionally, the habitat loss specifically related to special-status bird species associated with the project (see response to comment F.17), would represent less than 0.0003 percent loss when compared to the available habitat in the area, and therefore would not result in a potentially significant impact that would require mitigation. The comment is noted, and no further response is necessary.

F.23 The commenter states that Mitigation Measure BIO-8 is inadequate because it would defer the development of the Bird and Bat Conservation Strategy (BBCS) until after the Project is approved. The BBCS is not deferred. Mitigation Measure BIO-8 includes development of a BBCS and includes a list of components to be included in the BBCS as well as sufficient performance standards and requirements for the BBCS including; a description of the existing habitat and avian and bat species within the Project area, specifications for pre-construction and post-construction surveying and monitoring, and minimization and corrective actions necessary to avoid or minimize potential impacts to bird and bat species. Additionally, further reporting requirements and performance standards are included in the Mitigation. Monitoring, and Reporting Program which will be adopted as part of the project. The comment is noted, and no further response is necessary.

F.24 The commenter claims eight identified mitigation measures that are not in Draft EIR must be considered and implemented by the County. The identification of mitigation measures is one of the purposes of CEQA. According to the CEQA Statute Section 21002, the procedures in CEQA are intended to "assist public agencies in identifying both the significant environmental effects of proposed projects and the feasible…mitigation measures which will avoid or substantially lessen such significant effects."

There is no showing that the proposed mitigation measures will avoid or mitigate a possible significant effect of the project, as required by CEQA. Moreover, there is also no showing as to whether these proffered mitigation measures are required to mitigate a significant effect or that they are "feasible" as that term of art is defined in CEQA (Public Resource Code Section 21061.1; 14 CCR 15364.) Only feasible mitigation measures that reduce a potentially significant impact are required.

There are also constitutional limits on mitigation that can be imposed on a project that were defined by two U.S. Supreme Court rulings (*Dolan vs. City of Tigard, and Nollan vs. California Coastal Commission*). These rulings identify that mitigation must have both a nexus and rough proportionality to the impact caused by the project. The mitigation measures identified in the Draft EIR are in proportion to potential effects. No additional mitigation would be required to reduce or lessen potentially significant impacts further than the mitigation measures already proposed in the Draft EIR. Otherwise, the comment is noted, and no further response is necessary.

F.24a Detection Surveys – Please refer to Mitigation Measures BIO-1, BIO-4, BIO-6, BIO-7, and BIO-9 in the Draft EIR which include targeted species surveys including surveys following CDFW and USFWS guidelines and protocols. The comment is noted, and no further response is necessary.

F.24b Post-construction Monitoring of Project Impacts – Please refer to Mitigation Measure BIO-8 in the Draft EIR which states the "post-construction monitoring plan will be implemented and "will include a description of standardized carcass searches, scavenger rate (i.e., carcass removal) trials, searcher efficiency trials, and reporting." The comment is noted, and no further response is necessary.

F.24c Behavior Surveys – Completion of behavior surveys is not necessary and would be outside of the scope of CEQA. CEQA requires that mitigation be included to avoid or lessen a project's significant environmental impacts (CEQA Guidelines Section 15126.4[a]). Potential impacts related to birds and bat collisions have been adequately discussed and mitigation provided, where appropriate in the Draft EIR as discussed in these responses to comments. The comment is noted, and no further response is necessary.

F.24d Transparent Reporting – Biological monitoring and reporting is required by mitigation measures proposed in the Draft EIR. Specifically, please refer to Draft EIR Mitigation Measure BIO-8 which states that the "Monitoring results will be reviewed annually by the Applicant and the County of Imperial, in consultation with CDFW and [United States Forest Service] USFWS." The comment is noted, and no further response is necessary.

F.24e Adequate Fatality Monitoring – Fatality monitoring and reporting is required by mitigation measures proposed in the Draft EIR. Specifically, please refer to Draft EIR Mitigation Measure BIO-8 which states the "post-construction monitoring plan will include a description of standardized carcass searches, scavenger rate (i.e., carcass

removal) trials, searcher efficiency trials, and reporting." The comment is noted, and no further response is necessary.

F.24f County-Wide Assessment of Solar Impacts – Please refer to Draft EIR Mitigation Measure BIO-8 which states the "post-construction monitoring plan will include a description of standardized carcass searches, scavenger rate (i.e., carcass removal) trials, searcher efficiency trials, and reporting." Also as required by Mitigation Measure BIO-8, "Monitoring results will be reviewed annually by the Applicant and the County of Imperial, in consultation with CDFW and USFWS." Moreover, a project-specific EIR is not the appropriate forum for policy recommendations. The comment is noted, and no further response is necessary.

F.24g Implement Mitigation Measures with Sound Experimental Designs - CEQA requires that mitigation be included to avoid or lessen a project's significant environmental impacts (CEQA Guidelines Section 15126.4[a]). Potential impacts related to birds and bat collisions have been adequately discussed and mitigation provided, where appropriate in the Draft EIR as discussed in these responses to comments. The comment is noted, and no further response is necessary.

F.24h Compensatory Mitigation – Please refer to Draft EIR Mitigation Measure BIO-10 which addresses compensatory mitigation for riparian woodland and ephemeral wash habitats. Please also refer to responses to comment Letter E which outlines the potential compensatory mitigation for desert tortoise, should live or active tortoise is detected on-site as part of pre-construction surveys. The comment is noted, and no further response is necessary.

F.25 This introductory comment regarding the whether the Draft EIR adequately discloses, analyzes, and mitigates impacts on air quality and public health is noted. The comment further provides a summary list of reasons why the commenter believes the Draft EIR analysis is inadequate. Specific responses to these comments are provided in responses to comments F.26 through F.52. This comment does not otherwise raise a substantive issue regarding the content of the Draft EIR, and is noted for the record.

F.26 The commenter states that since the project did not quantify emissions from construction and operations of the fiberoptic cable and gen-tie line, and that as a result the Draft EIR's conclusion of a less than significant impacts for air quality is unsupported. The commenter is incorrect in both respects.

Draft EIR Table 3.3-8 clearly provides emissions estimates for construction of the gen-tie line as part of the "Gen-Tie, Site Restoration" Phase of the Project (see, Table 3.3-8, "Gen-Tie, Site Restoration"). For emissions associated with construction of the gen-tie. Regarding emissions associated with the construction of the fiberoptic cable, Draft EIR page 3.7-15 states that installation of the fiberoptic cable would require substantially less construction equipment and a shorter duration compared to the construction of the solar energy facility and gen-tie line. Emissions estimates from those components are provided in Draft EIR Table 3.3-8. As stated in the Draft EIR, none of the project's construction phases would exceed the ICAPCD daily construction thresholds. Therefore, because the fiberoptic cable installation phase would have less equipment than these phases, it is reasonable to conclude that the emissions associated with construction of the fiberoptic cable would also be below ICAPCD daily construction thresholds.

Draft EIR Table 3.3-9 provides emissions estimates for operation of the Project as a whole. As set forth in the Draft EIR, operational emissions from the Project are expected to occur from the minimal operations and maintenance activities needed for

the Project, of which the gen-tie line and fiberoptic cable are components. Emissions information for the Project during operations is provided in Table 3.3-9, and are based on the conservative assumption that four one-way worker trips per day would be generated for the Project, in addition to the daily trips associated with panel washing. (Draft EIR p. 3.3-15.) Therefore, estimated operational emissions from gen-tie line and fiberoptic cable have already been provided and analyzed as part of the overall operation of the Project. Based on this, the Draft EIR's conclusion that there are a less than significant impact with respect to regional air quality and air quality from construction and operations are supported by substantial evidence. Because potential operational emissions from the gen-tie line and fiberoptic cable were evaluated as part of the Draft EIR's analysis of the Project's potential impacts to air quality, there is no need to revise or recirculate the Draft EIR in response to this comment.

F.27 The comment states that the Project's CalEEMod input modifications were "not justified", and stated that operational emissions may have been underestimated because the inputs were based on a construction-related vehicle fleet mix, rather than an operational fleet mix. The comment does not provide evidence demonstrating, or otherwise assert, that a different operational fleet mix is more appropriate. The air quality modeling conducted for the Draft EIR air quality analysis did involve modifying the operational fleet mix consistent with CalEEMod methodology. In this case, the operational fleet mix was modified to accurately represent emissions from site inspection (maintenance) and panel washing worker vehicles traveling to the site during operations, which would be composed of light-duty autos and light-duty trucks. The reason that the modifications were based on a "construction-related vehicle fleet mix" is due to the default fleet mixes in CalEEMod. In CalEEMod, the default fleet mix for construction worker vehicle trips is a light-duty fleet mix consisting of light-duty autos and light-duty trucks. In contrast, the default operational fleet mix includes all possible vehicle types, such as: light-duty autos, light-duty trucks, light-heavy duty trucks, medium-duty vehicles, motorcycles, motor homes, urban buses, school buses, other buses, medium heavy-duty trucks, and heavy heavy-duty trucks. For this project, the default operational fleet mix does not accurately reflect the types of vehicles that can be reasonably expected during operations. Therefore, the operational fleet mix for maintenance worker vehicles was modified to reflect a fleet mix with light-duty autos and light-duty trucks. As a result, the Draft EIR correctly estimates anticipated operational impacts based on the likely operational vehicle fleet mix, and are appropriately relied upon to determine the significance of potential air quality impacts.

In response to the comment F.27, all worker and haul trucks for operations were re-modeled under the construction section of the operations CalEEMod output file, and included an operational fleet mix of light-duty autos and light-duty trucks, which best represents emissions from maintenance worker vehicles. The results of the requested re-modeling are provided in Response to Comments F.32, Tables 1 and 2. The modifications were again done consistent with CalEEMod methodology. While the additional modeling will be included in the Final EIR, this information is not significant because it does not demonstrate that a new significant impact would result from the project or that there is a substantial increase in the severity of an environmental impact. This addition to the Draft EIR merely amplifies the County's determination that potential air quality impacts from the Project will be less than significant. Therefore, there is no need to recirculate the Draft EIR in response to this comment.

F.28 The comment states that the Draft EIR did not include all operational emission values associated with the Project because specific land uses, the PV panels and substation facility, were not included in the CalEEMod output files. The comment states that as a result, the model underestimates operational emissions, and makes the Draft EIR's air quality analysis incorrect and incomplete.

The solar panel arrays and substation were not included in the operational emissions modeling because neither component, would result in emissions from consumer products, architectural coatings, landscaping, or consume natural gas and electricity, or generate waste. The project's operational emissions were appropriately based on mobile sources, offroad equipment, and water and wastewater conveyance, actual potential sources of emissions during operations. It should be noted that only GHG emissions are associated with water and wastewater conveyance, thus criteria pollutants would not result from this Project activity. As a result, the air emissions model included the correct inputs, did not underestimate anticipated operational emissions, and were appropriately relied upon by the County to analyze the Project's air quality impacts.

Further, as stated above in the response to comment F.27, the air emissions model was, as suggested by the CRS comments, re-run, and updated the operational modeling to be consistent with the construction CalEEMod land use categorization. The updated operational modeling includes a "General Light Industry" land use category with a size of 100 acres totaling 4,356,000 square feet. CalEEMod uses the area of the project to estimate operational emissions from area sources such as consumer products, architectural coatings and landscaping, mobile sources, natural gas combustion, electricity consumption, water and wastewater conveyance, waste generation, and offroad equipment.[1]

The emissions estimates are provided in Tables 1 and 2 presented further in response to comment F.32. As discussed in response to comment F.32, the suggested, updated modeling does not change the Draft EIR's significance conclusions regarding air quality impacts. While the additional modeling will be included in the Final EIR, this information is not significant because it does not demonstrate that a new significant impact would result from the project or that there is a substantial increase in the severity of an environmental impact. This addition to the Draft EIR merely amplifies the County's determination that potential air quality impacts from the Project will be less than significant. Therefore, there is no need to recirculate the Draft EIR in response to this comment.

F.29 The comment states that the Draft EIR underestimated the number of operational vehicle trips by 10 one-way trips for activities relating to routine maintenance activities such as panel washing. Comment F.29 states that the Draft EIR should have included 10 one-way trips per week in the modeling to account for routine maintenance activities. Comment F.78, which is cited as support for Comment F.29, states that the model should have included an additional 10 daily one-way trips in the modeling to account for routine maintenance activities. Both assertions are incorrect. As stated on Draft EIR p. 3.10-8, ten (10) one-way trips associated with routine maintenance activities such as panel washing are expected to occur over a total of 20 days per year, not on a weekly basis as stated in Comment F.29, and not on a daily basis, as stated in Comment F.78.

Appendix D to the Draft EIR evaluated operational vehicle trips in both the construction section and operations section of the CalEEMod output. Mobile trips related to panel washing events, which included 10 one way trips (4 additional workers trips and 6 haul truck trips) that would occur over a total of 20 days per year, were accounted for under the construction section of the operations CalEEMod output file. The operations output

[1] CalEEMod does not allow users to zero out the number of days of landscaping, therefore landscaping emissions are shown in the CalEEMod output file, over-predicting potential effects, but the Project emissions summaries will not include them because the project would not include landscaping activities.

file included notes stating that panel washing activities were evaluated under the construction section. Therefore, emissions associated with vehicle trips during operations were appropriately analyzed in the Draft EIR and were not underestimated. There is no need to revise or recirculate the Draft EIR in response to this comment.

The comment also states that the Draft EIR failed to support changes to trip lengths and trip purposes, and made changes against the recommendations of the CalEEMod User's Guide. This is incorrect. The longest default trip length in CalEEMod for Imperial County operational trips is 8.9 miles, which was incorporated into the air quality modeling for the Project. Further, the trip purposes in CalEEMod were modified in the Draft EIR to provide a more conservative estimate of emissions. Trip purposes were modified to 100 percent primary trips because the only reason to travel to the site is for maintenance or panel washing activities. The CalEEMod User's Guide describes diverted trips as "diverted trips are assumed to take a slightly different path than a primary trip and are assumed to be 25% of the primary trip lengths." Additionally, the CalEEMod User's Guide defines pass-by trips as "Pass-by trips are assumed to be 0.1 mile in length and are a result of no diversion from the primary route." Based on this, categorizing trips as 100 percent primary would result in a conservative estimate of emissions compared to using the default CalEEMod trip purpose values.

Furthermore, as stated above in response to comment F.27, the air quality model was re-run. The model used a trip length of 10 miles, as local workers would be responsible for the Project's maintenance activities, which is an even more conservative estimate than the default CalEEMod trip length for Imperial County. As with the modeling presented in Draft EIR Appendix D, trip purposes were modified from the CalEEMod default of 25 percent to 100 percent primary trips because the only reason to travel to the site is for maintenance or panel washing activities.

As stated in response to comments F.30 through F.32, in the updated operational CalEEMod output files, mobile emission sources (workers and haul trucks) were estimated under the construction section of the operational output file. The updated modeling included 4 worker trips for site maintenance, 4 worker trips and 6 haul truck trips for panel washing events, and each had a trip length of 10 miles making it consistent with the previous modeling. As demonstrated in Tables 1 and 2, these modeling results confirm that potential operational emissions from the Project are below the ICAPCD operational thresholds; therefore, operational impacts would be less than significant.

While the additional modeling suggested will be included in the Final EIR, this information is not significant because it does not demonstrate that a new significant impact would result from the project or that there is a substantial increase in the severity of an environmental impact. This addition to the Draft EIR merely amplifies the County's determination that potential air quality impacts from the Project will be less than significant. Therefore, there is no need to recirculate the Draft EIR in response to this comment.

F.30 This comment states that the Draft EIR did not fully explain changes to the Project's construction and operational paved road percentages, and that the model contradicts the paved/unpaved roads presented in the Draft EIR. Notes explaining the assumptions and inputs were incorporated into CalEEmod, and are shown at Draft EIR, Appendix D, pages 100, 101, 115, 116, 130, 131. Further, the modeled percentages of 98% were an appropriate assumption at the time that the model was run.

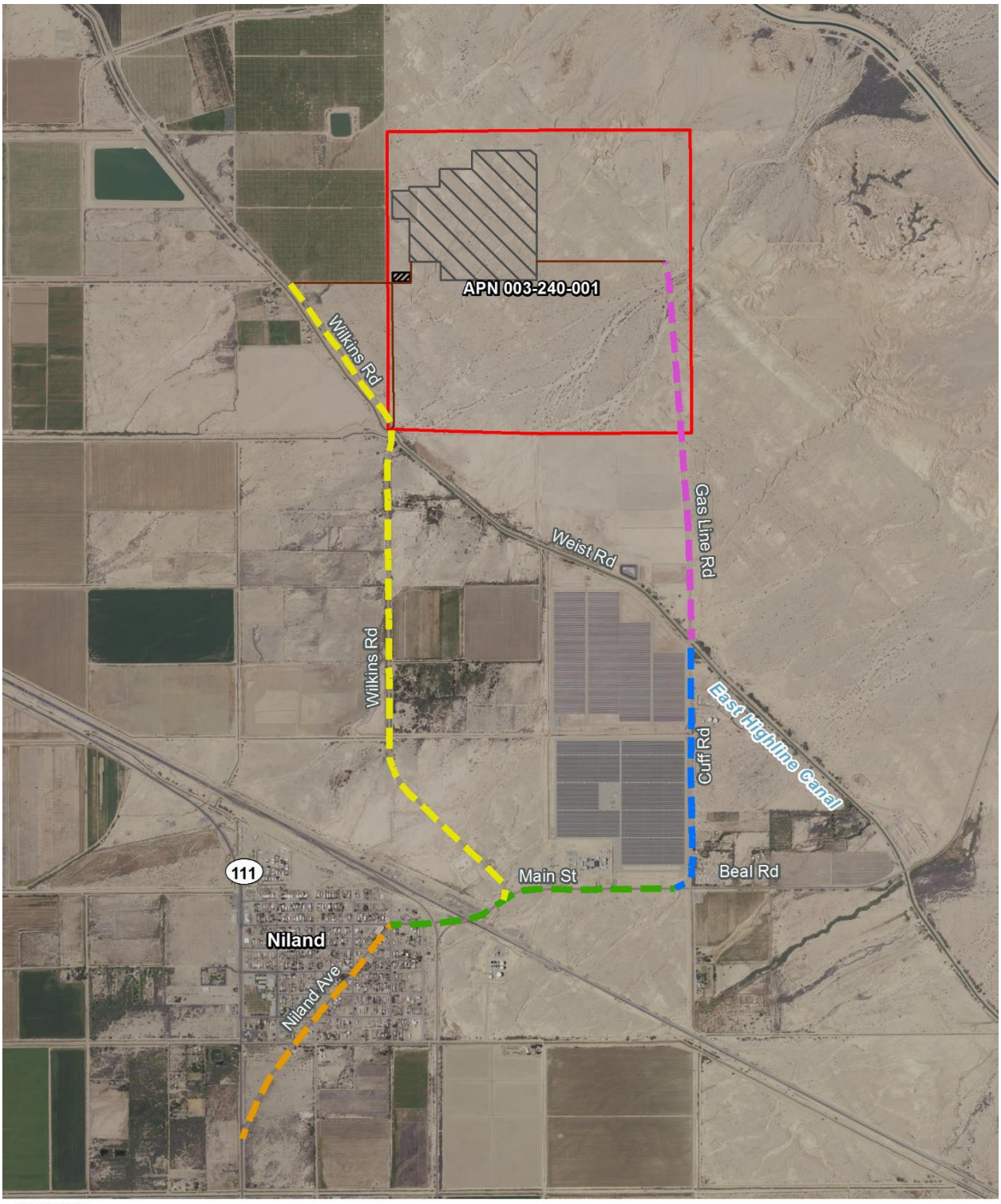
In response to comment F.30, the County reexamined the percentages for paved roads and unpaved roads used in the air quality model, and determined that it was appropriate to update the paved and unpaved percentages in the air quality modeling.

Draft EIR page 3.10-2 describes the Project's access roadways and states that paved roads would include State Route 111, Niland Avenue, Main Street, and Wilkins Road. The Draft EIR also states that unpaved roads would include Gas Line Road and Cuff Road. Additionally, Draft EIR Figure 3.10-1 depicts the location of each of these roads in proximity to the Project site.

For construction mobile emissions, the paved road percentages were updated to be representative of the Project roadways, and a worst-case route was assumed that would include the longest length of unpaved roads. The worst-case route would be travel on any paved road to the intersection of Cuff Road and Beal Road, then traveling north along Cuff Road and Gas Line Road to reach the eastern portion of the project site and then traveling west using the unpaved emergency access road to reach the project site. The length of the unpaved roads, Gas Line Road, Cuff Road, and the emergency access road total approximately 2.6 miles.

The trip lengths assumed in the CalEEMod for worker and vendors were 10.2 miles and 11.9 miles, respectively. The 2.6 miles of unpaved road represents 25.5 percent of the worker trip length (10.2 miles), therefore, the paved road percentage for worker trips would be 74.5 percent. The 2.6 miles of unpaved road represents 21.9 percent of the vendor trip length (11.9 miles); therefore, the paved road percentage for vendor trips would be 78.1 percent. The paved percentage values were incorporated into the updated modeling.

The same methodology was applied for mobile vehicle trips during operations. Based on GIS data, the primary access roads for the project site are located west and south of the project site via Wilkins Road. The primary access roads would be unpaved, but Wilkins Road is paved as described above. The unpaved access roads had a total length of approximately 1.6 miles. The 1.6 miles of unpaved road represents 15.9 percent of the operations trip length (10 miles), therefore, the paved road percentage for mobile trips during operations would 84.1 percent. The paved percentage values were incorporated into the updated modeling. While the additional modeling suggested will be included in the Final EIR, this information is not significant because it does not demonstrate that a new significant impact would result from the project or that there is a substantial increase in the severity of an environmental impact. This addition to the Draft EIR merely amplifies the County's determination that potential air quality impacts from the Project will be less than significant. Therefore, there is no need to recirculate the Draft EIR in response to this comment.


APN 003-240-001
Wilkins Rd
Weist Rd
Gas Line Rd
Wilkins Rd
East Highline Canal
Cuff Rd
111
Main St
Beal Rd
Niland
Niland Ave
LEGEND
Project Site (Assessor Parcel No. 003-240-001)
Solar Energy Facility Location
Substation
Access Road
Proposed Haul Routes
Niland Ave
Main St
Cuff Rd
Gas Line Rd
Wilkins Rd
0
Feet
2,000

F.31 The comment states that mitigation measures were not substantiated or explained in the modeling output, and that as a result, SWAPE was unable to verify the accuracy of the Draft EIR air quality modeling. This is incorrect. In accordance with the CalEEMod User's Guide, the modeling output provided comments describing the mitigation measures that were incorporated into the modeling. For PM10, the Draft EIR explains that standard mitigation measures for fugitive dust for all projects in Imperial County were included in the model. (See, Draft EIR, Appendix D, p. 33.) The Draft EIR identifies the standard measures for fugitive dust (PM10) control on page 3.3-18 of the Draft EIR. Further, the modeling output file provided comments explaining the additional measures for fugitive dust that would be incorporated into the Project. For example, the comments explained that watering would occur two times per day, which is related to the "Water Exposed Area" mitigation measure outlined for fugitive dust control measures in Section 3.3, Air Quality. The "Reduce Vehicle Speeds on Unpaved Roads" comment corresponds to the measure described in Draft EIR page 3.3-18, which states vehicle speeds would not exceed 15 miles per hour.

Draft EIR pages 3.3-17 and 3.3-18 outlines the mitigation measures that would be implemented for the Project. Mitigation Measure AQ-2 states that the Project would comply with the *Regulation VIII-Fugitive Dust Control Measures*, and identifies both standard measures and discretionary methods to be implemented by the project to reduce fugitive dust emissions. AQ-2 also provides that implementation and compliance with the ICAPCD's requirements for fugitive dust control will be verified by ICAPCD as part of the grading permit approval process.

Furthermore, the updated construction modeling quantified fugitive dust emissions reductions using the previous mitigation measures, "Water Exposed Area" and "Reduce Vehicle Speeds on Unpaved Roads", as well as an additional measure, "Use Soil Stabilizer." The use of soil stabilizers is a common and effective method for reducing fugitive dust and was previously outlined in Mitigation Measure AQ-2. The updated construction CalEEMod output files explicitly state that mitigation measures are consistent with requirements of the ICAPCD. Therefore, there is no need to recirculate the Draft EIR in response to this comment.

F.32 This comment states that air quality modeling is incomplete, it underestimates emissions, and should not be relied upon to determine project significance. This comment is a summary of Comments F.26 through F.31. Responses to these specific comments are provided in response to comments F.26 through F.31. As explained in response to comments F.26 through F.31, air quality modeling for the project correctly relied upon appropriate inputs and information based on anticipated Project activities, and there is substantial evidence to support the analysis presented in the Draft EIR.

Furthermore, as explained in response to comments F.26 through F.31, the air quality modeling was re-run to address comments raised by the commenter, even though the County does not necessarily agree with the commenter's statements or conclusions with respect to the Draft EIR's air quality analysis. These modeling results for air quality are shown in Table 0.2-2 and Table 0.2-3 below. As shown in Table 0.2-2 and Table 0.2-3, the Project's emissions remain below all ICAPCD thresholds for construction and operations, therefore, construction and operational regional emissions impacts would remain less than significant. While the additional modeling suggested will be included in the Final EIR, this information is not significant because it does not demonstrate that a new significant impact would result from the project or that there is a substantial increase in the severity of an environmental impact. This addition to the Draft EIR merely amplifies the County's determination that potential air quality impacts from the Project will be less than significant. Therefore, there is no need to recirculate the Draft EIR in response to this comment.

Table 0.2-2. Project Maximum Daily Construction Emissions

Construction Phase	ROG	NOx	CO	PM_{10}
	Maximum Daily Emissions (lb/day)			
Site Preparation	4.10	39.72	25.73	63.87
Facility Installation	3.38	30.38	25.03	86.38
Gen tie, Site Restoration	1.97	17.95	14.83	43.36
Maximum Daily Emissions	**4.10**	**39.72**	**25.73**	**86.38**
ICAPCD Thresholds	75	100	550	150
Exceeds Threshold?	**No**	**No**	**No**	**No**

Table 0.2-3. Project Maximum Daily Operations Emissions

Operations Activity	ROG	NOx	CO	SO2	PM_{10} Total	$PM_{2.5}$ Total
	Maximum Daily Emissions (lb/day)					
Normal Operations	0.03	0.02	0.24	0.0003	9.38	0.94
Panel Washing	0.14	1.61	0.84	0.004	23.48	2.38
Project Total	**0.17**	**1.64**	**1.08**	**0.005**	**32.86**	**3.32**
ICAPCD Thresholds	137	137	550	150	150	550
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

The Draft EIR will be revised to include Table 0.2-2 and Table 0.2-3. While the additional modeling will be included in the Final EIR, this information is not significant because it does not demonstrate that a new significant impact would result from the project or that there is a substantial increase in the severity of an environmental impact. This addition to the Draft EIR merely amplifies the County's determination that potential air quality impacts from the Project will be less than significant. Therefore, there is no need to recirculate the Draft EIR in response to this comment.

F.33 The comment states that Draft EIR "completely fails to grapple with or provide any quantification of air emissions from decommissioning of the Project "after its 20-to 25-year lifespan", and states that a quantitative estimation could have been made and emissions from those activities associated with decommissioning evaluated as part of the Draft EIR's analysis of the Project's impacts to air quality.

First, it should be noted that the Draft EIR states that solar equipment in general, but not the Project specifically, has a 20 to 25 year lifespan. In fact, Section 3.3.4 of the Draft EIR recognizes that there is some ambiguity as to when the Project will be decommissioned— the Project may continue as a result of a contract extension, purchase from another buyer, the Project may continue through another means of funding, or the Project may be decommissioned. Thus, identifying specific decommissioning activities, and the potential impacts from those activities, would be speculative.

Second, notwithstanding the fact that the timing for decommissioning and scope of specific decommissioning activities are not known at this time, the Draft EIR did provide a good faith effort to describe and address the potential emissions from decommissioning and complete dismantling of the Project. Draft EIR page 2-16 describes expected activities from decommissioning and a complete dismantling of the Project, which includes removal of project components and reclamation and recontouring of the project site. Draft EIR page 3.3-22 examines the potential air quality impacts of these project activities, stating "The emissions from on- and off-road equipment during decommissioning are expected to be significantly lower than project construction emissions, as the overall activity would be anticipated to be lower than project construction activity." The commenter does not explain, or otherwise provide evidence, to rebut the expectation that overall activities from decommissioning will be lower than project deconstruction activity.

Third, based on the foregoing expectations with respect to decommissioning activity levels, it is reasonable for the County to compare the air quality modeling already conducted for construction to evaluate potential air quality impacts from decommissioning. Using both the air modeling conducted in support of the Draft EIR and that prepared in response to comments, the Project's maximum daily construction emissions (*see*, Draft EIR Table 3.3-8; response to comment F.32, Table 0.2-2) show that none of the construction phases would exceed ICAPCD significance thresholds. As stated above, decommissioning activities would be less intensive than construction given lower levels of overall activity. Even under the most conservative assumption that emissions from decommissioning are equivalent to construction, emissions from decommissioning activities would be less than ICAPCD's significance thresholds. Furthermore, any decommissioning activities will be required to implement fugitive dust measures in accordance with ICAPCD's requirements, and all Project activities are required to comply with Mitigation Measures AQ-1 through AQ-5. . Therefore, because the County made a good faith effort to disclose and analyze potentially significant impacts associated with decommissioning as part of the Draft EIR's analysis of the Project's potential impacts to air quality, there is no need to revise the Draft EIR in response to this comment.

F.34 This comment summarizes the commenter's opinions regarding decommissioning in Comment F.33, states that the Draft EIR underestimates emissions, and states that the Draft EIR's conclusion that air quality impacts are less than significant are not supported by substantial evidence. The comment also states that the Draft EIR should be revised to include an accurate and adequate air quality analysis.

As stated in response to comment F.33, the County presented a good faith analysis of potential air quality impacts from decommissioning and dismantling of the Project. The comment presents only the commenters opinion that the Draft EIR underestimates emissions, but does not present any evidence to support the conclusion. See also Comment F.33 above. Therefore, the Draft EIR does not need to be revised or recirculated in response to this comment.

F.35 This comment provides a calculation for construction-related PM10 emissions based on what the commenter characterizes as corrections of errors presented in the Draft EIR's modeling. As stated in response to comments F.25 through F.34, there were no errors in the Draft EIR's modeling, and all assumptions and inputs used in the model were based on reasonable projections of actual Project activities during construction and operations. The commenter derived an estimated construction PM10 emissions of 639.7735 pounds per day, which is an extremely high number. Notably, the commenter did not provide any emission modeling files, or any data to support their estimated construction PM10 level. The only reference to how the modeling was

conducted by SWAPE is a statement that construction-related mitigation measures and changes to the Project's anticipated hauling, vendor, and worker trip percent paved values were omitted. (SWAPE, p. 12.)

Neither Comment Letter F or Exhibit B to Comment Letter F provides the emission modeling files to substantiate the modeling results. Calculations were generated by the project applicant's environmental consultant in an attempt to determine how this high value was derived. The consultant determined that SWAPE did not include any mitigation measures for fugitive dust and used the default paved road percentages in CalEEMod, which are equivalent to 50 percent. With a paved road percentage of 50 percent, SWAPE estimated that 50 percent of both the worker and vendor trip lengths would be unpaved. These are not accurate assumptions for the Project, and are not consistent with the Project description. First, as explained in the Draft EIR and in response to comments F.31 and F.33, the ICAPCD requires that all construction sites in Imperial County incorporate standard fugitive dust control measures. In particular, Mitigation Measure AQ-2 in Section 3.3, Air Quality, specifically outlines mitigation measures for controlling fugitive dust from unpaved roads. Furthermore, as shown in Table 0.2-2 (see response to comment F.33), the assumption of a paved road percentage of 50 percent is not representative for this project. Therefore, there is no need to revise or recirculate the Draft EIR in response to this comment.

F.36 The comment provides a summary regarding diesel particular matter (DPM), and the potential health hazards of DPM. This comment does not raise any significant environmental issues and is noted for the record.

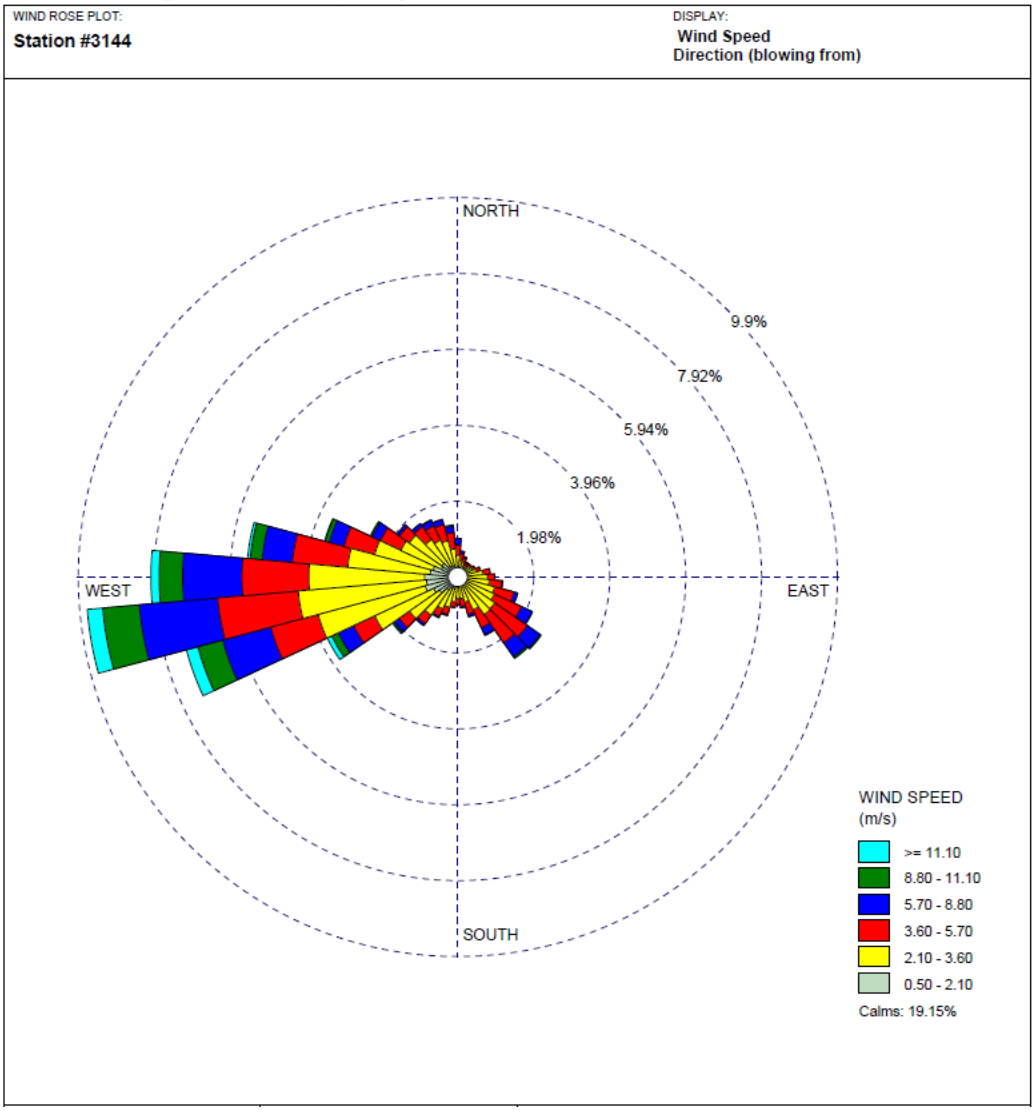
F.37 The comment states that the Draft EIR did not adequately evaluate adverse health impacts from exposure to TACs, and that the Draft EIR should have included a health risk assessment for exposure to toxic air contaminants (TACs), in particular diesel particulate matter (DPM), from construction and operational emissions to support its analysis. Potential health impacts from exposure to TACs were fully identified and considered in the Draft EIR, specifically on pages 3.3-13 through 3.3-22, and Appendix D, pages 20-21. The Draft EIR found that DPM emissions during construction would be short-term in nature, lasting a maximum of nine months. As stated on Draft EIR page 3.3-20, the Project's employees commuting to the site during project construction or operation would use gasoline-fueled vehicles, therefore, there would be no DPM emissions during operations, and emissions of DPM would cease after the Project is constructed because diesel fueled construction vehicles are not required for operation of the Project. Even though potential impacts are less than significant, Mitigation Measure AQ-1 (Draft EIR page 3.3-18) will be implemented for the Project, which requires that all off-road equipment meet EPA Tier 2 Final Standards or better, which would reduce DPM emissions.

Further, the County determined that a health risk assessment is not necessary given expected emissions levels from the Project and the Project's distance from sensitive receptors. In the absence of guidance from the ICAPCD for conducting health risk assessments, guidelines from the Bay Area Air Quality Management District (BAAQMD) for evaluating health risk impacts were consulted. BAAQMD's CEQA Guidelines state, "For assessing community risks and hazards, a 1,000-foot radius is recommended around the project property boundary. BAAQMD recommends that any proposed project that includes the siting of a new source or receptor assess associated impacts within 1,000 feet…" For this Project, the closest sensitive receptor is beyond 1,000 feet from the Project boundary; therefore, the County determined that a health risk assessment was not necessary to quantify cancer risks.

Furthermore, meteorological data from the closest meteorological station in Imperial County is located at the Imperial County Airport. Meteorological data from the site was obtained from the California Air Resources Board's pre-processed AERMOD files. Using AERMOD, a wind rose of the dominant wind direction was generated and is illustrated in Figure 1 Imperial County Airport Windrose below. As shown in Figure 1, the prevailing wind direction blows from east to west. The closest sensitive receptor is both located greater than 1,000 feet from the Project site and is located west of the project site. Therefore, the closest receptor is upwind of the project emissions, resulting minimal exposure to construction-related DPM emissions.

For the reasons stated above, the Project's qualitative evaluation of TAC exposure is sufficiently supported by substantial evidence, and the Draft EIR accurately concluded that health impacts would be less than significant. Therefore, there is no need to revise or recirculated the Draft EIR in response to this comment.

Figure 1. Imperial County Airport Wind Rose



F.38 The comment summarizes legal arguments regarding CEQA's requirements for an EIR, but does not raise significant environmental issues. The commenter cites *Berkeley Keep Jets Over the Bay Comm. V. Bd. of Port Comm'rs*, 91 Cal. App.4th 1344, 1369 ("*Berkeley Jets*") for the proposition that a health risk assessment is required when a project results in exposure to toxic contaminants. This is incorrect. In *Berkeley Jets*, the court stated a lead agency must "meaningfully attempt to quantify the amount of mobile-source emissions that would be emitted from normal operations conducted as part of [the project], and whether these emissions will result in any significant health impacts. The Draft EIR meets these requirements, and made a meaningful attempt to quantify the amount of emissions from the Project, including those from particulate matter from both fugitive dust and exhaust sources, and the potential health impacts from those emissions. (See, Appendix A, Air Quality and Greenhouse Gas Emissions", pdf pp. 44-45, to Draft EIR Appendix D, Air Quality Technical Study.) This comment is noted for the record.

F.39 The comment states that the Draft EIR should conduct a quantitative analysis of potential TAC impacts, and further states that a qualitative analysis of TAC impacts cannot support a finding that potential health risk impacts from the Project are less than significant. This is incorrect. The Draft EIR provides a thorough discussion of the potential types of pollutants that may result from the Project, including TACs and DPM. The potential health impacts of TACs and DPM, and the Project activities that may give rise to the emission of these pollutants, are discussed in both the Draft EIR and Appendix A, Section 2.3.3 to the Draft EIR. Response to comment F.37 discusses the Draft EIR's analysis of TACs, including the assumptions and guidelines that were followed to reach the conclusion that potential impacts are less than significant. There is no need to specifically quantify the minimal DPM emissions from the Project because overall emissions from construction, of which DPM is a subset, have already been quantified, and found to be lower than the thresholds of significance. Further, as discussed in response to comment F.37, the Project's qualitative evaluation of TAC exposure is sufficiently supported, and the Draft EIR accurately concluded that health impacts would be less than significant. No further analysis or mitigation is required. Therefore, there is no need to revise or recirculate the Draft EIR in response to this comment.

F.40 The comment reiterates earlier statements that the air modeling analysis conducted on behalf of the Project is flawed. Response to comments F.26 through F.35 explain the inputs and assumptions that were incorporated into the air quality modeling, and how those inputs and assumptions are reasonable and appropriate for this Project. Furthermore, DPM emissions during construction did not change with the refined modeling conducted in response to the above comments. The construction modeling was only updated to accurately represent fugitive PM_{10} emissions based on more refined inputs. All construction exhaust emissions, including DPM, were accounted accurately in both Appendix D and the refined air quality analysis, which demonstrates that the previous exhaust emissions were represented accurately.

It is also important to note that all mobile vehicles during construction and operations would be gasoline powered, and will not result in DPM emissions. For these reasons, the comment's claim that Draft EIR air modeling analysis is flawed and cannot be relied upon is incorrect. No further mitigation or discussion is required. Therefore, there is no need to revise or recirculate the Draft EIR in response to this comment.

F.41 The comment states that there is a receptor located 1,297 feet from the Project site. The County reviewed the figure presented by SWAPE, and determined that the receptor appears to be located approximately 1,297 feet from the gen-tie line, and over 1,500 feet from the location of the solar energy facility. The County will revise the Draft

EIR to state that there is a receptor located within 1,500 feet from the gen-tie line, and over 1,500 feet from the solar energy facility site. However, this revision does not affect the County's conclusions with respect to potential air quality impacts from the Project, as the receptor is located greater than 1,000 feet from the Project site boundary. As stated in response to comment F-37, health risk impacts should be evaluated for receptors within 1,000 feet of the Project site. Because the newly identified receptor is beyond the 1,000-foot radius and located upwind of the Project, health impacts would not be required to be evaluated at this receptor. This information does not show that a new significant environmental impact from the project would result, or that a substantial increase in the severity of an environmental impact would result; therefore, this additional information does not constitute the addition of significant new information. Therefore, there is no need to recirculate the Draft EIR in response to this comment.

F.42 The comment states that a less than significant finding for cancer risk is determined by a numeric threshold, and that ICAPCD's significance threshold is 10 in one million. The commenter does not cite to any law, ordinance, regulation, or standard to support the statement that a less than significant finding for this Project can only be determined by a numeric threshold.

Consistent with the ICAPCD's CEQA Guidelines, the County and the project applicant consulted with the ICAPCD regarding the air quality analysis for the Project. As discussed in response to comment F.37, the Project's qualitative evaluation of TAC exposure is sufficiently supported by substantial evidence, and the Draft EIR accurately concluded that health impacts would be less than significant. No further analysis or mitigation is required. Therefore, there is no need to revise or recirculate the Draft EIR in response to this comment.

F.43 The comment states that a quantified health risk assessment is required for the Project to be consistent with guidance from the Office of Environmental Health Hazard Assessment (OEHHA). This is incorrect. OEHHA's *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments* (Feb. 2015; hereinafter, "OEHHA Guidelines") specifically recognizes that it is within the purview of the Local Air Pollution Control District or Air Quality Management District to determine which facilities are required to prepare and HRA. (OEHHA Guidelines, p. 1-3.) As stated above in response to comment F.42, the County and the project applicant consulted with the ICAPCD regarding the air quality analysis for the Project. The ICAPCD did not state that an HRA was necessary for the air quality analysis.

The comment also states that without preparation of a health risk assessment, the Draft EIR's conclusions that impacts to public health are less than significant is unsupported. As discussed in response to comments F.37 through F.42, the County, concluded that a health risk assessment is not necessary for this Project. The Project's qualitative evaluation of TAC exposure appropriately discloses the potential environmental impacts from the Project, is supported by substantial evidence, and the Draft EIR accurately concluded that public health impacts would be less than significant. No further analysis or mitigation is required. Therefore, there is no need to revise or recirculate the Draft EIR in response to this comment.

F.44 The comment summarizes the commenter's opinion as to CEQA's requirements for the determination of a project's GHG emissions, and does not raise a significant environmental issues. Specific concerns related to the Draft EIR and Project are addressed in responses to comments F.45 through F.51. This comment is noted for the record.

F.45 The comment states the Draft EIR fails to adequately disclose, analyze, and mitigate GHG impacts from the Project's construction and operations. This comment also states that the Draft EIR fails to provide substantial evidence that the Project is consistent with goals, plans, and policies adopted for the purpose of reducing GHG emissions. These comments are incorrect.

With respect to specific goals, plans, and policies adopted for the purpose of reducing GHG emissions, Draft EIR section 3.7.2 discusses the federal, state, regional, and local laws, ordinances, regulations, and standards ("LORS") that contain goals, plans, and policies adopted for the purpose of reducing GHG emissions. Draft EIR Section 3.7.2 identifies the LORS applicable to consideration of this Project. Draft EIR page 3.7-14 presents Table 3.7-2, which discloses both construction and operational GHG emissions expected from the Project. The Draft EIR analyzed the potential impacts of these emissions, and determined that the Project would result in an overall reduction of 65,136 metric tons of carbon dioxide equivalents by having solar panels generate electricity from renewable sources. The Project's sole purpose to reduce GHG emissions from electricity generating facilities that emit carbon dioxide emissions from combustion of non-renewable fossil fuels, and Table 3.7-2 unequivocally shows that the Project would reduce a substantial amount of GHG emissions.

Draft EIR page 3.7-14 provides a discussion with respect to the Project's consistency with LORS relating to GHG emissions, including policies relating to achieving renewable portfolio standards, generation of electricity from renewable sources, and assisting with the achievement of cost-effective emissions while transitioning to a low-carbon economy. The Draft EIR concludes that the Project would not conflict with any applicable LORS, and in fact, would aid in the achievement of GHG emissions reduction goals and policies set forth in those LORS. Based on the foregoing, the Draft EIR appropriately concluded that the Project will have a less than significant impact on climate change from GHG emissions.

For these reasons, the Draft EIR adequately analyzed the Project's consistency with goals, plans, policies, or regulations for reducing greenhouse gases. No mitigation or further discussion is required. Therefore, there is no need to revise or recirculate the Draft EIR in response to this comment.

F.46 The comment repeats statements that the County must make a reasonable effort to conduct a complete and thorough GHG analysis to determine significant impacts, and incorporate mitigation measures to reduce GHG impacts to less than significant. As stated in response to comment F.45, the County conducted a thorough, good faith effort to analyze the potential impacts of GHG emissions from the Project. The Draft EIR's conclusion of less than significant impacts are accurate and supported by substantial evidence. CEQA does not require mitigation measures for effects which are not found to be significant. (14 C.C.R. § 15126.4(a)(3).) Therefore, no mitigation measures are required, and there is no need to revise or recirculate the Draft EIR in response to this comment.

F.47 The comment summarizes the commenter's opinion as to CEQA's requirements for the determination of the significance of a project's GHG emissions, and does not raise a significant environmental issues. As stated in response to comments F.45 through F.46 the Draft EIR adequately analyzed the Project's consistency with goals, plans, policies, or regulations for reducing greenhouse gases, and would result in a net reduction in annual GHG emissions. The Project would not exceed the 3,000 MTCO2e threshold and would also be consisted with policies for reducing GHG emissions. No mitigation or further discussion is required. Therefore, there is no need to revise or recirculate the Draft EIR in response to this comment.

F.48 The comment primarily summarizes the commenter's opinion as to CEQA's requirements for the determination of the significance of a project's GHG emissions and the, and does not raise a significant environmental issues. The comment does not provide any specifics in this comment as to how the Draft EIR fails to analyze climate change impacts. Specific concerns related to the Draft EIR and Project are addressed in subsequent comments. No further discussion is required.

F.49 The comment states that the Scoping Plan is outdated and does not apply to the Project. This is incorrect. The most recent version of the state's Scoping Plan is the 2017 Scoping Plan. As stated on Draft EIR page 3.7-8, "The majority of the Scoping Plan's GHG reduction strategies are directed at the two sectors with the largest GHG emissions contributions: transportation and electricity generation." The 2017 Scoping Plan builds upon the framework of strategies from previous versions. Also, the 2017 Scoping Plan specifically states how California will reach its 2030 reductions targets, therefore, the commenter's claim that "the Scoping Plan is only intended to provide emission reduction goals through 2020" is incorrect. The Draft EIR analyzed the potential impacts of GHG emissions, and determined that the Project would result in an overall reduction of 65,136 metric tons of carbon dioxide equivalents by having solar panels generate electricity from renewable sources. The Project's sole purpose to reduce GHG emissions from electricity generating facilities that emit GHG emissions from combustion of non-renewable fossil fuels, and Table 3.7-2 unequivocally shows that the Project would reduce a substantial amount of GHG emissions. The Draft EIR used the appropriate Scoping Plan that is applicable to the Project. No mitigation or further discussion is required. Therefore, there is no need to revise or recirculate the Draft EIR in response to this comment.

F.50 The comment states the Draft EIR lacks substantial evidence to demonstrate the Project's consistency with Scoping Plan polices. This is incorrect. As stated in response to comment F.45, the Draft EIR adequately analyzed the Project's consistency with goals, plans, policies, or regulations for reducing greenhouse gases, including the Scoping Plan policies. One of the main goals in the Scoping Plan is to reduce GHG emissions from electricity generation from fossil fuel combustion. It should be reiterated that the Project's sole purpose is to produce electricity from renewable energy sources, such as solar panels, and the Project would even result in a net reduction of GHG emissions. The Draft EIR provided substantial evidence to support the conclusions finding consistency with Scoping Plan policies and applicable LORS. No further mitigation or discussion is required. Therefore, there is no need to revise or recirculate the Draft EIR in response to this comment.

F.51 The comment summarizes comments F.47 through F.50, which are responses to above, and statements the Draft EIR must be revised and recirculated. Based on the preceding responses to comments F.44 to F.51, the Draft EIR accurately and sufficiently evaluated the Project's GHG impacts, and the Draft EIR's conclusion of less than significant GHG impacts is accurate and supported by substantial evidence. No further mitigation or discussion is required. Therefore, there is no need to revise or recirculate the Draft EIR in response to this comment.

F.52 The comment primarily summarizes the commenter's opinion as to CEQA's requirements regarding the discussion of potential hazards to the public from a project's routine transport, use, or disposal of hazardous materials, and the determination of potential hazards arising from a project's use of hazardous materials. Draft EIR Section 6.3 evaluates the potential health impact from hazardous materials and determines the impact to be less than significant. Additionally, as discussed in response to comment F.31, the fugitive dust mitigation measures in accordance with ICAPCD *Regulation VIII-Fugitive Dust Control Measures* will be implemented in response to environmental inhalation hazards such as Valley Fever. This comment does not raise significant environmental issues, and is noted for the record.

F.53 The comment make a general statement that the Cortese List is not a sufficient means to determine potential hazards at the Project site, and that without a Phase I ESA, there is no substantial evidence to support a finding that the Project will have a less than significant impact from hazards or hazardous materials. The comment cites to no legal authorities for this claim and the County is not aware of any such legal authority requiring the information set forth in the comment.

The Draft EIR based its conclusion that there would not be a significant hazard or hazardous materials impact from the Project on several factors, including the limited use of hazardous materials during construction and operations, distance of the Project site from an existing or proposed school, airports, and the fact that the Project site is not listed as a hazardous materials site. Furthermore, the project site is owned by the applicant, who is knowledgeable of the history of uses on the site. There have been no uses on the project site that involved the excessive use of hazardous materials, including transport or disposal. Therefore, no contamination on the site is expected and no impact related to hazardous materials is identified. The comment does not raise any concerns that the Project will create a significant hazard to the public or to the environment, or otherwise raise any significant environmental issues relating to hazardous materials. Therefore, there is no need to revise or recirculate the Draft EIR in response to this comment.

F.54 The comment states that the Draft EIR does not address the Project's potential impacts on public health from Valley Fever. Valley Fever is a disease caused by inhalation of spores from a fungus known as *Coccidioides* spp., "which lives in the top 2 to 12 inches of soil" in many parts of California. (See, CA Labor Code § 6709.) Contracting Valley Fever can occur by breathing in dust that contains spores of the fungus. (See, CA Department of Public Health, *Valley Fever Fact Sheet*.) Valley Fever is not highly endemic in Imperial County, (CA Labor Code § 6709; see also, CA Department of Public Health, *Coccidioidomycosis in California Provisional Monthly Report* (September 30, 2020), and there is no evidence that the fungus is present on the Project site. The Draft EIR discusses mitigation measures used to limit inhalation exposure to dust and to control fugitive dust on the Project site, which would therefore limit inhalation exposure to dust related toxins. The measures set forth in the comment are redundant to or duplicative of the measures discussed in the Draft EIR. As discussed in response to comment F-31, Draft EIR pages 3.3-17 and 3.3-18 clearly outline the mitigation measures that would be implemented. Mitigation Measure AQ-2 states that the Project would comply with the *Regulation VIII-Fugitive Dust Control Measures* and provides multiple measures to reduce fugitive dust emissions. The Draft EIR outlined fugitive dust control measures in Section 3.3, Air Quality, and in the modeling output file provided a comment that watering would occur two times per day which is related to the "Water Exposed Area" mitigation measure, thus the commenter's claim that mitigation measures are not substantiated or explained in the modeling output is inaccurate. Also, for the "Reduce Vehicle Speeds on Unpaved Roads" measure, Draft EIR page 3.3-18 clearly states vehicle speeds would not

exceed 15 miles per hour. The project will follow ICAPCD regulations for controlling fugitive dust and dust related inhalation toxins. Therefore, there is no need to revise or recirculate the Draft EIR in response to this comment.

F.55 The comment provides a background of a study examining the impact of Valley Fever on workers constructing two large, industrial-scale projects in San Luis Obispo County, and therefore has little applicability to Imperial County. The comment states that the generation of dust is one of the primary routes of exposure to contract Valley Fever. The comment also states that exposure to workers on or adjacent to the project site is larger, and that dust from the Project may carry spores into other areas. The comment states that the Draft EIR fails to adequately mitigate against significant health risk impacts from Valley Fever. As stated in response to comment F.54, Valley Fever is not highly endemic in Imperial County, unlike San Luis Obispo County, and there is no evidence that the fungus is present on the Project site.

The comment also proposes mitigation measures that the commenter states will mitigate against significant health risk impacts. First, the commenter proposes measures to minimize exposure to potential Valley Fever-containing dust, such as cleaning equipment and vehicles of dust, spraying areas to be graded with water, and ceasing work if water runs out until a water truck can return. These measures are already incorporated within the mitigation measures proposed by the County. Measure AQ-2 provides for the cleaning of equipment and vehicles, watering of exposed soil in active grading areas, in addition to many other measures to control dust. Measure AQ-3 requires dust suppression through either water or chemical stabilization, and Measure AQ-4 requires development and approval of a Dust Suppression Management Plan. As discussed in response to comments F.31 and F.54, the Draft EIR also includes other mitigation measures designed to control and limit dust from Project construction and operation. These measures will limit inhalation exposure to dust, including "Water Exposed Area" and "Reduce Vehicle Speeds on Unpaved Roads" (see EIR pages on page 3.3-17 and 3.3-18). The project will comply with all ICAPCD *Regulation VIII-Fugitive Dust Control Measures* during construction and operation. With the implementation of these measures set forth in the DEIR, potential impacts from the Project are less than significant, and the other measures proposed by the commenter (such as payment of a monetary fee for implementation of a Valley Fever public awareness program) are not necessary to mitigate potential impacts to less than significant. While not necessary to mitigate potential impacts to less than significant, the project applicant has also confirmed that the following measures would be included as part of its construction BMPs: conducting Valley Fever awareness training for workers; providing respirators to workers when requested, including necessary training; use of closed-cab earth-moving vehicles equipped with HEPA-filtered air systems; and conducting earth-moving activities downwind of workers when possible. Therefore, there is no need to revise or recirculate the Draft EIR in response to this comment.

F.56 The comment provides a list of mitigation measures that the commenter states should be adopted to mitigate significant health risk impacts from the Project. As noted in responses to comments F.31 and F.54, the Draft EIR discusses several mitigation measures that will be used to limit inhalation exposure to dust in accordance with ICAPCD regulations including *Regulation VIII-Fugitive Dust Control Measures* during construction and operation. With these mitigation measures in place exposure to dust related toxins would be less than significant. Further, as stated in response to Comment F.24, mitigation must have both a nexus and rough proportionality to the impact caused by the project. The Mitigation Measures identified in the Draft EIR are in proportion to potential effects. No additional mitigation would be required to reduce or lessen potentially significant impacts further than the mitigation measures already

proposed in the Draft EIR. Therefore, there is no need to revise or recirculate the Draft EIR in response to this comment.

F.57 The comment states that CEQA requires that the Draft EIR incorporate all mitigation measures proposed by SWAPE to address air quality, health risk, and GHG impacts from the Project prior to Project approval. To begin, CEQA requires the Draft EIR incorporate all feasible mitigation measures required to reduce potential effects to a level of less than significant, not all mitigation measures proposed by a commenter. Moreover, the provisions of the CEQA Guidelines cited by the commenter do not apply where, as here, that the Project will have less than significant impacts to air quality, public health, and climate change from GHG emissions. The Draft EIR has assessed and implemented all feasible mitigation measures necessary to reduce potential significant impacts to a less than significant level. In addition, several of the measures recommended by the commenter are already incorporated in the Draft EIR. For example, the Draft EIR includes emission control technology, idling requirements, and diesel requirements (see Draft EIR Mitigation Measure AQ-2). Further, as stated in response to comment F.23, mitigation must have both a nexus and rough proportionality to the impact caused by the project. The Mitigation Measures identified in the Draft EIR are in proportion to potential effects. No additional feasible mitigation would be required to reduce or lessen potentially significant impacts further than the mitigation measures already proposed in the Draft EIR. Therefore, there is no need to revise or recirculate the Draft EIR in response to this comment.

The County's response to each proposed measure is below:

- CRS Diesel Emission Control Technology measure a: See mitigation measure AQ-1, AQ-2, which will ensure that PM emissions are less than significant.
- CRS Diesel Emission Control Technology measure b: See mitigation measure AQ-1, AQ-2, which will ensure that PM emissions are less than significant.
- CRS Diesel Emission Control Technology measure c.i: See mitigation measure AQ-1, requiring all construction equipment to be equipped with an engine designation of EPA Tier 2 or better.
- CRS Diesel Emission Control Technology measure c.ii: See mitigation measure AQ-1, AQ-2, which will ensure that PM emissions are less than significant.
- CRS Diesel Emission Control Technology measure d: See AQ-1; compliance verification will be through the submittal of an equipment list to ICAPCD and the County rather than a sticker.
- CRS Diesel Emission Control Technology measure e: The County declines to adopt this measure, as AQ-1, which requires submittal of an equipment list to ICAPCD and the County, will be used to verify that equipment use does not exceed significance thresholds.
- CRS Diesel Emission Control Technology measure f: See mitigation measure AQ-2, requiring use of alternative fueled or catalyst equipped diesel construction equipment.
- CRS Idling Requirements measure: See mitigation measure AQ-2, providing for the minimization of idling time.
- CRS Additional Diesel Requirements measure a: See AQ-1 requiring submittal of an equipment list to ICAPCD and the County.
- CRS Additional Diesel Requirements measure b: See AQ-1, which establishes standards for all construction equipment to be used on-site.

- CRS Additional Diesel Requirements measure c: See AQ-1, which establishes standards for all construction equipment to be used on-site.

The commenter also provided a list of the Sacramento Metropolitan Air Quality Management District's ("SMAQMD") "Basic Construction Emission Control Practices". The County notes that the project is subject to ICAPCD's jurisdiction, and ICAPCD's rules relating to fugitive dust management and construction emission control practices. Nonetheless, the proposed measures are discussed below:

- Control of fugitive dust: See mitigation measure AQ-2, which provides for compliance with ICAPCD Regulation VIII-Fugitive Dust Control Measures.
- Watering of exposed surfaces: See mitigation measure AQ-2, providing for, among other measures, watering of exposed surfaces with adequate frequency to control dust.
- Haul truck measures: See mitigation measure AQ-2, which addresses the transport of bulk materials.
- Removal of visible track-out mud or dirt: See mitigation measure AQ-2, requiring the immediate cleaning, or once per day cleaning, of track-out mud or dirt.
- Limit of vehicle speeds on unpaved roads to 15 miles per hour: See mitigation measure AQ-2, limiting vehicle speeds for construction vehicles to 15 miles per hour on any unpaved surface at the construction site.
- Requiring all roadways, driveways, sidewalks, and parking lots to be paved as soon as possible: See mitigation measure AQ-2, which requires all on-site and offsite unpaved roads and traffic areas to be effectively stabilized, either through paving, chemical stabilizers, dust suppressants, and/or watering. The County declines to adopt the commenter's suggestion to limit the method of stabilization solely to paving.
- Minimize idling time: See AQ-2, which contains identical measures to minimize idling time.
- Provide current certificate of compliance for CARB's In-Use Off-Road Diesel-Fueled Fleets regulations: See AQ-1, which provides for verification by the ICAPCD of construction equipment compliance with AQ-1. The County declines to adopt the commenter's specific measure to verify compliance.

The commenter also provided a list of the SMAQMD's "Enhanced Exhaust Control Practices". SMAQMD recommends consideration of these measures, if feasible, for projects that will generate maximum daily NOx emissions that exceed SMAQMD's threshold of significance. The County again notes that the project is subject to the ICAPCD's regulatory authority, and the ICAPCD has different thresholds of significance for emissions. Nonetheless, even if the project were subject to SMAQMD's permitting authority, it would not exceed SMAQMD's thresholds of significance and trigger consideration of SMAQMD's Enhanced Exhaust Control Practices. As stated in the DEIR and above in response to comments F.31 through F.37, emissions impacts from the project are less than significant. Further, as described above, several of the mitigation measures proposed by the commenter have already been incorporated in the Draft EIR, in addition to other mitigation measures. The County is declining to adopt two of the mitigation measures proposed by the commenter: submission of a plan for emissions reductions from heavy-duty off-road vehicles and visual opacity restriction requirement for off-road diesel powered equipment. Emissions from the project are already less than significant; therefore, further measures to reduce emissions from the project are not necessary.

F.58 The comment summarizes previous comments stating states that the Draft EIR fails as an informational document and lacks substantial evidence to support its analysis and conclusions. As discussed in all previous responses the Draft EIR are supported by substantial evidence and are accurate. No further discussion is needed. Therefore, there is no need to revise or recirculate the Draft EIR in response to this comment.

[Responses to Comment Letter F, Exhibit A: Letter from Shawn Smallwood, Re: Wister Solar Energy Facility EIR]

F.59 The qualifications of Mr. Smallwood are noted.

F. 60 The commenter notes that Stantec conducted a single site visit on January 30, 2019 and that the surveys were described as non-protocol and that a protocol survey for flat tailed horned lizard was conducted in August 2019. The commenter also notes that no protocol surveys were performed for desert tortoise or burrowing owl. The commenter's concerns are addressed in response to comments E. 2, F.10, F.21 and F.24.a. Mr. Smallwood's methodologies and predictions are acknowledged but not affirmed. Otherwise, the comment does not provide any specific comments or concerns regarding the environmental setting in the Draft EIR; therefore, no further response is necessary.

F.61 The commenter presents a list of species that they felt have potential to occur in the project area. Species relevant to the project's location were discussed within the context of the EIR in Sections 3.4.1, 3.4.3, Appendix A, Appendix E, and Appendix F. The commenter's concerns are also addressed in response to comments F.10-18, and F.21-23.

F.62 The comment is a continuation of comment 60 and are related to purported lake effect and collision, as they pertain to special-status species, at solar facilities. The commenter also describes his review of certain records about species reporting and monitoring and includes the commenter's assumptions and calculations derived from those materials, and states that the Draft EIR should have included a similar review of such records. However, no laws, ordinances, regulations or standards requiring the review conducted by the commenter are cited. In particular, "CEQA does not require a lead agency to conduct every recommended test and perform all recommended research to evaluate the impacts of a proposed project. The fact that additional studies might be helpful does not mean that they are required." Ass'n of Irritated Residents v. Cty. of Madera, (2003) 107 Cal. App. 4th 1383, 1396, 133 Cal. Rptr. 2d 718. In this case, reviewing fatality monitoring reports for California solar projects is not necessary where, as here, the Draft EIR appropriately included species occurrence data relevant to the Project site, which appropriately discloses the potential impacts arising from this Project. To the extent they discuss subject matters which may be relevant, the comments are noted, and are addressed in the Section 3.4.3, and Mitigation Measures BIO-2 and BIO-8. Mr. Smallwood's methodologies and predictions are acknowledged but not affirmed. Otherwise, the comment does not provide any specific comments or concerns regarding the environmental setting in the Draft EIR; therefore, no further response is necessary.

F.63 The commenter makes certain predictions with respect to potential collision fatality rates from the project. The commenter also includes photographs from other projects, but does not explain their relevance to the potential effects of the proposed project. No laws, ordinances, regulations or standards requiring the review conducted by the commenter are cited. As stated above, "CEQA does not require a lead agency to conduct every recommended test and perform all recommended research to evaluate the impacts of a proposed project. The fact that additional studies might be helpful does not mean that they are required." Ass'n of Irritated Residents v. Cty. of Madera, (2003) 107 Cal. App. 4th 1383, 1396, 133 Cal. Rptr. 2d 718. . To the extent they discuss subject maters which may be relevant, the comments are noted and addressed in the response to comments F.10 and F.16. Mr. Smallwood's methodologies and predictions are acknowledged but not affirmed. Otherwise, the

comment does not provide any specific comments or concerns regarding the environmental setting in the Draft EIR; therefore, no further response is necessary.

F.64 The commenter summarizes his comments for a different project. To the extent they discuss subject maters which may be relevant to this Project, the comments are noted and addressed in the No. F.10 and F.16 above. Mr. Smallwood's methodologies and predictions are acknowledged but not affirmed. Otherwise, the comment does not provide any specific comments or concerns regarding the environmental setting in the Draft EIR; therefore, no further response is necessary.

F. 65 The comments regarding the commenters views on the potential for habitat loss are noted. To the extent they discuss subject maters which may be relevant to this Project, the comments are noted and addressed in the responses to comments E.2, E.2.c, F.17, F.19, and F.22. Mr. Smallwood's methodologies and predictions are acknowledged but not affirmed. Otherwise, the comment does not provide any specific comments or concerns regarding the environmental setting in the Draft EIR; therefore, no further response is necessary.

F.66 The commenter discusses his comments in another proceeding unrelated to the project, the Desert Renewable Energy Conservation Plan (DRECP). Comments in this desert-wide policy proceeding do not address any potential effects of the project. The comment also discusses avian issues applicable to the entirety of Imperial County, and not specific the proposed project. To the extent they discuss subject maters which may be relevant, the comments are noted and addressed in the responses to Comments E.2, E.2.c, F.17, F.19, and F.22. Mr. Smallwood's methodologies and predictions are acknowledged but not affirmed. Otherwise, the comment does not provide any specific comments or concerns regarding the environmental setting in the Draft EIR; therefore, no further response is necessary.

F.67 The comment focuses on wildlife movement. The project's potential effect on wildlife movement are addressed in the Draft EIR and in response to comments E.2.a, and F.18. The commenter discusses habitat conservation plans and the Desert Renewable Energy Conservation Plan (DRECP). Comments in this desert-wide policy proceeding do not address any potential effects of the project. Further, Section 3.4.3 includes a discussion of Impact 3.4-4, the potential impacts on the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, and finds that impact to be less than significant. The comment is noted. The commenter's concerns are addressed in response to comments E.2.a, and F.18.

F.68 The commenter claims that the Draft EIR does not adequately address the cumulative impact of collision fatalities and loss of breeding capacity due to habitat loss. Chapter 5 of the Draft EIR, titled, "Cumulative Impacts," discusses the impact of the proposed project in conjunction with other planned and future development in the surrounding areas. Moreover, the commenter's concerns are further addressed in response to comments E.2, E.2.c, F.17, F.19, and F.22.

F.69 The commenter claims that the pre-construction mitigation measures included in the Draft EIR are not sufficient and what should be included are detection surveys. This comment largely restates prior comments. The commenter's concerns are addressed in response to comment F.21 above and to Mitigation Measures BIO-1, BIO-4, BIO-6, BIO-7, and BIO-9 in the Draft EIR which include targeted species surveys including surveys following CDFW and USFWS guidelines and protocols.

F.70 The commenter concurs with Mitigation Measure BIO-2. The commenter then states that Mitigation Measures BIO-2 should also address potential avian collisions or habitat loss. This is incorrect. The commenter's concerns are addressed in response to comments E.2, E.2.c, F.17, F.19, and F.22.

F.71 The commenter concurs with Mitigation Measures BIO-3 and BIO-5. The commenter then states that Mitigation Measures BIO-3 and BIO-5 should also address potential avian collisions or habitat loss. The commenters concerns are addressed in Section 3.4.3 of the Draft EIR and response to comment No. F.22.

F.72 The commenter claims that mitigation measure BIO-8 is inadequate because it would defer the development of the Bird and Bat Conservation Strategy (BBCS) until after the Project is approved. This is incorrect. BIO-8 provides that "The BBCS will include the following components" and presents a detailed listing of those components. BIO-8 states that BBCS "shall be developed" and "will include" the specified measures. It does not defer identification of the measures as the measures are included in the text of Mitigation Measure BIO-8. Moreover, the commenter's concerns are addressed in response to comments F.22, F. 23, F.24.b, F.24.e, and F.24.f. above. Mr. Smallwood's methodologies and predictions are acknowledged but not affirmed. Otherwise, the comment does not provide any specific comments or concerns regarding the environmental setting in the Draft EIR; therefore, no further response is necessary.

F.73 The commenter states that eight identified mitigation measures that are not in Draft EIR should be considered and implemented by the County. However, the commenter does not identify with any specificity what potentially significant impacts are claimed by the commenter and how the commenter's list would avoid or minimize potentially significant effects of the project, as required by CEQA. (Public Resources Code § 21084.3; 14 C.C.R. 15021 and 15370.) The commenter's concerns are addressed in the Mitigation Measures set forth in Table ES-1 of the Draft EIR and response to comment F.24 above. Comments about the need for "County-wide" actions are not comments on the project or the Draft EIR. Otherwise, the comment does not provide any specific comments or concerns regarding the environmental setting in the Draft EIR; therefore, no further response is necessary. Mr. Smallwood's methodologies and predictions are acknowledged but not affirmed. Otherwise, the comment does not provide any specific comments or concerns regarding the environmental setting in the Draft EIR; therefore, no further response is necessary.

[Responses to Comment Letter F, Exhibit B: Letter from SWAPE, Re: Comments on Wister Solar Energy Facility Project (SCH No. 2019110140)]

F.74 This comment contains an introductory paragraph regarding the Project description and summarizes SWAPE's conclusions regarding its review of the Draft EIR. Issues raised in the comment relating to the Draft EIR's hazards and hazardous materials, air quality, health risk, and greenhouse gas impacts analyses are addressed above in response to comments F.25 through F.58.

This comment states that use of the Cortese List is insufficient to disclose potential impacts of the Project. The comment also summarizes the EPA's Phase I and Phase II ESA processes. This comment does not raise an environmental concern

The comment asserts that a Phase I Environmental Site Assessment (ESA) is necessary because there is a geothermal well on the Project site, and that the well should be inspected

F.75 The comment contains background regarding Valley Fever and states that the Draft EIR should be revised to address potential impacts from Valley Fever due to construction and include mitigation measures to address potential impacts. This comment is addressed in response to comments F.52 and F.54 through F.57.

F.76 The comment provides a background on the CalEEMod software, and provides a summary of SWAPE's opinion that input used in the CalEEMod analysis were not consistent with the Draft EIR, and SWAPE's opinion that Project construction and operations emissions are underestimated. This comment is addressed in response to comments F.25 through F.35,

F.77 The comment provides a summary of the Project design and the inputs used in CalEEMod. The comment states that the PV panels and substation are land uses that should have been modeled in CalEEMod. The comment also discusses the operational vehicle fleet mix percentage values used in the air quality modeling, and states that the modifications were not justified. These comments are addressed in response to comments F.26 through F.28.

F.78 The comment states that the air analysis conducted for the Project underestimated operational vehicle trips, and should have modeled 14 daily one-way trips. The comment also states that model adjusted the Project's anticipated operational vehicle trip lengths and trip purposes (specifically, the change to the Residential Home-to-Work Trip Purpose Percentage) inputs without justification. The comment discusses changes to inputs relating to the Project's construction and operational paved roads percentages, and states that no justification was provided for the changes. Finally, the comment discusses the inclusion of construction related mitigation measures in the CalEEMod inputs, and states that this may have resulted in the underestimation of construction-related emissions. These comments are addressed in response to comments F.29 through F.30.

F.79 The comment states that inputs relating to unpaved road vehicle speed and unpaved road moisture content was changed without justification. This comment is addressed in response to comment F.31.

F.80 The comment states that the Draft EIR failed to, but should, consider the Project's emissions associated with decommissioning of the Project, and compare those emissions to applicable thresholds. The comment also states that the Draft EIR failed

to evaluate emissions from the fiberoptic cable and gen-tie line. These comments are addressed in response to comments F.33 through F.34.

F.81 The comment presents the results of an air quality model run by SWAPE, using SWAPE's assumptions and inputs. Based on SWAPE's modeling, SWAPE concludes that the Project would result in a potentially significant air quality impact. The comment states that the Draft EIR should be recirculated with the results of an updated air emissions model and mitigation measures to reduce emissions to less than significant levels. The comment states that a health risk assessment is necessary to evaluate potential health risk impacts from diesel particulate matter, and that there is a receptor located 1,297 feet west of the Project site. This comment is addressed in response to comments F.35 through F.43.

F.82 The comment provides a summary of the Draft EIR's conclusions that greenhouse gas impacts from the Project will be less than significant based on the GHG emissions and offsets from the Project and the Project's consistency with CARB's Scoping Plan. The comment states that the Draft EIR's conclusions are unsupported, and that further analysis of GHG impacts is needed. This comment is addressed in response to comments F.44 through F.51.

F.83 The comment identifies mitigation measures that SWAPE believes are applicable to the Project, and that should be incorporated into the Project. The comment states that the Draft EIR should be updated to incorporate all feasible mitigation measures, in addition to an updated air quality and HG analysis. These comments are addressed in response to comment 57.

The comment also provides a summary regarding the scope of services rendered by SWAPE, and states that the report may contain information gaps, inconsistencies, or may be incomplete. This comment does not raise a significant environmental concern, and is noted for the record.

From: Vargas, Donald A <DVargas@IID.com>
Sent: Thursday, October 8, 2020 5:07 PM
To: Patricia Valenzuela <PatriciaValenzuela@co.imperial.ca.us>; ICPDSCommentLetters <ICPDSCommentLetters@co.imperial.ca.us>
Cc: Arias, Lucy <laarias@IID.com>; Alfaro, Carlos <calfaro@IID.com>; Bergmark, Constance <cjbergmark@IID.com>; MacDonald, Matthew S <MSMacDonald@IID.com>; Martinez, Jesus <jamartinez@IID.com>; Ontiveros, Guadalupe A <GAOntiveros@IID.com>; Ornelas, Alfredo M <amornelas@IID.com>; Pacheco, Ezequiel <epacheco@IID.com>; Torres, Ricardo M <rmtorres@IID.com>; Kemp, Michael <MPKemp@IID.com>; Blain, Sandra <sblain@IID.com>; Gilbert, Marilyn <mgilbert@IID.com>; Martinez, Enrique B <ebmartinez@IID.com>; Ortega, Antonio <AOrtega@IID.com>; Pacheco, Mike <MAPacheco@IID.com>; Najera, Raquel <rnajera@IID.com>; Asbury, Jamie <jlasbury@IID.com>; Smith Hoff, Joanna <jshoff@IID.com>; Taylor, Vance <vmtaylor@IID.com>; Cervantes, Laura <ljcervantes@IID.com>; Gallinat, Lisa M <LMGallinat@IID.com>; Gray, Randy <RSGray@IID.com>; Pacheco, Jorge <jpacheco@IID.com>; Solorio, Sandra <SSolorio@IID.com>; Doyle, Vickie L <VLDoyle@IID.com>; Fiorenza, Frank J <FJFiorenza@IID.com>; Humes, Jessica <jllhumes@IID.com>; Gomez, Ismael <IGomez@IID.com>; Bergmark, Constance <cjbergmark@IID.com>
Subject: NOA of a DEIR for the Wister Solar Energy Facility Project (Additional Comments)

CAUTION: This email originated outside our organization; please use caution.

Good afternoon Patricia,

Pursuant to the district's comment letter on the Notice of Availability of a Draft Environmental Impact Report for the Wister Solar Energy Facility Project, dated August 18, 2020 (see attached), please be advised that with respect to the communication facilities described in comment no. 2 of the aforementioned letter, upon further assessment, albeit preliminary, it was determined that: G.1

1. The height of the communication tower will be less than 40-feet. The communication tower will be constructed using an auger truck and lift truck. The tower will be freestanding monopole without guy wire supports.
2. The communication tower will be located in the southwest portion of the project site, within the proposed Wister Substation.
3. The communication shelter would not be needed; rather the required communications equipment will be located within the substation control building. G.2

Regards,

Imperial Irrigation District
333 E. Barioni Blvd.
Imperial CA 92251

IID
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IID
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www.iid.com
Since 1911

August 18, 2020

Ms. Patricia Valenzuela
Planner IV
Planning & Development Services Department
County of Imperial
801 Main Street
El Centro, CA 92243

SUBJECT: NOA of a DEIR for the Wister Solar Energy Facility Project

Dear Ms. Valenzuela:

On June 30, 2020, the Imperial Irrigation District received from the Imperial County Planning & Development Services Dept. a request for agency comments on the Notice of Availability of a Draft Environmental Impact Report for the Wister Solar Energy Facility Project. The applicant, Orni 21, LLC, is proposing to develop a 20MW photovoltaic energy generation facility on a 100 acres of a 640-acre parcel generally located about 3 miles north of the townsite of Niland, California (APN 003-240-001-000) and plans to interconnect to the IID's 92kV "K" transmission line

The IID has reviewed the DEIR and, in addition to the comments submitted in the district letter dated December 10, 2019 (see attached letter), has the following observations:

G.3

1. In addition to the requirements for permanent station service, as stipulated in the December 10, 2019 IID letter, since a generator is being planned, the applicant will need to adhere to Regulation 21 (available for download at the district website https://www.iid.com/home/showdocument?id=2561) and provide the IID with the generator and transfer switch specifications, including the generator implementation plan during normal conditions, emergency conditions and back-to-normal conditions.

G.4

2. For inclusion as part of the project description: IID will be installing a wireless communication system at the proposed solar facility, as the originally planned fiber optic communication is not a viable option. Specifics on the communication tower height have not been determined at this point, the exact height will be ascertained once the path calculation and path survey are completed; however, preliminary studies identify a possible need for a 60-foot tower. Part of the wireless communication system will include a communication shelter 8'x10'x10' exterior dimensions.

G.5

Should you have any questions, please do not hesitate to contact me at 760-482-3609 or at dvargas@iid.com. Thank you for the opportunity to comment on this matter. G.6

Respectfully,

Donald Vargas
Compliance Administrator II

Attachment

Enrique B. Martinez – General Manager
Mike Pacheco – Manager, Water Dept.
Marilyn Del Bosque Gilbert – Manager, Energy Dept.
Sandra Blain – Deputy Manager, Energy Dept.,
Constance Bergmark – Mgr. of Planning & Eng./Chief Elec. Engineer, Energy Dept.
Jamie Asbury – Asst. General Counsel
Vance Taylor – Asst. General Counsel
Michael P. Kemp – Superintendent, Regulatory & Environmental Compliance
Laura Cervantes. – Supervisor, Real Estate
Jessica Humes – Environmental Project Mgr. Sr., Water Dept.

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December 10, 2019

Ms. Patricia Valenzuela
Planner IV
Planning & Development Services Department
County of Imperial
801 Main Street
El Centro, CA 92243

SUBJECT: NOP of a Draft EIR for the Orni 21, LLC Wister Solar Energy Facility Project

Dear Ms. Valenzuela:

On November 12, 2019, the Imperial Irrigation District received from the Imperial County Planning & Development Services Dept. a request for agency comments on the Notice of Preparation of a Draft Environmental Impact Report for the Wister Solar Energy Facility Project. The applicant, Orni 21, LLC, is proposing to develop a 20MW photovoltaic energy generation facility on a 100 acres of a 640-acre parcel generally located about 3 miles north of the townsite of Niland, California.

The Imperial Irrigation District has reviewed the information and has the following comments:

1. The project plans to interconnect to the IID's 92kV "K" transmission line via a generation tie-in line along the east portion of parcel APN 003-240-001 on approximately 100 acres of the 640 acres parcel. To serve the project's temporary construction and permanent power requirements for the project's substation, there may be a need to under build the 92kV gen-tie with 12kV rated conductor. G.7

2. For distribution-rated electrical service for the project, the applicant should be advised to contact Ignacio Romo, IID Customer Project Development Planner, at (760) 482-3426 or e-mail Mr. Romo at igromo@iid.com to initiate the customer service application process. In addition to submitting a formal application (available for download at the district website http://www.iid.com/home/showdocument?id=12923), the applicant will be required to submit a complete set of approved plans (including CAD files), project schedule, estimated in-service date, one-line diagram of facility, electrical loads, panel size, voltage, and the applicable fees, permits, easements and environmental compliance documentation pertaining to the provision of temporary and permanent electrical service to the project. The applicant shall be responsible for all costs and mitigation measures related to providing electrical service to the project.

3. Please note electrical capacity in the area is limited and a circuit study will be required to determine the project's impact to the distribution system. If the study determines any distribution system upgrades are needed to serve the project, the applicant shall be financially responsible for those upgrades.

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4. Developer should be advised that for specific technical concerns regarding the interconnection to IID's 92kV "K" transmission line to contact Carlos Alfaro, IID Transmission Engineering Supervisor at (760) 482-3483 or e-mail Mr. Alfaro at calfaro@iid.com.

5. IID water facilities that may be impacted include the East Highland Canal. The project site is located adjacent to and east of the East Highline Canal.

6. The applicant may not use IID's canal or drain banks to access the project site. Any abandonment of easements or facilities will be approved by IID based on systems (irrigation, drainage, power, etc.) needs.

7. The proposed project is located outside of IID's water service area and will be unable to receive IID water service. According to the terms of IID's 1932 federal water contract, only lands that are within the All-American Canal Service Area Boundary that have been included within the legal boundary of IID are eligible to receive water. Lands outside of the AAC Service Area Boundary or outside of the district boundary, may receive water from IID only if IID agrees to sell conserved water pursuant to a water conservation and transfer agreement. While these supplies are subject to even more constraints and approvals under the terms of the Quantification Settlement Agreement and various other related contracts, IID's Board of Directors is on record as indicating they are not in favor of any additional or new water transfers, which in and of themselves are complicated and tied to other existing contractual obligations. IID's water service area maps are available at https://www.iid.com/water/about-iid-water/water-service-maps. While all specific project inquiries should be directed to IID, these referenced maps may serve as a quick guide

G.7, cont.

8. Any construction or operation on IID property or within its existing and proposed right of way or easements including but not limited to: surface improvements such as proposed new streets, driveways, parking lots, landscape; and all water, sewer, storm water, or any other above ground or underground utilities; will require an encroachment permit, or encroachment agreement (depending on the circumstances). A copy of the IID encroachment permit application and instructions are available for download at http://www.iid.com/departments/real-estate. The IID Real Estate Section should be contacted at (760) 339-9239 for additional information regarding encroachment permits or agreements.

9. An IID encroachment permit will be required to utilize existing surface-water drainpipe connections to drains and receive drainage service from IID. Surface-water drainpipe connections are to be modified in accordance with IID standards. A construction storm-water permit and an industrial storm water permit from the California Regional Water Quality Control Board are required for the construction and operation of the proposed facility. Copies of these permits and the project's Storm Water Pollution Prevention Plan are to be submitted to IID.

10. In addition to IID's recorded easements, IID claims, at a minimum, a prescriptive right of way to the toe of slope of all existing canals and drains. Where space is limited and depending upon the specifics of adjacent modifications, the IID may claim additional secondary easements/prescriptive rights of ways to ensure operation and maintenance of

IID's facilities can be maintained and are not impacted and if impacted mitigated. Thus, IID should be consulted prior to the installation of any facilities adjacent to IID's facilities. Certain conditions may be placed on adjacent facilities to mitigate or avoid impacts to IID's facilities.

11. Any new, relocated, modified or reconstructed IID facilities required for and by the project (which can include but is not limited to electrical utility substations, electrical transmission and distribution lines, etc.) need to be included as part of the project's CEQA and/or NEPA documentation, environmental impact analysis and mitigation. Failure to do so will result in postponement of any construction and/or modification of IID facilities until such time as the environmental documentation is amended and environmental impacts are fully analyzed. **Any and all mitigation necessary as a result of the construction, relocation and/or upgrade of IID facilities is the responsibility of the project proponent.**

G.7, cont.

Should you have any questions, please do not hesitate to contact me at 760-482-3609 or at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

Respectfully,

Donald Vargas
Compliance Administrator II

Enrique B. Martinez – General Manager
Mike Pacheco – Manager, Water Dept.
Marilyn Del Bosque Gilbert – Manager, Energy Dept.
Jamie Asbury – Deputy Manager, Energy Dept., Operations
Enrique De Leon – Asst. Mgr., Energy Dept., Distr., Planning, Eng & Customer Service
Vance Taylor – Asst. General Counsel
Robert Laurie – Asst. General Counsel
Michael P. Kemp – Superintendent, Regulatory & Environmental Compliance
Laura Cervantes. – Supervisor, Real Estate
Jessica Humes – Environmental Project Mgr. Sr., Water Dept.

Letter G

Imperial Irrigation District

October 8, 2020

August 18, 2020

G.1 The comment is an introductory comment that provides an update to the comment letter of Imperial Irrigation District (IID) on the Notice of Availability of a Draft Environmental Impact Report for the Wister Solar Energy Facility Project, dated August 18, 2020 (comments G.3 through G.6). The District advises that with respect to the communication facilities described in Comment G.5 of the District's August 18, 2020, comment letter, IID has made certain further preliminary determinations with respect to the project description discussed in Comment G.2. This comment does not raise a specific issue related to the adequacy of the Draft EIR; therefore, no further response is required, and the comment is noted for the record.

G.2 The comment describes IID's updated preliminary design for a communications tower that IID will install at the Project site and is an update to Comment G.5. The comment states that the communication tower is expected to be less than 40-feet tall, will be constructed using an auger truck and lift truck for the freestanding monopole without guy wire supports, and will be located in the southwest portion of the project site within the proposed Wister Substation. The comment states that the communications shelter described in Comment G.5 will not be needed as communications equipment will be located within the substation control building. IID's comments related to communication towers are noted.

A communication tower as described in this comment is an allowed use with the CUP application. (RE Overlay Zone, Title 9, Division 17: Renewable Energy Resources § 90519.02.) Communications towers up to 100 feet tall are allowed in the underlying S-2 Zone. (RE Overlay Zone, Title 9, Division 17: Renewable Energy Resources § 90519.07). There are no applicable height limitations in the RE Overlay Zone. (Title 9. Division 17.)

California law provides IID with authority to install communications towers and other related facilities necessary to fulfilling the District's statutory authorities and obligations. California Water Code § 22225 provides that "each district has the power generally to perform all acts necessary to carry out fully the provisions of this division." As state agencies, irrigation districts may serve as the CEQA lead agency for certain projects in their service territory. (Pub. Res. Code § 21081.1.) An irrigation district is authorized to site, construct, own and operate electric generation, transmission and related facilities necessary for the district's operations. For electric service, a district may "do all necessary and proper acts for the construction and operation of its electric power works." (Cal. Water Code §§ 22118 and 20530.)

California Government Code Section 53091(d) states, "Building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency." California Government Code Section 53091(e) provides zoning ordinances "shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, or for the production or generation of electrical energy, facilities that are subject to [CPUC regulation per] Section 12808.5 of the Public Utilities Code, or electrical substations in an electrical transmission system that receives electricity at less than 100,000 volts." As a facility necessary for fulfillment of an irrigation district's statutory authorities, both

the fiber optic line and the communications tower options standing alone would be exempt from local permitting. However, consistent with consideration of the whole of an action in a single environmental document (Pub. Resources Code § 21065; 14 C.C.R. § 15378) and consistent with the County's policies and its cooperative relationship with IID, the fiber optic cable and communications tower options are both analyzed and included in the Final EIR. Otherwise, this comment does not raise a specific issue related to the adequacy of the Draft EIR; therefore, no further response is required, and the comment is noted for the record.

G.3 This comment is an introductory comment and does not raise a specific issue related to the adequacy of the Draft EIR; therefore, no further response is required, and the comment is noted for the record.

G.4 This comment states that IID's rules and regulations require stations service and compliance with IID Regulation 21 requiring the installation of certain interconnection equipment. This comment does not raise a specific issues related to the adequacy of the Draft EIR; therefore, no further response is required, and the comment is noted for the record.

G.5 This comment states IID's preference for the installation of a wireless communications system rather than fiber optic communications. The fiber optic cable is described as not a viable option from IID's perspective and states that specifics on the communication tower have not been determined at this point and are subject to a path calculation, path survey, and an onsite communications shelter. The comment acknowledges the IID process that will follow the County's certification of the EIR and approval of the project. This comment is supplemented by, and in some cases updates, the additional comments of IID received by the County on October 8, 2020. See responses to comments G.1-G.2. Otherwise, this comment does not raise a specific issue related to the adequacy of the Draft EIR; therefore, no further response is required, and the comment is noted for the record.

G.6 The contact information for IID is received and acknowledged.

G.7 This comment provides a courtesy copy of IID's comments on the Notice of Preparation of the Draft EIR. This comment does not raise a specific issue related to the adequacy of the Draft EIR; therefore, no further response is required, and the comment is noted for the record.

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OPERATIONS/PREVENTION
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Prevention
Phone: (442) 265-3020

May 27, 2020

To: Imperial County Planning and Development Service

From: Imperial County Fire Prevention Bureau

Subject: Draft Environmental Impact Report for Wister Solar Energy Facility Project

The Imperial County Fire Prevention Bureau would like to thank you for allowing our comments on this project. The following is a list of our general requirements

O&M Buildings:
The type of suppression systems that will be used for the O&M Building must be described in the project; also, the hours and amount of staffing that will be used. In addition, include a description of your emergency and hazardous materials plan. Provide the square footage of all supporting structures to determine if the buildings will require sprinkler systems. H.1

Road Access and Array Requirements:
Dimensions: Alley roads shall have an unobstructed width of not less than 20 feet (6096 mm), except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115 mm). The width in-between arrays shall be a minimum of 9 feet (2704mm). The width between arrays shall not be less than 10 feet (3048mm). Any array that exceeds a distance in length of 500 feet shall provide a turn around. H.2

Turning radius: The required turning radius of a fire apparatus access road shall be a minimum of 70 by 90 degrees diameter

Access and loading: Facilities, buildings or portions of buildings hereafter constructed shall be accessible to fire department apparatus by way of an approved fire apparatus access road with an asphalt, all weathered, concrete, or other approved driving surface capable of supporting the imposed load of fire apparatus weighing at least 75,000 pounds (34 050 kg). H.3
Fire apparatus access road gates: Gates securing the fire apparatus access roads shall comply with all of the following criteria:

1. The minimum gate width shall be 20 feet (6096 mm).

2. Gates shall be of the swinging or sliding type.

3. Construction of gates shall be of materials that allow manual operation by one person.

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IMPERIAL COUNTY CRASH RESCUE FIRE 1907

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4. Gate components shall be maintained in an operative condition at all times and replaced or repaired when defective.

5. Electric gates shall be equipped with a means of opening the gate by fire department personnel for emergency access. Emergency opening devices shall be approved by the fire code official.

6. Locking device specifications shall be submitted for approval by the fire code official

7. Any gates on-site shall have a "Knox" lock and be rapidly accessible by the Imperial County Fire Department/OES

H.3, cont.

Water Requirement:

1) Provide a 10,000 gallon water storage tank dedicated for fire suppression for any proposed O&M structures.
2) Provide a 10,000 gallon water storage tank dedicated for fire suppression before any combustible material is moved on site for during construction.

H.4

Fiscal Impacts:

For operation and maintenance fees associated with Fire Department/OES

(a) Permittee shall pay a fee of $50 per acre per year prior to commencement of the construction period to address the Imperial County Fire/OES expenses for service calls within the project Utility/Transmission area. Said amount shall be prorated on a monthly basis for periods of time less than a full year. Permittee shall provide advance, written notice to County Executive Office of the construction schedule and all revisions thereto.

Permittee shall pay an annual fee of $20 per acre per year during the post-construction, operational phase of the project to address the Imperial County Fire/OES expenses for service calls within the Project Utility/Transmission area. Said fee will be paid to the Fire Department to cover on-going maintenance and operations cost created by the project.

H.5

(b) Cost associated with items two above items shall annually adjusted on January 1st to add a CPI (Los Angeles) increase. Such costs associated with these items can be readjusted in the

H.6

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County's sole discretion if a new service analysis is prepared and that service analysis is approved by both the County and the Permittee. H.6, cont.

Fire- In lieu of providing all-weather access roads for fire protection vehicles, the permittee shall be permitted to provide compacted dirt roads (in compliance with ICAPCD's rules and regulations) for fire protection vehicles if prior to the issuance of any grading permit for the Project shall purchase an Fire Engine with All Terrain Capabilities as specified and approved by the Fire Department. The Fire Engine cost estimate will be at Current Market Value for approved Fire Engine. Final Cost, conditions and equipment of the Fire Engine shall be determined prior to the issuance of the initial grading permit. The County agrees to require, as a condition of approval, other developers in the area to reimburse the Applicant for the expenses associated with the purchase of the Fire Engine. The Permittee shall be reimbursed only for those expenses in excess of their proportionate share for the purchase of the Fire Engine that the Permittee would have been required to pay. Furthermore, if a Fire Engine was already purchased by another developer in t the area, then the Permittee shall only be required to pay a fire mitigation in the amount of up to $100 per acre that would represent their proportionate share to reimburse the purchaser of the Fire Engine. The County shall be responsible for the managing the reimbursement component of this condition of approval. H.7

Permittee shall participate in the Imperial County Public Benefit Program for the life of the CUP and shall at all times be a party to a public benefit agreement in a form acceptable to the County Counsel in order to pay for all cost, benefits, and fees associated with the approved project. Approval of this public benefit agreement will be by the Board of Supervisors prior to the issuance of the first building permit. H.8

If you have any questions, please contact the Imperial County Fire Prevention Bureau at 442-265-3020 or 442-265-3021. H.9

Respectfully,
Robert Malek, Deputy Fire Marshal
Imperial County Fire Department

Sincerely
Andrew Loper
Lieutenant/Fire Prevention Specialist
Imperial County Fire Department
Fire Prevention Bureau

AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER

Letter H

Imperial County Fire Prevention Bureau

May 27, 2020

H.1 The project does not proposed an operations and maintenance (O&M) building. As discussed on Draft EIR page 2-16, "Once fully constructed, the proposed project would be operated on an unstaffed basis and be monitored remotely, with periodic on-site personnel visitations for security, maintenance and system monitoring. Therefore, no full-time site personnel would be required on-site during operations and employees would only be on-site four times per year to wash the panels."

H.2 The proposed site plan will comply with the road access and array requirements identified in this comment, including alley road widths and turning radius.

H.3 The proposed project will comply with the access and loading requirements identified in this comment.

H.4 The proposed project will comply with the water requirements identified in this comment.

H.5 As a condition of approval of the project, the applicant will be required to contribute the fees identified in this comment to address Imperial County Fire/OES expenses for service calls during construction, and during operation of the facility.

H.6 Comment noted.

H.7 As a condition of project approval, the applicant will participate in a reimbursable agreement for the purchase of a fire engine in the amount of $100 per project site acre.

H.8 Comment noted. The applicant will be required to participate in the Imperial County Public Benefit Program as a condition of approval of the project.

H.9 Comment noted.

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0.3 Errata to the Draft EIR

A. Introduction

This section of the Final Environmental Impact Report (EIR) identifies the location of, or contains revisions to, information included in the Draft EIR dated June 2020, based upon additional or revised information required to prepare a response to a specific comment. The information added to the EIR does not meet the requirements for recirculation pursuant to Section 15088.5 of the State *California Environmental Quality Act (CEQA) Guidelines*.

The new information simply clarifies information presented in the Draft EIR, and in one case, revises a mitigation measure. Text that has been added to the document appears in an underline format. Text that has been deleted appears with strikeout.

This Errata, in conjunction with the Final EIR, will be used by the County of Imperial in its evaluation and analysis of the proposed project and in the adoption of any findings required by law. Substantial evidence in support of findings may be found anywhere in the administrative record. (14CCR 15091(b)(e). The County of Imperial is designated the Lead Agency for California Environmental Quality Act (CEQA) compliance.

On-Site Wireless Communication System

In response to a comment submitted by the Imperial Irrigation District (IID) (response to comments "Letter G"), further clarification was provided regarding the proposed project's communication system. The comment describes IID's updated preliminary design for a communications tower that IID will install at the project site. The comment states that the communication tower is expected to be less than 40-feet tall, will be constructed using an auger truck and lift truck for the freestanding monopole without guy wire supports, and will be located in the southwest portion of the project site within the proposed Wister Substation. The comment states that communications equipment will be located within the substation control building. If the on-site wireless communication system is constructed, then construction of the off-site fiber optic cable would not be required.

A communication tower as described in the comments provided in Letter G, is an allowed use with the CUP application. (RE Overlay Zone, Title 9, Division 17: Renewable Energy Resources § 90519.02.) Communications towers up to 100 feet tall are allowed in the underlying S-2 Zone. (RE Overlay Zone, Title 9, Division 17: Renewable Energy Resources § 90519.07). There are no applicable height limitations in the RE Overlay Zone. (Title 9. Division 17.)

In response to this comment, Chapter 2 Project Description has been amended as follows:

> **2.3.2 Substation**
>
> The proposed Wister Substation would be a new 92/12-kV unstaffed, automated, low-profile substation. The dimensions of the fenced substation would be approximately 300 feet by 175 feet. The enclosed substation footprint would encompass approximately 1.2 acres <u>within the 100-acre project site footprint as part</u> of the approximately 640-acre project parcel. As shown on Figure 2-4, the proposed Wister Substation site would be located at the northwest quarter of the parcel, immediately southwest of the solar field. The California Building Code and the Institute of Electrical and Electronics Engineers (IEEE) 693, Recommended Practices for

Seismic Design of Substations, will be followed for the substation's design, structures, and equipment.

A wireless communication system will be located in the southwest portion of the site, within the substation area. This communication system will include a communication tower less than 40-feet in height. The tower will be a freestanding mono-pole without guy wire supports. Equipment associated with the communication system will be located within the substation control building. Overall, this would provide Supervisory Control and Data Acquisition (SCADA), protective relaying, data transmission, and telephone services for the proposed Wister Substation and associated facilities. New telecommunications equipment would be installed at the proposed Wister Substation within the Mechanical and Electrical Equipment Room (MEER). A representative example of a substation is presented on Figure 2-6.

2.3.3 Fiberoptic Cable

If the on-site wireless communication system is not constructed as described in Section 2.3.2 Substation, ~~A proposed~~ a fiberoptic line extending from the proposed Wister Substation would be connected with the existing Niland Substation approximately two miles to the south, which would then be added to connect the proposed Wister Substation to the region's telecommunications system. ~~Overall, this would provide Supervisory Control and Data Acquisition (SCADA), protective relaying, data transmission, and telephone services for the proposed Wister Substation and associated facilities. New telecommunications equipment would be installed at the proposed Wister Substation within the Mechanical and Electrical Equipment Room (MEER).~~ As shown on Figure 2-3, the proposed fiber optic telecommunications cable would utilize existing transmission lines to connect to the Niland Substation. The length of the proposed fiber optic telecommunications cable route would be approximately two miles.

This Errata provides further detail as to this potential project feature. The proposed wireless communication would not result in an increase in any impact already addressed in the Draft EIR.

B. Corrections and Additions

Section 0 Executive Summary

Page ES-1:

Project Overview

The Wister Solar Energy Facility Project is located on Assessor Parcel No. 003-240-001. The proposed solar energy facility consists of three primary components: 1) solar energy generation equipment and associated facilities including a substation and access roads (herein referred to as "solar energy facility"); 2) gen-tie line that would connect the proposed on-site substation to the Point of Interconnection (POI) at the existing Imperial Irrigation District's (IID) 92-kilovolt (kV) "K" line; and, 3) on-site wireless communication system or off-site fiberoptic cable. These components are collectively referred to as the "proposed project" or "project."

The proposed project involves the construction and operation of a 20 Megawatt (MW) photovoltaic (PV) solar energy facility on approximately 100 acres of privately-owned land north of Niland. The proposed project would be comprised of solar PV panels on single-axis horizontal trackers, an on-site substation and inverters, transformers, and underground electrical cables. The proposed project also includes either an on-site wireless communication system, or an approximately two-mile ~~s of~~ fiberoptic line that would extend from the proposed on-site substation to the existing Niland Substation to connect the proposed Wister Substation to the region's telecommunications system.

Page ES-5:

Fire Protection. Fire protection and emergency medical services in the area are provided by the Imperial County Fire Department. The project site is located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan (County of Imperial 1997), the potential for a major fire in the unincorporated areas of the County is generally low. Both the access and service roads (along the perimeter of the project facility) would have turnaround areas to allow clearance for fire trucks per fire department standards (70 feet by 70 feet, and 20-foot-wide access road). While the proposed project may result in an increase in demand for fire protection service, the project would not result in an increase in demand that would, in turn, result in a substantial adverse physical impact associated with the provision of new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. Based on these considerations, the project would not result in a need for fire facility expansion and a less than significant impact would occur.

Police Protection. Police protection services in the project area is provided by the Imperial County Sheriff's Department. Although the potential is low, the proposed project ~~may~~ could attract ~~vandals~~ trespassers or other ~~security risks~~ unauthorized uses. The increase in construction related traffic could temporarily increase demand on law enforcement services. However, the project site would be fenced with a 6-foot high chain link security fence topped with barbed wire and points of ingress/egress would be accessed via locked gates. In addition, periodic on-site personnel visitations for security would occur during operations and maintenance of the proposed project, thereby minimizing the need for police surveillance. While the proposed project may result in a temporary increase in demand for law enforcement service, the project would not result in an increase in demand that would, in turn, result in a substantial adverse physical impact associated with the provision of new or physically altered sheriff facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. The sheriff's department has indicated that an all-terrain vehicle would be needed in order to patrol the project site; however, the fenced and secure project site does not result in an increase in demand on law enforcement that would require existing or new facilities to be upgraded in order to maintain service ratios. Further, as conditions of approval of the project, the project applicant will be required to participate in the Imperial County Public Benefit Program for the life of this CUP and shall at all times be a party to a public benefit agreement in a form acceptable to County Counsel in order to pay for all costs, benefits, and fees

associated with the approved project, and the applicant will be required to reimburse the Sheriff's Department for any investigations regarding theft on the Project site and related law enforcement. Approval of this public benefit agreement will be by the Board of Supervisors prior to the issuance of the first building permit. These potential impacts are less than significant. ~~This is considered a less than significant impact.~~

Page ES-6:

Storm Water Facilities. The proposed project will involve the construction of storm water drainage control facilities within the project site as shown on Figure 2-4 Preliminary Site Plan, ~~which are identified in the project site plan~~, and included in the project impact footprint, of which environmental impacts have been evaluated. Otherwise, the project does not require expanded or new storm drainage facilities off-site (i.e., outside of the project footprint) because the proposed solar facility would not generate a significant increase in the amount of impervious surfaces that would increase runoff during storm events, and therefore, would not require the construction of off-site storm water management facilities. Water from solar panel washing would continue to percolate through the ground, as a majority of the surfaces within the project site would remain pervious. The proposed project would not require or result in the relocation or construction of new or expanded storm water facilities beyond those proposed as part of the project and evaluated in the EIR.

Page ES-22 Table ES-1:

Mitigation Measure BIO-4, bullet eight:

To fully mitigate for habitat loss and potential take of the Mojave desert tortoise, the Applicant will provide compensatory mitigation at a ratio of 1:1 ~~3:1~~. For the purposes of this measure, the project site (i.e., footprint) means all Project areas with new direct ground disturbance during construction and operation of the Project. This includes all lands directly disturbed that will no longer provide viable long-term habitat for the Mojave desert tortoise, such as the solar field, substation and new access roads. Areas within the gen-tie line corridor where no ground disturbance will occur are not included in the area to be mitigated through compensation. Compensatory mitigation could include agency-approved payment of an in-lieu fee; acquiring mitigation land or conservation easements; restoration or habitat enhancement activities on preservation lands; or a combination of the three.

Page ES-41:

Original Site Plan Submittal

The project applicant originally proposed to construct and operate a 40 MW solar energy facility on approximately 300 acres within the western portion of the larger 640-acre project site parcel. The originally-proposed project was contemplated to be constructed in two phases (see Figure 7-2 in Chapter 7, Alternatives). Each phase would have produced 20 MW of energy and cover approximately 146 acres. A Power Purchase Agreement for 20 MW to San Diego Gas & Electric was secured by the project applicant for the first phase of the project. The second 20 MW phase would not be constructed until the time that an additional PPA is secured. The remaining portion

of the property would remain undeveloped in order to protect sensitive environmental resources. (Note: The project was subsequently modified to a 20 MW solar energy facility on an approximately 100-acre site as described in Section 2 Project Description).

Section 1 Introduction

Page 1-1:

Overview of the Proposed Project

The proposed Wister Solar Energy Facility Project is located on Assessor Parcel Number (APN) 003-240-001. The proposed solar energy facility consists of three primary components: 1) solar energy generation equipment and associated facilities including a substation and access roads (herein referred to as "solar energy facility"); 2) gen-tie line that would connect the proposed on-site substation to the Point of Interconnection (POI) at the existing IID 92 kV "K" line; and, 3) an on-site wireless communication system or off-site fiberoptic cable.

The proposed Wister Solar Energy Facility Project involves the construction and operation of a 20 megawatt (MW) photovoltaic (PV) solar energy facility on approximately 100 acres of privately-owned land north of Niland. The proposed project would be comprised of solar PV panels on single-axis horizontal trackers, an on-site substation and inverters, transformers, and underground electrical cables.

The power produced by the proposed project would be conveyed to the local power grid via an on-site 92 kilovolt (kV) substation, which will be tied directly to the Imperial Irrigation District's (IID) 92 kV transmission line. A gen-tie line would connect the Wister substation to the POI at the existing IID 92kV "K" line.

An on-site communication system or ~~A proposed~~ an off-site fiberoptic line that would extend from the proposed on-site substation would be connected with the existing Niland Substation approximately two miles to the south, which would then be added to connect the proposed on-site substation to the region's telecommunications system. The length of the proposed fiber optic telecommunications cable route would be approximately two miles.

Page 1-1, 1-2:

1. **Approval of Conditional Use Permit (CUP) – Solar Energy Facility.** Implementation of the project would require the approval of a CUP by the County to allow for the construction and operation of the proposed solar energy facility project. The project site is located on one privately-owned legal parcel (APN No. 003-240-001) zoned Open Space/Preservation with a Geothermal Overlay (S-2-G). Pursuant to Title 9, Division 5, Chapter 19, the following uses are permitted in the S-2 zone subject to approval of a CUP from Imperial County: *Major facilities relating to the generation and transmission of electrical energy provide[d] such facilities are not under State or Federal law, to [be] approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial*

Irrigation District for electrical matters. Such uses shall include but be limited to the following:

- *Electrical generation plants*
- *Facilities for the transmission of electrical energy (100-200 kV)*
- *Electrical substations in an electrical transmission system (500 kv/230 kv/161 kV)*
- *Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*

Page 1-7:

Availability of Reports

~~This~~ The Draft EIR and documents incorporated by reference ~~are~~ were made available for public review at the County of Imperial Planning and Development Services Department, 801 Main Street, El Centro, California 92243. Copies ~~are~~ were also available for review at the City of El Centro Public Library, 1140 N. Imperial Avenue, El Centro, California. Documents at these locations ~~may be reviewed~~ were available for review during regular business hours.

Pages 1-11, 1-12:

Fire Protection. Fire protection and emergency medical services in the area are provided by the Imperial County Fire Department. The project site is located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan (County of Imperial 1997), the potential for a major fire in the unincorporated areas of the County is generally low. Both the access and service roads (along the perimeter of the project facility) would have turnaround areas to allow clearance for fire trucks per fire department standards (70 feet by 70 feet, and 20-foot-wide access road). While the proposed project may result in an increase in demand for fire protection service, the project would not result in an increase in demand that would, in turn, result in a substantial adverse physical impact associated with the provision of new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. Based on these considerations, the project would not result in a need for fire facility expansion and a less than significant impact would occur.

Police Protection. Police protection services in the project area is provided by the Imperial County Sheriff's Department. Although the potential is low, the proposed project ~~may~~ could attract ~~vandals~~ trespassers or other ~~security risks~~ unauthorized uses. The increase in construction related traffic could temporarily increase demand on law enforcement services. However, the project site would be fenced with a 6-foot high chain link security fence topped with barbed wire and points of ingress/egress would be accessed via locked gates. In addition, periodic on-site personnel visitations for security would occur during operations and maintenance of the proposed project, thereby minimizing the need for police surveillance. While the proposed project may

result in a temporary increase in demand for law enforcement service, the project would not result in an increase in demand that would, in turn, result in a substantial adverse physical impact associated with the provision of new or physically altered sheriff facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. The sheriff's department has indicated that an all-terrain vehicle would be needed in order to patrol the project site; however, the fenced and secure project site does not result in an increase in demand on law enforcement that would require existing or new facilities to be upgraded in order to maintain service ratios. Further, as conditions of approval of the project, the project applicant will be required to participate in the Imperial County Public Benefit Program for the life of this CUP and shall at all times be a party to a public benefit agreement in a form acceptable to County Counsel in order to pay for all costs, benefits, and fees associated with the approved project, and the applicant will be required to reimburse the Sheriff's Department for any investigations regarding theft on the Project site and related law enforcement. Approval of this public benefit agreement will be by the Board of Supervisors prior to the issuance of the first building permit. These potential impacts are less than significant. ~~This is considered a less than significant impact.~~

Page 1-13:

Storm Water Facilities. The proposed project will involve the construction of storm water drainage control facilities within the project site as shown on Figure 2-4 Preliminary Site Plan, ~~which are identified in the project site plan~~, and included in the project impact footprint, of which environmental impacts have been evaluated. Otherwise, the project does not require expanded or new storm drainage facilities off-site (i.e., outside of the project footprint) because the proposed solar facility would not generate a significant increase in the amount of impervious surfaces that would increase runoff during storm events, and therefore, would not require the construction of off-site storm water management facilities. Water from solar panel washing would continue to percolate through the ground, as a majority of the surfaces within the project site would remain pervious. The proposed project would not require or result in the relocation or construction of new or expanded storm water facilities beyond those proposed as part of the project and evaluated in the EIR.

Section 2 Project Description

Page 2-1:

Project Description

Chapter 2 provides a description of the Wister Solar Energy Project. This chapter also defines the goals and objectives of the proposed project, provides details regarding the individual components that together comprise the project, and identifies the discretionary approvals required for project implementation.

The proposed project consists of three primary components: 1) solar energy generation equipment and associated facilities including a substation and access roads (herein referred to as "solar energy facility"); 2) gen-tie line that would connect

the proposed on-site substation to the POI at the existing IID 92-kV "K" line; and, 3) on-site wireless communication system or off-site fiberoptic cable.

Project Location

Solar Energy Facility and Gen-Tie Line

The project site is located approximately three miles north of Niland, a census-designated place, in the unincorporated area of Imperial County (Figure 2-1). The project site is located on one parcel of land identified as APN 003-240-001 (Figure 2-2). The parcel is comprised of approximately 640 acres of land and is currently zoned Open Space/Preservation with a Geothermal Overlay (S-2-G). The proposed solar energy facility component (including on-site wireless communication system), of the project would be located on approximately 100 acres within the northwest portion of the larger 640-acre project site parcel.

The project site is located east of the intersection of Wilkins Road and an unnamed county road. The project footprint (physical area where proposed project components are to be located) is generally located east of Wilkins Road, north of the East Highline Canal, and west of Gas Line Road.

Fiberoptic Cable

The proposed project includes approximately two miles of fiberoptic line (i.e. cable) from the proposed on-site substation to the existing Niland Substation, located at 402 Beal Road in Niland. Figure 2-3 shows the alignment of the proposed fiberoptic cable. The fiber optic cable would only be constructed in the event that the proposed wireless communication system is not constructed on-site.

Page 2-5:

Project Characteristics

The proposed Wister Solar Energy Facility Project involves the construction and operation of a 20 MW PV solar energy facility on approximately 100 acres within APN No. 003-240-001 (privately-owned land) north of Niland. The proposed solar energy project would be comprised of solar PV panels on single-axis horizontal trackers, an on-site substation and inverters, an on-site wireless communication system, transformers, and underground electrical cables. Figure 2-4 depicts the proposed site plan.

Page 2-10:

Substation

The proposed Wister Substation would be a new 92/12-kV unstaffed, automated, low-profile substation. The dimensions of the fenced substation would be approximately 300 feet by 175 feet. The enclosed substation footprint would encompass approximately 1.2 acres within the 100-acre project site footprint as part of the approximately 640-acre project parcel. As shown on Figure 2-4, the proposed Wister Substation site would be located at the northwest quarter of the parcel, immediately southwest of the solar field. The California Building Code and the Institute of Electrical and Electronics Engineers (IEEE) 693, Recommended Practices for

Seismic Design of Substations, will be followed for the substation's design, structures, and equipment.

A wireless communication system will be located in the southwest portion of the site, within the substation area. This communication system will include a communication tower less than 40-feet in height. The tower will be a freestanding mono-pole without guy wire supports. Equipment associated with the communication system will be located within the substation control building. Overall, this would provide Supervisory Control and Data Acquisition (SCADA), protective relaying, data transmission, and telephone services for the proposed Wister Substation and associated facilities. New telecommunications equipment would be installed at the proposed Wister Substation within the Mechanical and Electrical Equipment Room (MEER). A representative example of a substation is presented on Figure 2-6.

Page 2-11:

Fiberoptic Cable

If the on-site wireless communication system is not constructed as described in Section 2.3.2 Substation, ~~A proposed~~ a fiberoptic line extending from the proposed Wister Substation would be connected with the existing Niland Substation approximately two miles to the south, which would then be added to connect the proposed Wister Substation to the region's telecommunications system. ~~Overall, this would provide Supervisory Control and Data Acquisition (SCADA), protective relaying, data transmission, and telephone services for the proposed Wister Substation and associated facilities. New telecommunications equipment would be installed at the proposed Wister Substation within the Mechanical and Electrical Equipment Room (MEER).~~ As shown on Figure 2-3, the proposed fiber optic telecommunications cable would utilize existing transmission lines to connect to the Niland Substation. The length of the proposed fiber optic telecommunications cable route would be approximately two miles.

Page 2-16, 2-17:

Approval of CUP – Solar Energy Facility. Implementation of the project would require the approval of a CUP by the County to allow for the construction and operation of the proposed solar energy facility project. The project site is located on one privately-owned legal parcel zoned Open Space/Preservation with a Geothermal Overlay (S-2-G). Pursuant to Title 9, Division 5, Chapter 19, the following uses are permitted in the S-2 zone subject to approval of a CUP from Imperial County: *Major facilities relating to the generation and transmission of electrical energy provide[d] such facilities are not under State or Federal law, to [be] approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters. Such uses shall include but be limited to the following:*

- *Electrical generation plants*
- *Facilities for the transmission of electrical energy (100-200 kV)*
- *Electrical substations in an electrical transmission system (500 kv/230 kv/161 kV)*

- *Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*

Section 3.2 Aesthetics and Visual Resources

Page 3.2-26

Impact Analysis – Fiberoptic Cable

If the on-site wireless communication system is not constructed as described in Section 2.3.2 Substation, ~~The proposed project includes~~ the installation of approximately two miles of fiber optic cable to connect the proposed substation to the existing Niland Substation would be required for the remote communication system. No new transmission structures would be required to install the fiberoptic cable. The installation process involves aerial stringing of the fiber optic cable between existing transmission poles. The additional cable would be comparable in material and appearance to the existing cables on the transmission poles. The proposed fiber optic cable would result in a less than significant impact on a scenic vista, state scenic highway, degrade the existing visual character or quality of the site and its surroundings, or create a new source of light or glare.

Section 3.3 Air Quality

Page 3.3-21

Impact Analysis – Fiberoptic Cable

If the on-site wireless communication system is not constructed as described in Section 2.3.2 Substation, ~~The proposed project includes~~ the installation of approximately two miles of fiber optic cable to connect the proposed substation to the existing Niland Substation would be required for the remote communication system. The installation process involves aerial stringing of the fiber optic cable between existing transmission poles. No new transmission structures would be required to install the fiberoptic cable.

The installation of the fiberoptic cable would result in short-term construction emissions from the operation of construction equipment and vehicle travel on paved and unpaved surfaces. However, construction emissions are not anticipated to exceed ICAPCD thresholds because the installation of the fiberoptic cable would not require grading or the use of a substantial number of heavy construction equipment. Furthermore, all construction projects within Imperial County must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. In addition, the ICAPCD's Air Quality Handbook lists additional feasible mitigation measures that may be warranted to control emissions of fugitive dust and combustion exhaust. The proposed fiber optic cable would result in a less than significant air quality impact.

Section 3.4 Biological Resources

Page 3.4-34:

Mitigation Measure BIO4, bullet eight:

- To fully mitigate for habitat loss and potential take of the Mojave desert tortoise, the Applicant will provide compensatory mitigation at a ratio of 1:1 ~~3:1~~. For the purposes of this measure, the project site (i.e., footprint) means all Project areas with new direct ground disturbance during construction and operation of the Project. This includes all lands directly disturbed that will no longer provide viable long-term habitat for the Mojave desert tortoise, such as the solar field, substation and new access roads. Areas within the gen-tie line corridor where no ground disturbance will occur are not included in the area to be mitigated through compensation. Compensatory mitigation could include agency-approved payment of an in-lieu fee; acquiring mitigation land or conservation easements; restoration or habitat enhancement activities on preservation lands; or a combination of the three.

Page 3.4-42:

Impact Analysis – Fiberoptic Cable

If the on-site wireless communication system is not constructed as described in Section 2.3.2 Substation, ~~The proposed project includes~~ the installation of approximately two miles of fiber optic cable to connect the proposed substation to the existing Niland Substation would be required for the remote communication system. The installation process involves aerial stringing of the fiber optic cable between existing transmission poles and would not require grading or vegetation removal. No new transmission structures would be required to install the fiberoptic cable.

Construction

Staging and preparation of the poles would require vehicle traffic along the proposed route. Staging and access to each pole has the potential to crush vegetation and burrows and the temporary increase in vehicle traffic has potential to increase the risk of collision with wildlife. If desert tortoise was struck, the impact would be considered significant. Additionally, if construction was conducted during the breeding season there would be potential to damage active nests or disrupt nesting that may occur on the power poles. Taking active nests during construction would be considered a significant impact. Implementation of Mitigation Measures BIO-2, BIO-3, BIO-4, BIO-6, BIO-7 and BIO-9 shall reduce potential impacts to less than significant.

Because the fiberoptic cable is being strung on existing transmission line poles no significant new collision risk is being created. However, if traffic on the transmission line alignment is increased or maintenance activity at the poles is increased, operations could continue to result in increased risk of vegetation and burrows being crushed or of wildlife being struck be maintenance vehicles. As indicated above, if desert tortoise was struck, the impact would be considered significant. Implementation of Mitigation Measure BIO-5 would reduce potential impacts to less than significant.

Section 3.5 Cultural Resources

Page 3.5-17:

Impact Analysis – Fiberoptic Cable

If the on-site wireless communication system is not constructed as described in Section 2.3.2 Substation, ~~The proposed project includes~~ the installation of approximately two miles of fiber optic cable to connect the proposed substation to the existing Niland Substation would be required for the remote communication system. The installation process involves aerial stringing of the fiber optic cable between existing transmission poles. No new transmission structures would be required to install the fiberoptic cable. No grading or excavation would be required. Therefore, installation of the fiberoptic cable would not involve ground disturbance. Based on these considerations, installation of the fiberoptic cable is not anticipated to impact cultural resources. No impact would occur.

Section 3.6 Geology and Soils

Page 3.6-13:

Impact Analysis – Fiberoptic Cable

If the on-site wireless communication system is not constructed as described in Section 2.3.2 Substation, ~~The proposed project includes~~ the installation of approximately two miles of fiberoptic cable to connect the proposed substation to the existing Niland Substation would be required for the remote communication system. The installation process involves aerial stringing of the fiber optic cable between existing transmission poles. No grading would be required. No new transmission structures would be required to install the fiberoptic cable. The proposed fiberoptic cable would result in no significant geology and soil impacts. Furthermore, because no grading would be required, paleontological resources would not be directly or indirectly destroyed during installation of the fiberoptic cable.

Section 3.7 Greenhouse Gas Emissions

Page 3.7-15:

Impact Analysis – Fiberoptic Cable

If the on-site wireless communication system is not constructed as described in Section 2.3.2 Substation, ~~The proposed project includes~~ the installation of approximately two miles of fiber optic cable to connect the proposed substation to the existing Niland Substation would be required for the remote communication system. The installation process involves aerial stringing of the fiber optic cable between existing transmission poles. No new transmission structures would be required to install the fiberoptic cable.

The installation of the fiberoptic cable would result in GHG emissions from the operation of construction equipment and vehicle travel on paved and unpaved surfaces. Once operational, GHG emissions would be limited to vehicle trips associated with routine maintenance and monitoring activities at the project site. As

shown in Table 3.7-2, the yearly contribution to GHG from the construction of the solar energy facility and gen-tie line would be 18.8 $MTCO_2e$ per year. Therefore, the construction emissions are less than the SCAQMD's screening threshold of 3,000 $MTCO_2e$ per year. The installation of the fiberoptic cable would require substantially less construction equipment and shorter duration compared to the construction of the solar energy facility and gen-tie line. Based on this consideration, the installation of the fiberoptic cable would result in GHG emissions below allowable thresholds. This is considered a less than significant impact.

Section 3.8 Hydrology/Water Quality

Page 3.8-18:

Impact Analysis – Fiberoptic Cable

If the on-site wireless communication system is not constructed as described in Section 2.3.2 Substation, ~~The proposed project includes~~ the installation of approximately two miles of fiberoptic cable to connect the proposed substation to the existing Niland Substation would be required for the remote communication system. The installation process involves aerial stringing of the fiber optic cable between existing transmission poles. No grading would be required. No new transmission structures would be required to install the fiberoptic cable. The proposed fiberoptic cable would result in no significant hydrology and water quality impacts.

Section 3.9 Land Use Planning

Page 3.9-13:

Imperial County Airport Land Use Compatibility Plan

The Imperial County Airport Land Use Compatibility Plan (ALUCP) provides the criteria and policies used by the Imperial County Airport Land Use Commission to assess compatibility between the principal airports in Imperial County and proposed land use development in the areas surrounding the airports. The ALUCP emphasizes review of local general and specific plans, zoning ordinances, and other land use documents covering broad geographic areas.

The nearest airport to the project site is the Cliff Hatfield Memorial Airport, located approximately 10 miles south of the project site. According to Figure 3C of the ALUCP, no portion of the project site is located within the Cliff Hatfield Municipal Memorial Airport's land use compatibility zones (County of Imperial 1996). At its meeting on June 17, 2020, the Airport Land Use Commission reviewed the project for consistency with the ALUCP and made the finding that the project is consistent with the 1996 ALUCP.

Page 3.9-16:

If the on-site wireless communication system is not constructed as described in Section 2.3.2 Substation, ~~The proposed project includes~~ the installation of approximately two miles of fiber optic cable to connect the proposed substation to the existing Niland Substation would be required for the remote communication system. The installation process involves aerial stringing of the fiber optic cable between

existing transmission poles within existing easements and/or ROW intended for utility uses. No new transmission structures would be required to install the fiberoptic cable. Further, the fiberoptic cable would not present a barrier between communities. Based on these considerations, the fiberoptic cable would not physically divide an established community or conflict with a land use plan, policy or regulation. No land use impacts would occur.

Section 6 Effects Found Not Significant

Page 6-4:

Fire Protection. Fire protection and emergency medical services in the area are provided by the Imperial County Fire Department. The project site is located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan (County of Imperial 1997), the potential for a major fire in the unincorporated areas of the County is generally low. Both the access and service roads (along the perimeter of the project facility) would have turnaround areas to allow clearance for fire trucks per fire department standards (70 feet by 70 feet, and 20-foot-wide access road). While the proposed project may result in an increase in demand for fire protection service, the project would not result in an increase in demand that would, in turn, result in a substantial adverse physical impact associated with the provision of new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. Based on these considerations, the project would not result in a need for fire facility expansion and a less than significant impact would occur.

Police Protection. Police protection services in the project area is provided by the Imperial County Sheriff's Department. Although the potential is low, the proposed project may attract vandals or other security risks. The increase in construction related traffic could increase demand on law enforcement services. However, the project site would be fenced with 6-foot high chain link security fence topped with barbed wire and points of ingress/egress would be accessed via locked gates. In addition, periodic on-site personnel visitations for security would occur during operations and maintenance of the proposed project, thereby minimizing the need for police surveillance. While the proposed project may result in a temporary increase in demand for law enforcement service, the project would not result in a an increase in demand that would, in turn, result in a substantial adverse physical impact associated with the provision of new or physically altered sheriff facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. The sheriff's department has indicated that an all-terrain vehicle would be needed in order to patrol the project site; however, the fenced and secure project site does not result in an increase in demand on law enforcement that would require existing or new facilities to be upgraded in order to maintain service ratios. Further, as conditions of approval of the project, the project applicant will be required to participate in the Imperial County Public Benefit Program for the life of this CUP and shall at all times be a party to a public benefit agreement in a form acceptable to County Counsel in order to pay for all costs, benefits, and fees associated with the approved project, and

the applicant will be required to reimburse the Sheriff's Department for any investigations regarding theft on the Project site and related law enforcement. Approval of this public benefit agreement will be by the Board of Supervisors prior to the issuance of the first building permit. These potential impacts are less than significant. ~~This is considered a less than significant impact.~~

Page 6-6:

Storm Water Facilities. The proposed project will involve the construction of drainage control facilities within the project site as shown on Figure 2-4 Preliminary Site Plan, ~~which are identified in the project site plan~~, and included in the project impact footprint, of which environmental impacts have been evaluated. Otherwise, the project does not require expanded or new storm drainage facilities off-site (i.e., outside of the project footprint) because the proposed solar facility would not generate a significant increase in the amount of impervious surfaces that would increase runoff during storm events, and therefore, would not require the construction of off-site storm water management facilities. Water from solar panel washing would continue to percolate through the ground, as a majority of the surfaces within the project site would remain pervious. The proposed project would not require or result in the relocation or construction of new or expanded storm water facilities beyond those proposed as part of the project and evaluated in the EIR.

Section 7 Alternatives

Page 7-5:

Original Site Plan Submittal

The project applicant originally proposed to construct and operate a 40 MW solar energy facility on approximately 300 acres within the western portion of the larger 640-acre project site parcel. The originally-proposed project was contemplated to be constructed in two phases (Figure 7-2). Each phase would have produced 20 MW of energy and cover approximately 146 acres. A Power Purchase Agreement (PPA) for 20 MW to San Diego Gas & Electric (SDG&E) was secured by the project applicant for the first phase of the project. The second 20 MW phase would not be constructed until the time that an additional PPA is secured. The remaining portion of the property would remain undeveloped in order to protect sensitive environmental resources. (Note: The project was subsequently modified to a 20 MW solar energy facility on an approximately 100-acre site as described in Section 2 Project Description).

C. California Environmental Quality Act Requirements and Findings Supporting Decision Not To Recirculate

CEQA Section 15088.5(e) requires that an EIR which has been made available for public review, but not yet certified, be recirculated whenever significant new information has been added to the EIR. The entire document need not be recirculated, if revisions are limited to specific portions of the document. The recirculated portions or document must be sent to responsible and trustee agencies for consultation and fresh public notice must be given in the manner provided for a draft EIR. However, new information is not presumed to be significant simply because it is new. Indeed, pursuant to State CEQA Guidelines Section 15088.5:

> New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect . . . that the project's proponents have declined to implement. State CEQA Guidelines, § 15088.5(a):
>
> In order to be "significant," the new information requiring recirculation includes, for example, a disclosure showing that:
>
> > (1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
> >
> > (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
> >
> > (3) A feasible project alternative or mitigation measure considerably different from other previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponent decline to adopt it.
> >
> > (4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. (State CEQA Guidelines, §15088.5(a)(1)-(4); *Laurel Heights II*, 6 Cal.4th at 1120.)

It is common, and in most cases necessary, to amplify and elaborate on the analysis of an EIR. CEQA anticipates this and such amplification does not constitute significant new "information" unless it triggers one of the four categories described in State CEQA Guidelines Section 15088.5(a). State CEQA Guidelines Section 15088.5(b) provides that "recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR."

Based upon review of the minor corrections and additions identified in Section A above, and the additional analyses provided in Table 0.3-1, the minor corrections and additions do not result in any new or substantially increased significant impacts. Additionally, the potential on-site wireless communication system would not result in any new or substantially increased significant impacts. Construction of the wireless system on-site would eliminate the need to construct the fiberoptic line, which would have extended from the proposed Wister Substation, connecting to the Niland Substation approximately two miles to the south of the project site. Therefore, the County has concluded that recirculation of the Draft EIR is not required.

Discussion of Environmental Impacts

The Draft EIR for the Wister Solar Energy project evaluated 10 environmental impacts and issues, including: aesthetics and resources; air quality; biological resources; cultural resources; geology and soils; greenhouse gas emissions; hydrology and water quality; land use planning; transportation traffic; and utilities and service systems. Table 0.3-1 lists each environmental topic evaluated in the Draft EIR and summarizes whether the proposed on-site wireless communication system would change any impacts associated with the project. As shown, implementation of the on-site wireless communication system would not change the analysis of the Draft EIR. Furthermore, no change to the type of proposed mitigation measures would be required.

Table 0.3-1. Summary of Environmental Impacts

Environmental Issue Area	Summary of Potential Impact
3.2 Aesthetics and Visual Resources	No change. The addition of a monopole structure, not exceeding 40 feet in height and located within the substation component of the project would not result in a significant visual impact. The monopole's height (maximum 40-feet) will be approximately 30 feet lower than the proposed gen-tie line (maximum 70-feet). Based on analysis contained within the Draft EIR, impacts to visual resources resulting from the implementation of the proposed project, including the construction of the gen-tie line, would not result in a significant impact. Because the proposed monopole would be located on-site and would be lower in profile than proposed gen-tie structures, there would be no change to this conclusion.
3.3 Air Quality	No change. The Draft EIR analysis of the proposed project concludes that the proposed project would not result in short-term air quality impacts during construction. Construction of the on-site wireless communication facility would require the use of an auger truck and lift truck, in a portion of the project site that will be initially graded as part of overall development of the project site. The construction of the monopole would require limited use of equipment, and would not require grading or use of substantial heavy construction equipment. Therefore ICAPCD thresholds are not anticipated to be exceeded. Additionally, emissions associated with the construction of the fiber optic line would not be generated. Therefore, there would be no change to this conclusion.
3.4 Biological Resources	No change. The proposed on-site wireless communication facility would be located within the disturbance footprint evaluated in Section 3.4 Biological Resources of the Draft EIR. Therefore, there would be no change to the Draft EIR conclusions related to biological resources.
3.5 Cultural Resources	No change. The proposed on-site wireless communication facility would be located within the disturbance footprint evaluated in Section 3.5 Cultural Resources of the Draft EIR. Therefore, there would be no change to the Draft EIR conclusions related to cultural resources.
3.6 Geology and Soils	No change. Geotechnical conditions would not change or be affected by the on-site wireless communication facility as the facility would be located within the disturbance area of the project, and in an area determined geotechnically suitable for construction of substation structures. Therefore, there would be no change to the Draft EIR conclusions related to geology and soils.

Table 0.3-1. Summary of Environmental Impacts

Environmental Issue Area	Summary of Potential Impact
3.7 Greenhouse Gas Emissions	No change. The Draft EIR analysis of the proposed project concludes that the proposed project would not result in short-term or long-term operational greenhouse gas (GHG) emissions impacts. Construction of the on-site wireless communication facility would require the use of an auger truck and lift truck, in a portion of the project site that will be initially graded as part of overall development of the project site. The construction of the monopole would require limited use of equipment, which would not generate significant GHG emissions. Additionally, emissions associated with the construction of the fiber optic line would not be generated. Therefore, there would be no change to the Draft EIR conclusions related to greenhouse gas emissions.
3.8 Hydrology/Water Quality	No change. The proposed on-site wireless communication facility would be located within the disturbance footprint evaluated in Section 3.8 Hydrology/Water Quality and would not otherwise alter the proposed drainage plan for the project. Therefore, there would be no change to the Draft EIR conclusions related to hydrology and water quality.
3.9 Land Use Planning	No change. The proposed on-site wireless communication system, including the monopole, which is a communication tower, is an allowed use with the CUP application. (RE Overlay Zone, Title 9, Division 17: Renewable Energy Resources § 90519.02.) Communications towers up to 100 feet tall are allowed in the underlying S-2 Zone. (RE Overlay Zone, Title 9, Division 17: Renewable Energy Resources § 90519.07). There are no applicable height limitations in the RE Overlay Zone. (Title 9. Division 17.) Therefore, there would be no change to the Draft EIR conclusions related to land use planning.
3.10 Transportation/Traffic	No change. The construction of the on-site wireless communication system would only require the use of an auger truck and a lift truck. This would not significantly impact transportation. Therefore, there would be no change to the Draft EIR conclusions related to transportation/traffic.
3.11 Utilities/Service Systems	No change. The construction of the on-site wireless communication system would not place a demand on utilities or service systems. Therefore, there would be no change to the Draft EIR conclusions related to utilities/service systems.

0.4 Mitigation Monitoring and Reporting Program

The County of Imperial will adopt this Mitigation Monitoring and Reporting Program (MMRP) in accordance with Public Resources Code (PRC) Section 21081.6 and Section 15097 of the California Environmental Quality Act (CEQA) Guidelines. The purpose of the MMRP is to ensure that the Wister Solar Energy Facility Project, which is the subject of the Environmental Impact Report (EIR), complies with all applicable environmental mitigation requirements. The mitigation measures for the project will be adopted by the County of Imperial, in conjunction with the certification of the Final EIR. The mitigation measures have been integrated into this MMRP.

The mitigation measures are provided in Table 0.4-1. The specific mitigation measures are identified, as well as the monitoring method, responsible monitoring party, monitoring phase, verification/approval party, date mitigation measure verified or implemented, location of documents (monitoring record), and completion requirement for each mitigation measure.

The mitigation measures applicable to the project include avoiding certain impacts altogether, minimizing impacts by limiting the degree or magnitude of the action and its implementation, and/or reducing or eliminating impacts over time by maintenance operations during the life of the action.

Public Resources Code Section 21081.6 requires the Lead Agency, for each project that is subject to CEQA, to monitor performance of the mitigation measures included in any environmental document to ensure that implementation does, in fact, take place. The County of Imperial is the designated CEQA lead agency for the Mitigation Monitoring and Reporting Program. The County of Imperial is responsible for review of all monitoring reports, enforcement actions, and document disposition as it relates to impacts within the County's jurisdiction. The County of Imperial will rely on information provided by the monitor as accurate and up to date and will field check mitigation measure status as required.

A record of the MMRP will be maintained at County of Imperial, Department of Planning and Development Services, 801 Main Street, El Centro, CA 92243. All mitigation measures contained in the EIR shall be made conditions of the project as may be further described below.

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
Air Quality								
AQ-1	**Construction Equipment.** Construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at each of the projects by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit. The equipment list shall be submitted periodically to ICAPCD to perform a NOx analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds. The Planning and Development Services Department and ICAPCD shall verify implementation of this measure.	Prior to the issuance of a grading permit, ICAPCD shall verify that construction equipment are equipped with an engine designation of EPA Tier 2 or better. The equipment list shall be submitted periodically to ICAPCD to perform a NOx analysis.	Department of Planning and Development Services and ICAPCD	Prior to the issuance of a grading permit and during construction	Department of Planning and Development Services and ICAPCD			
AQ-2	**Fugitive Dust Control.** Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII – Fugitive Dust Control Measures. Whereas these Regulation VIII measures are mandatory and are not considered project environmental mitigation measures, the ICAPCD CEQA Handbook's required additional standard and enhanced mitigation measures listed below shall be implemented prior to and during construction. ICAPCD will verify implementation and compliance with these measures as part of the grading permit review/approval process. ***ICAPCD Standard Measures for Fugitive Dust (PM_{10}) Control*** • All disturbed areas, including bulk material storage, which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material, such as vegetative ground cover. • All on-site and offsite unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.	Prior to and during construction, the ICAPCD will verify that the project is in compliance with Regulation VIII-Fugitive Dust Control Measures.	Department of Planning and Development Services and ICAPCD	Prior to and during construction	Department of Planning and Development Services and ICAPCD			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering. • The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material. • All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area. • Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line. • The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants, and/or watering. ***ICAPCD "Discretionary" Measures for Fugitive Dust (PM_{10}) Control*** • Water exposed soil only in those areas where active grading and vehicle movement occurs with adequate frequency to control dust. • Replace ground cover in disturbed areas as quickly as possible. • Automatic sprinkler system installed on all soil piles.							

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site. • Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees. • Implement a shuttle service to and from retail services and food establishments during lunch hours. ***Standard Mitigation Measures for Construction Combustion Equipment*** • Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel powered equipment. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum. • Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use. • Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set). ***Enhanced Mitigation Measures for Construction Equipment*** To help provide a greater degree of reduction of PM emissions from construction combustion equipment, ICAPCD recommends the following enhanced measures. • Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways. • Implement activity management (e.g., rescheduling activities to reduce short-term impacts).							
AQ-3	**Dust Suppression.** The project applicant shall employ a method of dust suppression (such as water or chemical stabilization) approved by ICAPCD. The	During construction, the Department of Planning and Development Services shall verify that	Department of Planning and Development Services	During construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	project applicant shall apply chemical stabilization as directed by the product manufacturer to control dust between the panels as approved by ICAPCD, and other non-used areas (exceptions will be the paved entrance and parking area, and Fire Department access/emergency entry/exit points as approved by Fire/ Office of Emergency Services [OES] Department).	the project applicant is employing a method of dust suppression approved by ICAPCD.						
AQ-4	**Dust Suppression Management Plan.** Prior to any earthmoving activity, the applicant shall submit a construction dust control plan and obtain ICAPCD and Development Services Department (ICPDS) approval.	Prior to any earthmoving activity, the ICAPCD and Department of Planning and Development Services shall review and approve a construction Dust Control Plan.	ICAPCD and Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services and ICAPCD			
AQ-5	**Operational Dust Control Plan.** Prior to issuance of a Certificate of Occupancy, the applicant shall submit an operations dust control plan and obtain ICAPCD and ICPDS approval. ICAPCD Rule 301 Operational Fees apply to any project applying for a building permit. At the time that building permits are submitted for the proposed project, the ICAPCD shall review the project to determine if Rule 310 fees are applicable to the project.	Prior to the issuance of a Certificate of Occupancy, the applicant shall submit an operations dust control plan and obtain ICAPCD and ICPDS approval.	Department of Planning and Development Services	Prior to the issuance of a Certificate of Occupancy	Department of Planning and Development Services and ICAPCD			
Biological Resources								
BIO-1	**Pre-Construction Plant Survey.** Prior to initiating ground disturbance, a focused survey for Harwood's milkvetch shall occur during its blooming period. A reference population shall be identified and confirmed to be blooming at the time that surveys are conducted on the project site. Should Harwood's milkvetch be present on site, project design will be evaluated to determine if modifications can be made to avoid at least 90-percent of the observed individuals or compensatory mitigation shall be provided through off-site preservation of an equivalent population.							
BIO-2	**General Impact Avoidance and Minimization Measures.** The following measures will be applicable throughout the life of the project: • To reduce the potential indirect impact on migratory birds, bats and raptors, the project	The measures as provided in Mitigation Measure BIO-2 shall be implemented throughout the life of the project.	Department of Planning and Development Services	Prior to construction, during construction, and post-construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	will comply with the APLIC 2012 Guidelines for overhead utilities, as appropriate, to minimize avian collisions with transmission facilities (APLIC 2012). • All electrical components on the project site shall be either undergrounded or protected so that there will be no exposure to wildlife and therefore no potential for electrocution. • The Project proponent shall designate a Project Biologist who shall be responsible for overseeing compliance with protective measures for the biological resources during vegetation clearing and work activities within and adjacent to areas of native habitat. The Project Biologist will be familiar with the local habitats, plants, and wildlife. The Project Biologist will also maintain communications with the Contractor to ensure that issues relating to biological resources are appropriately and lawfully managed and monitor construction. The Project Biologist will monitor activities within construction areas during critical times, such as vegetation removal, the implementation of Best Management Practices (BMP), and installation of security fencing to protect native species. The Project Biologist will ensure that all wildlife and regulatory agency permit requirements, conservation measures, and general avoidance and minimization measures are properly implemented and followed. • The boundaries of all areas to be newly disturbed (including solar facility areas, staging areas, access roads, and sites for temporary placement of construction materials and spoils) will be delineated with stakes and flagging prior to disturbance. All disturbances, vehicles, and equipment will be confined to the flagged areas. • No potential wildlife entrapments (e.g., trenches, bores) will be left uncovered overnight. Any uncovered pitfalls will be excavated to 3:1 slopes at the ends to provide wildlife escape ramps. Alternatively, man-made ramps may be installed. Covered							

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	pitfalls will be covered completely to prevent access by small mammals or reptiles. • To avoid wildlife entrapment (including birds), all pipes or other construction materials or supplies will be covered or capped in storage or laydown area, and at the end of each work day in construction, quarrying and processing/handling areas. No pipes or tubing of sizes or inside diameters ranging from 1 to 10 inches will be left open either temporarily or permanently. • No anticoagulant rodenticides, such as Warfarin and related compounds (indandiones and hydroxycoumarins), may be used within the project site, on off-site project facilities and activities, or in support of any other project activities. • Avoid wildlife attractants. All trash and food-related waste shall be placed in self-closing containers and removed regularly from the site to prevent overflow. Workers shall not feed wildlife. Water applied to dirt roads and construction areas for dust abatement shall use the minimal amount needed to meet safety and air quality standards to prevent the formation of puddles, which could attract wildlife. Pooled rainwater or floodwater within retention basins will be removed to avoid attracting wildlife to the active work areas. • To minimize the likelihood for vehicle strikes on wildlife, speed limits will not exceed 15 miles per hour when driving on access roads. All vehicles required for O&M must remain on designated access/maintenance roads. • Avoid night-time construction lighting or if nighttime construction cannot be avoided use shielded directional lighting pointed downward and towards the interior of the project site, thereby avoiding illumination of adjacent natural areas and the night sky. • All construction equipment used for the Project will be equipped with properly operating and maintained mufflers.							

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• Hazardous materials and equipment stored overnight, including small amounts of fuel to refuel hand-held equipment, will be stored within secondary containment when within 50 feet of open water to the fullest extent practicable. Secondary containment will consist of a ring of sand bags around each piece of stored equipment/structure. A plastic tarp/visqueen lining with no seams shall be placed under the equipment and over the edges of the sandbags, or a plastic hazardous materials secondary containment unit shall be utilized by the Contractor. • The Contractor will be required to conduct vehicle refueling in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species. Any fuel containers, repair materials, including creosote-treated wood, and/or stockpiled material that is left on site overnight, will be secured in secondary containment within the work area and staging/assembly area and covered with plastic at the end of each work day. • In the event that no activity is to occur in the work area for the weekend and/or a period of time greater than 48 hours, the Contractor will ensure that all portable fuel containers are removed from the project site. • All equipment will be maintained in accordance with manufacturer's recommendations and requirements. • Equipment and containers will be inspected daily for leaks. Should a leak occur, contaminated soils and surfaces will be cleaned up and disposed of following the guidelines identified in the Stormwater Pollution Prevention Plan or equivalent, Materials Safety Data Sheets, and any specifications required by other permits issued for the project. • The Contractor will utilize off-site maintenance and repair shops as much as possible for maintenance and repair of equipment.							

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• If maintenance of equipment must occur onsite, fuel/oil pans, absorbent pads, or appropriate containment will be used to capture spills/leaks within all areas. Where feasible, maintenance of equipment will occur in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species. • Appropriate BMPs will be used by the Contractor to control erosion and sedimentation and to capture debris and contaminants from bridge construction to prevent their deposition in waterways. No sediment or debris will be allowed to enter the creek or other drainages. All debris from construction of the bridge will be contained so that it does not fall into channel. Appropriate BMPs will be used by the Contractor during construction to limit the spread of resuspended sediment and to contain debris. • Erosion and sediment control devices used for the proposed project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard. • Firearms, open fires, and pets would be prohibited at all work locations and access roads. Smoking would be prohibited along the Project alignment. • Cross-country vehicle and equipment use outside of approved designated work areas and access roads shall be prohibited to prevent unnecessary ground and vegetation disturbance. • Any injured or dead wildlife encountered during project-related activities shall be reported to the project biologist, biological monitor, CDFW, or a CDFW-approved veterinary facility as soon as possible to report the observation and determine the best course of action. For special-status species, the Project Biologist shall notify the County,							

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	USFWS, and/or CDFW, as appropriate, within 24 hours of the discovery. • Stockpiling of material will be allowed only within established work areas. • Actively manage the spread of noxious weeds (See Mitigation Measure BIO-5) • The ground beneath all parked equipment and vehicles shall be inspected for wildlife before moving.							
BIO-3	**Worker Environmental Awareness Program.** Prior to project construction, a Worker Environmental Awareness Program shall be developed and implemented by a qualified biologist, and shall be available in both English and Spanish. Handouts summarizing potential impacts to special-status biological resources and the potential penalties for impacts to these resources shall be provided to all construction personnel. At a minimum, the education program shall including the following: • the purpose for resource protection; • a description of special status species including representative photographs and general ecology; • occurrences of USACE, RWQCB, and CDFW regulated features in the Project study area; • regulatory framework for biological resource protection and consequences if violated; • sensitivity of the species to human activities; • avoidance and minimization measures designed to reduce the impacts to special-status biological resources; • environmentally responsible construction practices; • reporting requirements; • the protocol to resolve conflicts that may arise at any time during the construction process; and • workers sign acknowledgement form indicating that the Environmental Awareness	Prior to construction, the Department of Planning and Development Services shall verify that a Worker Environmental Awareness Program has been implemented by a qualified biologist. The Department of Planning and Development Services shall verify the completion of the Worker Environmental Awareness Program by obtaining signed acknowledgements forms from workers.	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	Training and Education Program that has been completed and would be kept on record.							
BIO-4	**Desert Tortoise Avoidance and Minimization.** A qualified biologist shall conduct focused presence/absence surveys for Desert Tortoise for 100-percent of the project footprint pursuant to the October 19, 2019 Version of the USFWS Desert Tortoise Survey Protocol. If no live desert tortoise or sign of active desert tortoise are detected, no further avoidance and minimization is required. If live desert tortoise or sign of active desert tortoise are detected, the project proponent shall initiate consultation with USFWS and CDFW to obtain the necessary federal and state ESA authorizations and the following avoidance, minimization and compensatory mitigation measures will be implemented: • Permanent tortoise-proof fencing shall be along the perimeter of the project site. Fencing shall be installed, inspected, and maintained according to specifications in the current USFWS *Desert Tortoise (Mojave Population) Field Manual (Gopherus agassizii)*. An authorized desert tortoise biologist shall conduct pre-construction clearance surveys for the project site no more than 14-days prior to the initiation of fence installation. All potentially active burrows shall be identified for hand excavation. Pre-construction clearance surveys shall be repeated within the fenced impact area after fence installation is complete. If desert tortoise are observed they shall be relocated from within the work area to outside the fenced area by a permitted biologist. • The authorized biologist shall conduct desert tortoise pre-construction clearance surveys along all existing and new dirt access road alignments, and the Gen-tie alignment before any ground disturbing activities are initiated and prior to the start of construction activities each day during ground-disturbing activities and weekly thereafter. Relocate desert tortoises as necessary. Any handling of special-status species must be approved by the appropriate Federal and State agencies	Prior to construction, the Department of Planning and Development Services shall verify that focused presence/absence surveys for Desert Tortoise were conducted by a qualified biologist. If live desert tortoise or sign of active desert tortoise is detected, the measures as listed in Mitigation Measure BIO-4 shall be implemented.	Department of Planning and Development Services	Prior to construction, during construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	and be done in accordance with species-specific handling protocols. • Where burrows would be unavoidably destroyed, they would be excavated carefully using hand tools under the supervision of the authorized biologists with demonstrated prior experience with this species. • Inspect construction pipes, culverts, or similar structures: (a) with a diameter greater than 3 inches, (b) stored for one or more nights, (c) less than 8 inches aboveground and (d) within desert tortoise habitat, before the materials are moved, buried, or capped. • Incorporate Raven Management into the Pest Control Plan (See BIO-5). • Inspect the ground under vehicles and equipment for the presence of desert tortoise any time a vehicle or construction equipment is parked in desert tortoise habitat. If a desert tortoise is seen, it may move on its own. If it does not move within 15 minutes, an authorized biologist or biological monitor under the direction of the authorized biologist may remove and relocate the animal to a safe location. • All culverts for access roads or other barriers will be designed to allow unrestricted access by desert tortoises and will be large enough that desert tortoises are unlikely to use them as shelter sites (e.g., 36 inches in diameter or larger). Desert tortoise exclusion fencing may be utilized to direct tortoise use of culverts and other passages. If possible, pipes and culverts greater than 3 inches in diameter would be stored on dunnage to prevent wildlife from taking refuge in them, to the extent feasible. • To fully mitigate for habitat loss and potential take of the Mojave desert tortoise, the Applicant will provide compensatory mitigation at a ratio of 1:1 For the purposes of this measure, the project site (i.e., footprint) means all Project areas with new direct ground disturbance during construction and operation of the Project. This includes all lands directly disturbed that will no longer provide viable							

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	long-term habitat for the Mojave desert tortoise, such as the solar field, substation and new access roads. Areas within the gen-tie line corridor where no ground disturbance will occur are not included in the area to be mitigated through compensation. Compensatory mitigation could include agency-approved payment of an in-lieu fee; acquiring mitigation land or conservation easements; restoration or habitat enhancement activities on preservation lands; or a combination of the three.							
BIO-5	**Prepare and Implement an Operation and Maintenance Worker Education Plan.** An Operation and Maintenance Worker Education Plan shall be prepared to advise personnel on general operations measures. The Worker Education Plan shall be submitted to the County of Imperial Planning and Development Services Department for review and approval prior to issuance of building permits. The following provisions shall be included in the Worker Education Plan and implemented throughout the operational lifespan of the Project: Operation and maintenance personnel shall be prohibited from: • Exceeding nighttime and daytime vehicle speeds of 10 miles per hour and 25 miles per hour, respectively, within the facility, on access roads and within the Gen-Tie line corridor. Speed limit signs shall be posted throughout the project site to remind workers of travel speed restrictions. • Harming, harassing, or feeding wildlife and/or collecting special-status plant or wildlife species. • Disturbing active avian nests • Traveling (either on foot or in a vehicle) outside of the Project footprint except on public roads. • Littering on the Project area. • Allowing persons not employed at the facility to remain on site after daylight hours. • Exceeding normal nighttime operational noise or lighting levels	Prior to issuance of building permits, the Department of Planning and Development Services shall review and approve the Operation and Maintenance Worker Education Plan.	Department of Planning and Development Services	Prior to issuance of building permits	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	Bringing domestic pets and firearms to the site. The Operation and Maintenance Worker Education Plan shall require that: • All operation and maintenance vehicles and equipment park in approved designated areas only. • The project site and Gen-Tie line corridor be kept clear of trash and other litter to reduce the attraction of opportunistic predators such as common ravens, coyotes, and feral dogs that may prey on sensitive species. • Operation and maintenance employees maintain Hazardous Materials Spill Kits on-site. All operation and maintenance staff shall be trained in how to use Hazardous Materials Spill Kits in the event of a spill. • An approved Long-Term Maintenance Plan for the retention/detention basins be developed and implemented. • Weed and Raven management shall be addressed in a project-specific pest management plan (See BIO-5) • Maintain shielding on external lighting to direct down and towards the project site and away from adjacent undeveloped land. • Workers sign acknowledgement form indicating that the Environmental Awareness Training and Education Program that has been completed and would be kept on record • desert tortoise avoidance and minimization measures be implemented if desert tortoise is detected during pre-construction surveys • The ground beneath all parked equipment and vehicles shall be inspected for wildlife before moving. • Personnel are trained to avoid causing wildfires and manage them safely and promptly if necessary							
BIO-6	**Burrowing Owl Avoidance and Minimization.** Take Avoidance (pre-construction) surveys for burrowing owl shall be completed prior to project construction.	Prior to construction, the Department of Planning and Development Services shall verify that	Department of Planning and Development Services	Prior to construction, during construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	Surveys shall be conducted as detailed within Appendix D of the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game [CDFG] 2012). If burrowing owl is not detected, construction may proceed. • If burrowing owl is identified during the non-breeding season (September 1 through January 31), then a 50 meter buffer will be established by the biological monitor. Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until a CDFW-approved exclusion plan has been implemented. The buffer distance may be reduced if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities. • If burrowing owl is identified during the breeding season (February 1 through August 31), then an appropriate buffer will be established by the biological monitor in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until young have fledged. The buffer distance may be reduced in consultation with CDFW if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities.	pre-construction surveys for burrowing owl were conducted. If burrowing owl are present, the measures as listed in Mitigation Measure BIO-6 shall be implemented.						
BIO-7	**Pre-Construction Nesting Bird Surveys.** To the extent possible, construction shall occur outside the typical avian breeding season (February 15 through September 15). If construction must occur during the general avian breeding season, a pre-construction nest survey shall be conducted within the impact area and a 500-foot (150-meter) buffer by qualified biologist no more than 7 days prior to the start of vegetation clearing and/or ground disturbing construction activities in any given area of the Project footprint. Construction crews shall coordinate with the qualified biologist at least 7 days prior to the start of construction in a given area to ensure that the construction area has been adequately surveyed. A nest is defined as active once birds begin constructing or repairing the nest in readiness for egg-laying. A	Prior to construction, the Department of Planning and Development Services shall verify that a pre-construction nesting survey was conducted. If nesting birds are present, the measures as listed in Mitigation Measure BIO-7 shall be implemented.	Department of Planning and Development Services	Prior to construction, during construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	nest is no longer an "active nest" if abandoned by the adult birds or once nestlings or fledglings are no longer dependent on the nest. If no active nests are discovered, construction may proceed. If active nests are observed that could be disturbed by construction activities, these nests and an appropriately sized buffer (typically a 200-foot (61-meter) buffer for non-raptor species nests and at least a 500-foot (150-meter) buffer for raptor or federally listed species nests) would be avoided until the young have fledged. Final construction buffers or setback distances shall be determined by the qualified biologist in coordination with USFWS and CDFW on a case-by-case basis, depending on the species, season in which disturbance shall occur, the type of disturbance, and other factors that could influence susceptibility to disturbance (e.g., topography, vegetation, existing disturbance levels, etc.). Active nests shall be avoided until the young have fledged and/or the monitor determines that no impacts are anticipated to the nesting birds or their young. If vegetation clearing and/or ground disturbing activities cease for 14 or more consecutive days during the nesting season in areas where suitable nesting habitat remains, repeat nesting bird surveys shall be required to ensure new nesting locations have not been established within the impact area and the defined buffers.							
BIO-8	**Develop a Bird and Bat Conservation Strategy (BBCS).** A BBCS shall be developed by the Project Applicant in coordination with the County of Imperial, USFWS, and CDFW. The BBCS will include the following components: • A description and assessment of the existing habitat and avian and bat species; • An avian and bat risk assessment and specific measures to avoid, minimize, reduce, or eliminate avian and bat injury or mortality during all phases of the project. • A post-construction monitoring plan that will be implemented to assess impacts on avian and bat species resulting from the Project. • The post-construction monitoring plan will include a description of standardized carcass searches, scavenger rate (i.e., carcass	Prior to construction, the Department of Planning and Development Services shall verify that a Bird and Bat Conservation Strategy has been developed by the project applicant in coordination with the County of Imperial, USFWS, and CDFW.	Department of Planning and Development Services	Prior to construction, during construction, post-construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	removal) trials, searcher efficiency trials, and reporting. Statistical methods will be used to estimate Project avian and bat fatalities if sufficient data is collected to support statistical analysis. • An injured bird response plan that delineates care and curation of any and all injured birds. • A nesting bird management strategy to outline actions to be taken for avian nests detected within the impact footprint during operation of the Project. • A conceptual adaptive management and decision-making framework for reviewing, characterizing, and responding to monitoring results. • Monitoring studies following commencement of commercial operation of each CUP area. Monitoring results will be reviewed annually by the Applicant and the County of Imperial, in consultation with CDFW and USFWS, to inform adaptive management responses. During Project construction, incidental avian carcasses or injured birds found during construction shall be documented. Should a carcass be found by Project personnel, the carcass shall be photographed, the location shall be marked, the carcass shall not be moved, and a qualified biologist shall be contacted to examine the carcass. When a carcass is detected, the following data shall be recorded (to the extent possible): observer, date/time, species or most precise species group possible, sex, age, estimated time since death, potential cause of death or other pertinent information, distance and bearing to nearest structure (if any) that may have been associated with the mortality, location (recorded with Global Positioning System), and condition of carcass. • If any federal listed, state listed or fully protected avian carcasses or injured birds are found during construction or post-construction monitoring, the Project Applicant shall notify USFWS and CDFW within 24 hours via email or phone and work with the resource agencies							

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	to determine the appropriate course of action for these species. For such listed species, the CUP owner shall obtain or retain a biologist with the appropriate USFWS Special Purpose Utility Permit(s) and CDFW Scientific Collecting Permit(s) to collect and salvage all dead and injured birds, and store/curate them in freezers for later disposition and analysis.							
BIO-9	**Pre-Construction Surveys for American Badger.** Preconstruction surveys shall be conducted by a qualified biologist for the presence of American badger dens within 14 days prior to commencement of construction activities. The surveys shall be conducted in areas of suitable habitat for American badger, which include desert scrub habitats. 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: • American badger potential den: 30 feet. • American badger active den: 100 feet. • 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 • Outside the reproductive season defined as February 1 through September 30 for American badger if the qualified Lead Biologist determines through camera monitoring for three consecutive days that potential dens are inactive, the biologist shall excavate these dens by hands with a shovel to prevent American badgers from re-using them during construction. • Outside of the reproductive season defined as February 1 through September 30 for American badger if the Lead Biologist determines that potential dens may be active, an onsite passive relocation program shall be implemented. This program shall consist of excluding American badgers from occupied	The Department of Planning and Development Services shall verify that pre-construction surveys for American badger dens were conducted within 14 days prior to commencement of construction activities. If American badger dens are present, the measures as listed in Mitigation Measure BIO-9 shall be implemented.	Department of Planning and Development Services	Prior to construction, during construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	burrows by installation of one-way doors at burrow entrances, monitoring of the burrow for seven days to confirm usage has discontinued, and excavation and collapse of the burrow to prevent reoccupation. After the qualified biologist determines that American badgers have stopped using the dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent use during construction.							
BIO-10	**Compensatory Mitigation for Riparian Woodland and Ephemeral Wash.** Following the completion of project construction, Palo Verde- Ironwood Woodland will be created, enhanced and or conserved within the undeveloped portions of the project site at a ratio of 3:1 (i.e., 3 acres created or enhanced for each acre impacted) by permanent or temporary project activities). Permanent impacts to jurisdictional waters and wetlands shall be mitigated at a minimum 1:1 ratio either through on-site and/or off-site re-establishment, enhancement and conservation of jurisdictional waters or through an approved-mitigation bank or in lieu fee program, if one is available. The type of mitigation, mitigation location and the final mitigation ratios will be established during the permit process for the Project's USACE Section 404 permit, the RWQCB Section 401 Water Quality Certification, and a CDFW Streambed Alteration Agreement, as applicable.	Within 1 year of project construction, the Department of Planning and Development Services shall confirm that Palo Verde- Ironwood Woodland has been created, enhanced, and/or conserved within the undeveloped portions of the project site at a ratio of 3:1. The Department of Planning and Development Services shall confirm that impacts to jurisdictional waters and wetlands were mitigated at a minimum 1:1 ratio either through on-site and/or off-site re-establishment, enhancement and conservation of jurisdictional waters or through an approved-mitigation bank or in lieu fee program.	Department of Planning and Development Services	Post construction	Department of Planning and Development Services			
BIO-11	**Develop and Implement a Pest Management Plan.** The Project shall develop and implement a Pest Management Plan that will reduce negative impacts to surrounding (not necessarily adjacent) farmland during construction, operation and reclamation. The Plan shall include: • Methods for Preventing the Introduction and Spread of pests, including weeds. • Monitoring methods for all agricultural pests and weeds with potential to adversely impact adjacent native habitat (Species on California	The Department of Planning and Development Services shall verify that a Pest Management Plan has been reviewed and approved by the Imperial County Agricultural Commissioner.	Department of Planning and Development Services and Imperial County Agricultural Commissioner	Prior to construction, during construction	Department of Planning and Development Services and Imperial County Agricultural Commissioner			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	Invasive Plants Council Inventory rated as Moderately to Highly Invasive) to including insects, vertebrates, weeds, and pathogens. • Eradication and Control Methods All treatments must be performed by a qualified applicator or a licensed pest control business. o "Control" means to reduce the population of common pests below economically damaging levels, and includes attempts to exclude pests before infestation, and effective control methods after infestation. o Effective control methods may include physical/mechanical removal, biocontrol, cultural control, or chemical treatments. o Use of "permanent" soil sterilants to control weeds or other pests is prohibited due to the fact that this would interfere with reclamation. • Notification Requirements: o Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of Food Agriculture (CDFA) and the USDA. o Request a sample be taken by the Agricultural Commissioner's Office of a suspected invasive species. • Eradication of exotic pests will be done under the direction of the Agricultural Commissioner's Office and/or CDFA. • Obey all pesticide use laws, regulations, and permit conditions. • Allow access by Agricultural Commissioner staff for routine visual and trap pest surveys, compliance inspections, eradication of exotic pests, and other official duties. • Ensure that all project employees that handle pest control issues are appropriately trained and certified, that all required records are maintained and available for inspection, and that all permits and other required legal documents are current.							

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• Maintain records of pests found and treatments or pest management methods used. Records should include the date, location/block, project name (current and previous if changed), and methods used. For pesticides include the chemical(s) used, EPA Registration numbers, application rates, etc. A pesticide use report may be used for this. • Reporting Methods • Submit a report of monitoring, pest finds, and treatments, or other pest management methods to the Agricultural Commissioner quarterly within 15 days after the end of the previous quarter, and upon request. • The report is required even if no pests were found or treatment occurred. It may consist of a copy of all records for the previous quarter, or may be a summary letter/report as long as the original detailed records are available upon request.							
Cultural Resources								
CR-1	Pursuant to CEQA Guidelines §15064.5(f), in the event that previously unidentified unique archaeological resources are encountered during construction or operational repairs, archaeological monitors will be authorized to temporarily divert construction work within 100 feet of the area of discovery until significance and the appropriate mitigation measures are determined by a qualified archaeologist familiar with the resources of the region. Applicant shall notify the County within 24 hours. Applicant shall provide contingency funding sufficient to allow for implementation of avoidance measures or appropriate mitigation.	The applicant shall notify the County within 24 hours if unidentified unique archaeological resources are encountered. The County shall verify that the applicant has provided contingency funding sufficient to allow for implementation of avoidance measures or appropriate mitigation.	Department of Planning and Development Services	During grading and construction	Department of Planning and Development Services			
CR-2	In the event of the discovery of previously unidentified archaeological materials, the contractor shall immediately cease all work activities within approximately 100 feet of the discovery. After cessation of excavation, the contractor shall immediately contact the Imperial County Department of Planning and Development Services. Except in the case of cultural items that fall within the scope of the Native American Grave Protection and Repatriation	The applicant shall notify the County immediately if unknown archaeological resources are encountered. The applicant shall retain the services of a qualified professional archaeologist	Department of Planning and Development Services	During grading	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	Act, the discovery of any cultural resource within the project area shall not be grounds for a "stop work" notice or otherwise interfere with the project's continuation except as set forth in this paragraph. In the event of an unanticipated discovery of archaeological materials during construction, the applicant shall retain the services of a qualified professional archaeologist, meeting the Secretary of the Interior's Standards for a Qualified Archaeologist, to evaluate the significance of the materials prior to resuming any construction-related activities in the vicinity of the find. If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA and it cannot be avoided, the applicant shall implement an archaeological data recovery program.	in the event of an unanticipated discovery.						
CR-3	In the event that evidence of human remains is discovered, construction activities within 200 feet of the discovery will be halted or diverted and the Imperial County Coroner will be notified (Section 7050.5 of the HSC). If the Coroner determines that the remains are Native American, the Coroner will notify the NAHC, which will designate a MLD for the project (Section 5097.98 of the PRC). The designated MLD then has 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains (AB 2641). If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a document with the county in which the property is located (AB 2641).	During construction and operational repair period, discovery of human remains shall result in workstoppage in that area until the coroner and the Native American Heritage Commission are contacted.	Department of Planning and Development Services	During construction and operations	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
Geology and Soils								
GEO-1	**Prepare Geotechnical Report(s) as Part of Final Engineering for the Project and Implement Required Measures.** Facility design for all project components shall comply with the site-specific design recommendations as provided by a licensed geotechnical or civil engineer to be retained by the project applicant. The final geotechnical and/or civil engineering report shall address and make recommendations on the following: • Site preparation • Soil bearing capacity • Appropriate sources and types of fill • Potential need for soil amendments • Structural foundations • Grading practices • Soil corrosion of concrete and steel • Erosion/winterization • Seismic ground shaking • Liquefaction • Expansive/unstable soils In addition to the recommendations for the conditions listed above, the geotechnical investigation shall include subsurface testing of soil and groundwater conditions, and shall determine appropriate foundation designs that are consistent with the version of the CBC that is applicable at the time building and grading permits are applied for. All recommendations contained in the final geotechnical engineering report shall be implemented by the project applicant. The final geotechnical and/or civil engineering report shall be submitted to Imperial County Public Works Department, Engineering Division for review and approval prior to issuance of building permits.	Prior to the issuance of a grading permit, the Imperial County Public Works Department, Engineering Division shall review and approve a Final Geotechnical Report and/or Civil Engineering Report.	Department of Planning and Development Services and Imperial County Public Works Department, Engineering Division	Prior to issuance of a grading permit	Department of Planning and Development Services and Imperial County Public Works Department, Engineering Division			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
GEO-2	In the event that unanticipated paleontological resources or unique geologic resources are encountered during ground-disturbing activities, work must cease within 50 feet of the discovery and a paleontologist shall be hired to assess the scientific significance of the find. The consulting paleontologist shall have knowledge of local paleontology and the minimum levels of experience and expertise as defined by the Society of Vertebrate Paleontology's Standard Procedures (2010) for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. If any paleontological resources or unique geologic features are found within the project site, the consulting paleontologist shall prepare a paleontological Treatment and Monitoring Plan to include the methods that will be used to protect paleontological resources that may exist within the project site, as well as procedures for monitoring, fossil preparation and identification, curation of specimens into an accredited repository, and preparation of a report at the conclusion of the monitoring program.	The applicant shall retain the services of a qualified paleontological monitor in the event of an unanticipated discovery. The paleontological monitor shall be on-site in accordance with this measure to implement this measure. A monitoring report shall be prepared and submitted to the Department of Planning and Development Services for review and approval.	Department of Planning and Development Services	During grading	Department of Planning and Development Services			
Hydrology/Water Quality								
HYD-1	**Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration.** The project applicant or its contractor shall prepare a SWPPP specific to the project and be responsible for securing coverage under SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the appropriate agency prior to commencement of work and shall be made conditions of the contract with the contractor selected to build and decommission the project. The SWPPP shall incorporate control measures in the following categories: • Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching)	Prior to construction and site restoration, the project applicant or its contractor shall prepare a SWPPP with incorporated control measures outlined in Mitigation Measure HYD-1; and implement BMPs. Department of Planning and Development Services to confirm.	Department of Planning and Development Services	Prior to issuance of a grading permit and site restoration	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• Sediment control practices (e.g., temporary sediment basins, fiber rolls) • Temporary and post-construction on- and off-site runoff controls • Special considerations and BMPs for water crossings and drainages • Monitoring protocols for discharge(s) and receiving waters, with emphasis place on the following water quality objectives: dissolved oxygen, floating material, oil and grease, potential of hydrogen (pH), and turbidity • Waste management, handling, and disposal control practices • Corrective action and spill contingency measures • Agency and responsible party contact information • Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP The SWPPP shall be prepared by a Qualified SWPPP Practitioner and/or Qualified SWPPP Developer with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. BMPs for soil stabilization and erosion control practices and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure.							
HYD-2	**Incorporate Post-Construction Runoff BMPs into Project Drainage Plan.** The project Drainage Plan shall adhere to the County's Engineering Guidelines	Post construction for the project site, the Applicant shall implement a	Department of Planning and Development Services	Post construction	Department of Planning and Development Services and IID			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of stormwater to existing drainage systems. Infiltration basins will be integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary.	Drainage Plan in accordance with the County and Imperial Irrigation District guidelines as outlined in Mitigation Measure HYD-3. Department of Planning and Development Services and Imperial Irrigation District to confirm.						

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Executive Summary

This Environmental Impact Report (EIR) has been prepared in compliance with the California Environmental Quality Act (CEQA) Public Resources Code [PRC] Section 21000 et seq., the CEQA Guidelines (Section 15000 et seq.) as promulgated by the California Resources Agency and the Governor's Office of Planning and Research (OPR). The purpose of this environmental document is to assess the potential environmental effects associated with the Wister Solar Energy Facility Project and to propose mitigation measures, where required, to reduce significant impacts.

Project Overview

The Wister Solar Energy Facility Project is located on Assessor Parcel No. 003-240-001. The proposed solar energy facility consists of three primary components: 1) solar energy generation equipment and associated facilities including a substation and access roads (herein referred to as "solar energy facility"); 2) gen-tie line that would connect the proposed on-site substation to the Point of Interconnection (POI) at the existing Imperial Irrigation District's (IID) 92-kilovolt (kV) "K" line; and, 3) on-site wireless communication system or off-site fiberoptic cable. These components are collectively referred to as the "proposed project" or "project."

The proposed project involves the construction and operation of a 20 Megawatt (MW) photovoltaic (PV) solar energy facility on approximately 100 acres of privately-owned land north of Niland. The proposed project would be comprised of solar PV panels on single-axis horizontal trackers, an on-site substation and inverters, transformers, and underground electrical cables. The proposed project also includes either an on-site wireless communication system, or an approximately two-mile ~~s of~~ fiberoptic line that would extend from the proposed on-site substation to the existing Niland Substation to connect the proposed Wister Substation to the region's telecommunications system.

The power produced by the proposed project would be conveyed to the local power grid via an on-site 92-kV substation, which will be tied directly to IID's 92-kV transmission line. A gen-tie line would connect the Wister substation to the POI at the existing IID 92-kV "K" line. The project applicant has secured a Power Purchase Agreement with San Diego Gas and Electric for the sale of power from the project.

The proposed project may utilize groundwater available at the project site for project construction, and potentially limited operational activities. A groundwater well would be constructed and operated near the existing geothermal well pad (and proposed project construction staging area) located in the north-western portion of the project site.

Purpose of an EIR

The purpose of an EIR is to analyze the potential environmental impacts associated with a project. CEQA (Section 15002) states that the purpose of CEQA is to: (1) inform the public and governmental decision makers of the potential significant environmental impacts of a project; (2) identify the ways that environmental damage can be avoided or significantly reduced; (3) prevent significant avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and (4) disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Eliminated from Further Review in Notice of Preparation

Based on the Initial Study and Notice of Preparation (IS/NOP) prepared for the proposed project (Appendix A of this EIR), Imperial County (County) has determined that the proposed project would not have the potential to cause significant adverse effects associated with the topics identified below. Therefore, these topics are not addressed in this EIR. However, the rationale for eliminating these topics is briefly discussed below.

Agriculture Resources

According to the farmland maps prepared by the California Department of Conservation (2017), the project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (California Department of Conservation 2017). The proposed project would not convert Important Farmland to non-agricultural uses.

The project site is currently designated by the General Plan as “Recreation” and is zoned “Open Space/Preservation” with a Geothermal Overlay (S-2-G). According to the 2016/2017 Imperial County Williamson Act Map produced by the California Department of Conservation’s Division of Land Resource Protection, the project site is not located within Williamson Act contracted land (California Department of Conservation 2016). The proposed project has no potential to conflict with existing zoning for agricultural use or a Williamson Act contract. Therefore, implementation of the proposed project would not impact agriculture resources.

Forestry Resources

No portion of the project site or the immediate vicinity is zoned or designated as forest lands, timberlands, or timberland production. As such, the proposed project would not result in a conflict with existing zoning or cause the need for a zone change. Therefore, implementation of the proposed project would not impact forestry resources.

Energy

The use of energy associated with the project includes both construction and operational activities. Construction activities consume energy through the use of heavy construction equipment and truck and worker traffic. The proposed project will use energy-conserving construction equipment, including standard mitigation measures for construction combustion equipment recommended in the Imperial County Air Pollution Control District (ICAPCD) CEQA Air Quality Handbook (ICAPCD 2017). The use of better engine technology, in conjunction with the ICAPCD’s standard mitigation measures will reduce the amount of energy used for the project.

Implementation and operation of the proposed project would promote the use of renewable energy and contribute incrementally to the reduction in demand for fossil fuel use for electricity-generating purposes. The project would generate renewable energy resources and is considered a beneficial effect. Based on these considerations, the proposed project would not result in significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

The project will help California meet its Renewable Portfolio Standard of 50 percent of retail electricity sales from renewable sources by the end of 2030. The electricity generation process associated with the project would utilize solar technology to convert sunlight directly into electricity. Solar PV technology is consistent with the definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California Public Resources Code (PRC). The proposed project would not conflict with or obstruct a state or local plan for renewable energy of energy efficiency. The proposed project would result in a less than significant impact related to energy.

Hazards and Hazardous Materials

Construction of the proposed project will involve the limited use of hazardous materials, such as fuels and greases to fuel and service construction equipment. No extremely hazardous substances are anticipated to be produced, used, stored, transported, or disposed of as a result of project construction. No operations and maintenance facilities, or habitable structures are proposed on-site. Operation of the project will be conducted remotely. Regular, routine maintenance of the project may result in the potential to handle hazardous materials. However, the hazardous materials handled on-site would be limited to small amounts of everyday use cleaners and common chemicals used for maintenance. The applicant will be required to comply with State laws and County Ordinance restrictions, which regulate and control hazardous materials handled on-site. Such hazardous wastes would be transported off-site for disposal according to applicable State and County restrictions and laws governing the disposal of hazardous waste during construction and operation of the project. Based on these considerations, a less than significant impact would occur.

The project site is not located within 0.25 mile of an existing or proposed school. Therefore, the proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. No impact would occur.

Based on a review of the Cortese List conducted in November 2019, the project site is not listed as a hazardous materials site. Therefore, the proposed project would not create a significant hazard to the public or the environment and no impact would occur.

The project site is not located within two miles of a public airport or public use airport. Therefore, the proposed project would not result in airport hazards for people residing or working in the project area and no impact would occur.

The proposed project is not expected to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The project applicant will be required, through the conditions of approval, to prepare a street improvement plan for the project that will include emergency access points and safe vehicular travel. In addition, local building codes would be followed to minimize flood, seismic, and fire hazard. Therefore, the proposed project would result in a less than significant impact associated with the possible impediment to emergency plans.

Mineral Resources

The project site is not used for mineral resource production and the applicant is not proposing any form of mineral extraction. According to Figure 8: Imperial County Existing Mineral Resources of the Conservation and Open Space Element of the General Plan (County of Imperial 2016), no known mineral resources occur within the project site nor does the project site contain mapped mineral resources. Therefore, the proposed project would not result in the loss of availability of any known mineral resources that would be of value to the region and the residents of California nor would the proposed project result in the loss of availability of a locally important mineral resource.

Based on a review of the California Department Division of Oil, Gas, and Geothermal Resources Well Finder, there is one idle geothermal well (Well No. 02591491) located in the northwest quarter of the project parcel (California Department of Oil, Gas, and Geothermal Resources n.d). This geothermal well would be avoided by the proposed project. Implementation of the proposed project would not impact geothermal wells.

Noise and Vibration

The Imperial County Title 9 Land Use Ordinance, Division 7, Chapter 2, Section 90702.00 - Sound level limits, establishes one-hour average sound level limits for the County's land use zones. Industrial operations are required to comply with the noise levels prescribed under the general industrial zones. Therefore, the project is required to maintain noise levels below 75 decibels (dB) (averaged over one hour) during any time of day. The project would be expected to comply with the Noise Element of the General Plan which states that construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB, when averaged over an eight hour period, and measured at the nearest sensitive receptor. Construction equipment operation is also limited to the hours of 7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m. on Saturdays. Compliance with Imperial County's standards for construction noise levels would result in less than significant noise impacts during project construction.

Groundborne vibration and groundborne noise could originate from earth movement during the construction phase of the proposed project. Construction of the proposed project may require post driving and vibratory rollers and has the potential to result in temporary vibration impacts on structures and humans. However, the project site is in a generally rural area and surrounded by relatively undisturbed desert lands. Sensitive receptors located within one mile of the project site consist of a few scattered rural homes west of the site. There are no sensitive receptors within 1,500 feet of the project site boundary. The project would be expected to comply with all applicable requirements for long-term operation, as well as with measures to reduce excessive groundborne vibration and noise to ensure that the project would not expose persons or structures to excessive groundborne vibration. No further analysis is warranted.

The project site is not located within two miles of a public airport or private airstrip. Therefore, the proposed project would not expose people residing or working in the project area to excessive noise levels and no impact would occur.

Population and Housing

Development of housing is not proposed as part of the project. No full-time employees are required to operate the project. The project facility will be monitored remotely. It is anticipated that maintenance of the facility will require minimal site presence to perform periodic visual inspections and minor repairs. On intermittent occasions, the presence of additional workers may be required for repairs or

replacement of equipment and panel cleaning; however, due to the nature of the facility, such actions will likely occur infrequently. Therefore, the proposed project would not result in a substantial growth in the area, as the number of employees required to operate and maintain the facility is minimal.

No housing exists within the project site and no people reside within the project site. Therefore, the proposed project would not displace substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere. The proposed project would result in no impact to population and housing.

Public Services

Fire Protection. Fire protection and emergency medical services in the area are provided by the Imperial County Fire Department. The project site is located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan (County of Imperial 1997), the potential for a major fire in the unincorporated areas of the County is generally low. Both the access and service roads (along the perimeter of the project facility) would have turnaround areas to allow clearance for fire trucks per fire department standards (70 feet by 70 feet, and 20-foot-wide access road). While the proposed project may result in an increase in demand for fire protection service, the project would not result in an increase in demand that would, in turn, result in a substantial adverse physical impact associated with the provision of new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. Based on these considerations, the project would not result in a need for fire facility expansion and a less than significant impact would occur.

Police Protection. Police protection services in the project area is provided by the Imperial County Sheriff's Department. Although the potential is low, the proposed project ~~may~~ could attract ~~vandals~~ trespassers or other ~~security risks~~ unauthorized uses. The increase in construction related traffic could temporarily increase demand on law enforcement services. However, the project site would be fenced with a 6-foot high chain link security fence topped with barbed wire and points of ingress/egress would be accessed via locked gates. In addition, periodic on-site personnel visitations for security would occur during operations and maintenance of the proposed project, thereby minimizing the need for police surveillance. While the proposed project may result in a temporary increase in demand for law enforcement service, the project would not result in an increase in demand that would, in turn, result in a substantial adverse physical impact associated with the provision of new or physically altered sheriff facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. The sheriff's department has indicated that an all-terrain vehicle would be needed in order to patrol the project site; however, the fenced and secure project site does not result in an increase in demand on law enforcement that would require existing or new facilities to be upgraded in order to maintain service ratios. Further, as conditions of approval of the project, the project applicant will be required to participate in the Imperial County Public Benefit Program for the life of this CUP and shall at all times be a party to a public benefit agreement in a form acceptable to County Counsel in order to pay for all costs, benefits, and fees associated with the approved project, and the applicant will be required to reimburse the Sheriff's Department for any investigations regarding theft on the Project site and related law enforcement. Approval of this public benefit agreement will be by the Board of Supervisors prior to the issuance of the first building permit. These potential impacts are less than significant. ~~This is considered a less than significant impact.~~

Schools. The proposed project does not include the development of residential land uses that would result in an increase in population or student generation. Construction of the proposed project would not result in an increase in student population within the Imperial County's School District since it is anticipated that construction workers would commute in during construction operations. The proposed project would have no impact on Imperial County schools.

Parks and Other Public Facilities. No full-time employees are required to operate the project. The project facility will be monitored remotely. It is anticipated that maintenance of the facility will require minimal site presence to perform periodic visual inspections and minor repairs. Therefore, substantial permanent increases in population that would adversely affect local parks, libraries, and other public facilities are not expected. The project is not expected to have an impact on parks, libraries, and other public facilities.

Recreation

The project site is not used for formal recreational purposes. Also, the proposed project would not generate new employment on a long-term basis. As such, the project would not significantly increase the use or accelerate the deterioration of regional parks or other recreational facilities. The temporary increase of population during construction that might be caused by an influx of workers would be minimal and not cause a detectable increase in the use of parks. Additionally, the project does not include or require the expansion of recreational facilities. Therefore, no impact is identified for recreation.

Utilities and Service Systems

Wastewater Facilities. The project would generate a minimal volume of wastewater during construction. During construction activities, wastewater would be contained within portable toilet facilities and disposed of at an approved site. No habitable structures are proposed on the project site, such as Operations & Maintenance (O&M) buildings. Therefore, there would be no wastewater generation from the proposed project. The proposed project would not require or result in the relocation or construction of new or expanded wastewater facilities.

Storm Water Facilities. The proposed project will involve the construction of storm water drainage control facilities within the project site as shown on Figure 2-4 Preliminary Site Plan, ~~which are identified in the project site plan~~, and included in the project impact footprint, of which environmental impacts have been evaluated. Otherwise, the project does not require expanded or new storm drainage facilities off-site (i.e., outside of the project footprint) because the proposed solar facility would not generate a significant increase in the amount of impervious surfaces that would increase runoff during storm events, and therefore, would not require the construction of off-site storm water management facilities. Water from solar panel washing would continue to percolate through the ground, as a majority of the surfaces within the project site would remain pervious. The proposed project would not require or result in the relocation or construction of new or expanded storm water facilities beyond those proposed as part of the project and evaluated in the EIR.

Water Facilities. The proposed project is not anticipated to result in a significant increase in water demand/use during operation; however, water will be needed for solar panel washing and dust suppression. During operation, water would either be obtained from the proposed on-site groundwater well, or would be trucked to the project site from a local water source. Therefore, the proposed project would not require or result in the relocation or construction of new or expanded water facilities.

Power, Natural Gas, and Telecommunication Facilities. The proposed project would involve construction of power facilities, and would include a fiber optic connection. These components of the project have been evaluated in the EIR and would not generate the demand for, or require or result in the relocation or construction of new or expanded electric power, natural gas, or telecommunications facilities that would in turn, result in a significant impact to the environment.

Solid Waste Facilities. Solid waste generation would be minor for the construction and operation of the project. Solid waste would be disposed of using a locally-licensed waste hauling service, most likely Allied Waste. Trash would likely be hauled to the Niland Solid Waste Site (13-AA-0009) located in Niland. The Niland Solid Waste Site has approximately 318,669 cubic yards of remaining capacity and is estimated to remain in operation through 2056 (CalRecycle n.d.). Therefore, there is ample landfill capacity in the County to receive the minor amount of solid waste generated by construction and operation of the project.

Additionally, because the proposed project would generate solid waste during construction and operation, the project would be required to comply with state and local requirements for waste reduction and recycling; including the 1989 California Integrated Waste Management Act and the 1991 California Solid Waste Reuse and Recycling Access Act of 1991. Also, conditions of the CUP would contain provisions for recycling and diversion of Imperial County's construction waste policies.

Further, when the proposed project reaches the end of its operational life, the components would be decommissioned and deconstructed. When the project concludes operations, much of the wire, steel, and modules of which the system is comprised would be recycled to the extent feasible. The project components would be deconstructed and recycled or disposed of safely, and the site could be converted to other uses in accordance with applicable land use regulations in effect at the time of closure. Commercially reasonable efforts would be used to recycle or reuse materials from the decommissioning. All other materials would be disposed of at a licensed facility. Therefore, a less than significant impact is identified for this issue.

Wildfire

According to the Draft Fire Hazard Severity Zone Map for Imperial County prepared by the California Department of Forestry and Fire Protection, the project site is not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2007). Therefore, no impact is identified for wildfire.

Summary of Significant Impacts and Mitigation Measures that Reduce or Avoid the Significant Impacts

Based on the analysis presented in the IS/NOP and the information provided in the comments to the IS/NOP, the following environmental topics are analyzed in this EIR:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources (includes Tribal Cultural Resources)
- Geology and Soils
- GHG Emissions
- Hydrology/Water Quality
- Land Use Planning
- Transportation/Traffic
- Utilities/Service Systems

Table ES-1 summarizes existing environmental impacts that were determined to be potentially significant, mitigation measures, and level of significance after mitigation associated with the project.

Areas of Controversy and Issues to be Resolved

Areas of Concern

Section 15123(b)(2) of the CEQA Guidelines requires that an EIR identify areas of controversy as well as issues to be resolved known to the Lead Agency, including issues raised by other agencies and the public. A primary issue associated with this solar farm project, and other solar facility projects that are proposed in the County, is the corresponding land use compatibility and fiscal/economic impacts to the County. Through the environmental review process for this project, other areas of concern and issues to be resolved include groundwater supply; relocation, modification, or reconstruction of IID facilities; and access.

Detailed analyses of these topics are included within each corresponding section contained within this document.

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Air Quality			
Impact 3.3-1: Conflict with or obstruct implementation of the applicable air quality plan	Less than Significant	**AQ-1** **Construction Equipment.** Construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at each of the projects by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit. The equipment list shall be submitted periodically to ICAPCD to perform a NOx analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds. The Planning and Development Services Department and ICAPCD shall verify implementation of this measure. **AQ-2** **Fugitive Dust Control.** Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII – Fugitive Dust Control Measures. Whereas these Regulation VIII measures are mandatory and are not considered project environmental mitigation measures, the ICAPCD CEQA Handbook's required additional standard and enhanced mitigation measures listed below shall be implemented prior to and during construction. ICAPCD will verify implementation and compliance with these measures as part of the grading permit review/approval process. **ICAPCD Standard Measures for Fugitive Dust (PM10) Control** • All disturbed areas, including bulk material storage, which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material, such as vegetative ground cover.	Less than Significant

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• All on-site and offsite unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering. • All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering. • The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material. • All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area. • Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line. • The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants, and/or watering.	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		ICAPCD "Discretionary" Measures for Fugitive Dust (PM10) Control • Water exposed soil only in those areas where active grading and vehicle movement occurs with adequate frequency to control dust. • Replace ground cover in disturbed areas as quickly as possible. • Automatic sprinkler system installed on all soil piles. • Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site. • Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees. • Implement a shuttle service to and from retail services and food establishments during lunch hours. **Standard Mitigation Measures for Construction Combustion Equipment** • Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel powered equipment. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum. • Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use.	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set). **Enhanced Mitigation Measures for Construction Equipment** To help provide a greater degree of reduction of PM emissions from construction combustion equipment, ICAPCD recommends the following enhanced measures. • Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways. • Implement activity management (e.g., rescheduling activities to reduce short-term impacts). **AQ-3** **Dust Suppression.** The project applicant shall employ a method of dust suppression (such as water or chemical stabilization) approved by ICAPCD. The project applicant shall apply chemical stabilization as directed by the product manufacturer to control dust between the panels as approved by ICAPCD, and other non-used areas (exceptions will be the paved entrance and parking area, and Fire Department access/emergency entry/exit points as approved by Fire/Office of Emergency Services [OES] Department). **AQ-4** **Dust Suppression Management Plan.** Prior to any earthmoving activity, the applicant shall submit a construction dust control plan and obtain ICAPCD and Imperial County Planning and Development Services Department (ICPDS) approval. **AQ-5** **Operational Dust Control Plan.** Prior to issuance of a Certificate of Occupancy, the applicant shall submit an	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		operations dust control plan and obtain ICAPCD and ICPDS approval. ICAPCD Rule 301 Operational Fees apply to any project applying for a building permit. At the time that building permits are submitted for the proposed project, ICAPCD shall review the project to determine if Rule 310 fees are applicable to the project.	
Biological Resources			
Impact 3.4-1: Potential impacts on special-status species	Potentially Significant	**BIO-1** **Pre-Construction Plant Survey.** Prior to initiating ground disturbance, a focused survey for Harwood's milkvetch shall occur during its blooming period. A reference population shall be identified and confirmed to be blooming at the time that surveys are conducted on the project site. Should Harwood's milkvetch be present on site, project design will be evaluated to determine if modifications can be made to avoid at least 90-percent of the observed individuals or compensatory mitigation shall be provided through off-site preservation of an equivalent population. **BIO-2** **General Impact Avoidance and Minimization Measures.** The following measures will be applicable throughout the life of the project: • To reduce the potential indirect impact on migratory birds, bats and raptors, the project will comply with the APLIC 2012 Guidelines for overhead utilities, as appropriate, to minimize avian collisions with transmission facilities (APLIC 2012) • All electrical components on the project site shall be either undergrounded or protected so that there will be no exposure to wildlife and therefore no potential for electrocution.	Less than Significant

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• The Project proponent shall ~~will~~ designate a Project Biologist who shall be responsible for overseeing compliance with protective measures for the biological resources during vegetation clearing and work activities within and adjacent to areas of native habitat. The Project Biologist will be familiar with the local habitats, plants, and wildlife. The Project Biologist will also maintain communications with the Contractor to ensure that issues relating to biological resources are appropriately and lawfully managed and monitor construction. The Project Biologist will monitor activities within construction areas during critical times, such as vegetation removal, the implementation of Best Management Practices (BMP), and installation of security fencing to protect native species. The Project Biologist will ensure that all wildlife and regulatory agency permit requirements, conservation measures, and general avoidance and minimization measures are properly implemented and followed. • The boundaries of all areas to be newly disturbed (including solar facility areas, staging areas, access roads, and sites for temporary placement of construction materials and spoils) will be delineated with stakes and flagging prior to disturbance. All disturbances, vehicles, and equipment will be confined to the flagged areas. • No potential wildlife entrapments (e.g., trenches, bores) will be left uncovered overnight. Any uncovered pitfalls will be excavated to 3:1 slopes at the ends to provide wildlife escape ramps. Alternatively, man-made ramps may be installed. Covered pitfalls will be covered completely to prevent access by small mammals or reptiles. • To avoid wildlife entrapment (including birds), all pipes or other construction materials or supplies will be covered or	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		capped in storage or laydown area, and at the end of each work day in construction, quarrying and processing/handling areas. No pipes or tubing of sizes or inside diameters ranging from 1 to 10 inches will be left open either temporarily or permanently. • No anticoagulant rodenticides, such as Warfarin and related compounds (indandiones and hydroxycoumarins), may be used within the project site, on off-site project facilities and activities, or in support of any other project activities. • Avoid wildlife attractants. All trash and food-related waste shall be placed in self-closing containers and removed regularly from the site to prevent overflow. Workers shall not feed wildlife. Water applied to dirt roads and construction areas for dust abatement shall use the minimal amount needed to meet safety and air quality standards to prevent the formation of puddles, which could attract wildlife. Pooled rainwater or floodwater within retention basins will be removed to avoid attracting wildlife to the active work areas. • To minimize the likelihood for vehicle strikes on wildlife, speed limits will not exceed 15 miles per hour when driving on access roads. All vehicles required for O&M must remain on designated access/maintenance roads. • Avoid night-time construction lighting or if nighttime construction cannot be avoided use shielded directional lighting pointed downward and towards the interior of the project site, thereby avoiding illumination of adjacent natural areas and the night sky. • All construction equipment used for the Project will be equipped with properly operating and maintained mufflers. • Hazardous materials and equipment stored overnight, including small amounts of fuel to refuel hand-held	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		equipment, will be stored within secondary containment when within 50 feet of open water to the fullest extent practicable. Secondary containment will consist of a ring of sand bags around each piece of stored equipment/structure. A plastic tarp/visqueen lining with no seams shall be placed under the equipment and over the edges of the sandbags, or a plastic hazardous materials secondary containment unit shall be utilized by the Contractor. • The Contractor will be required to conduct vehicle refueling in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species. Any fuel containers, repair materials, including creosote-treated wood, and/or stockpiled material that is left on site overnight, will be secured in secondary containment within the work area and staging/assembly area and covered with plastic at the end of each work day. • In the event that no activity is to occur in the work area for the weekend and/or a period of time greater than 48 hours, the Contractor will ensure that all portable fuel containers are removed from the project site. • All equipment will be maintained in accordance with manufacturer's recommendations and requirements. • Equipment and containers will be inspected daily for leaks. Should a leak occur, contaminated soils and surfaces will be cleaned up and disposed of following the guidelines identified in the Stormwater Pollution Prevention Plan or equivalent, Materials Safety Data Sheets, and any specifications required by other permits issued for the project.	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• The Contractor will utilize off-site maintenance and repair shops as much as possible for maintenance and repair of equipment. • If maintenance of equipment must occur onsite, fuel/oil pans, absorbent pads, or appropriate containment will be used to capture spills/leaks within all areas. Where feasible, maintenance of equipment will occur in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species. • Appropriate BMPs will be used by the Contractor to control erosion and sedimentation and to capture debris and contaminants from bridge construction to prevent their deposition in waterways. No sediment or debris will be allowed to enter the creek or other drainages. All debris from construction of the bridge will be contained so that it does not fall into channel. Appropriate BMPs will be used by the Contractor during construction to limit the spread of resuspended sediment and to contain debris. • Erosion and sediment control devices used for the proposed project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard. • Firearms, open fires, and pets would be prohibited at all work locations and access roads. Smoking would be prohibited along the Project alignment. • Cross-country vehicle and equipment use outside of approved designated work areas and access roads shall be prohibited to prevent unnecessary ground and vegetation disturbance.	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• Any injured or dead wildlife encountered during project-related activities shall be reported to the project biologist, biological monitor, CDFW, or a CDFW-approved veterinary facility as soon as possible to report the observation and determine the best course of action. For special-status species, the Project Biologist shall notify the County, USFWS, and/or CDFW, as appropriate, within 24 hours of the discovery. • Stockpiling of material will be allowed only within established work areas. • Actively manage the spread of noxious weeds (See Mitigation Measure BIO-5) • The ground beneath all parked equipment and vehicles shall be inspected for wildlife before moving. **BIO-3** **Worker Environmental Awareness Program.** Prior to project construction, a Worker Environmental Awareness Program shall be developed and implemented by a qualified biologist, and shall be available in both English and Spanish. Handouts summarizing potential impacts to special-status biological resources and the potential penalties for impacts to these resources shall be provided to all construction personnel. At a minimum, the education program shall including the following: • the purpose for resource protection; • a description of special status species including representative photographs and general ecology; • occurrences of USACE, RWQCB, and CDFW regulated features in the Project study area; • regulatory framework for biological resource protection and consequences if violated;	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• sensitivity of the species to human activities; • avoidance and minimization measures designed to reduce the impacts to special-status biological resources; • environmentally responsible construction practices; • reporting requirements; • the protocol to resolve conflicts that may arise at any time during the construction process; and • workers sign acknowledgement form indicating that the Environmental Awareness Training and Education Program that has been completed and would be kept on record. **BIO-4** **Desert Tortoise Avoidance and Minimization** A qualified biologist shall conduct focused presence/absence surveys for Desert Tortoise for 100-percent of the project footprint pursuant to the October 19, 2019 Version of the USFWS Desert Tortoise Survey Protocol. If no live desert tortoise or sign of active desert tortoise ~~if~~ are detected, no further avoidance and minimization is required. If live desert tortoise or sign of active desert tortoise are~~is~~ detected, the project proponent shall initiate consultation with USFWS and CDFW to obtain the necessary federal and state ESA authorizations and the following avoidance, minimization and compensatory mitigation measures will be implemented: • Permanent tortoise-proof fencing shall be along the perimeter of the project site. Fencing shall be installed, inspected, and maintained according to specifications in the current USFWS *Desert Tortoise (Mojave Population) Field Manual (Gopherus agassizii)*. An authorized desert tortoise biologist shall conduct pre-construction clearance surveys for the project site no more than 14-days prior to the	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		initiation of fence installation. All potentially active burrows shall be identified for hand excavation. Pre-construction clearance surveys shall be repeated within the fenced impact area after fence installation is complete. If desert tortoise are observed they shall be relocated from within the work area to outside the fenced area by a permitted biologist. • The authorized biologist shall conduct desert tortoise pre-construction clearance surveys along all existing and new dirt access road alignments, and the Gen-tie alignment before any ground disturbing activities are initiated and prior to the start of construction activities each day during ground-disturbing activities and weekly thereafter. Relocate desert tortoises as necessary. Any handling of special-status species must be approved by the appropriate Federal and State agencies and be done in accordance with species-specific handling protocols. • Where burrows would be unavoidably destroyed, they would be excavated carefully using hand tools under the supervision of the authorized biologists with demonstrated prior experience with this species. • Inspect construction pipes, culverts, or similar structures: (a) with a diameter greater than 3 inches, (b) stored for one or more nights, (c) less than 8 inches aboveground and (d) within desert tortoise habitat, before the materials are moved, buried, or capped. • Incorporate Raven Management into the Pest Control Plan (See BIO-5) • Inspect the ground under vehicles and equipment for the presence of desert tortoise any time a vehicle or construction equipment is parked in desert tortoise habitat. If a desert tortoise is seen, it may move on its own. If it does	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		not move within 15 minutes, an authorized biologist or biological monitor under the direction of the authorized biologist may remove and relocate the animal to a safe location. • All culverts for access roads or other barriers will be designed to allow unrestricted access by desert tortoises and will be large enough that desert tortoises are unlikely to use them as shelter sites (e.g., 36 inches in diameter or larger). Desert tortoise exclusion fencing may be utilized to direct tortoise use of culverts and other passages. If possible, pipes and culverts greater than 3 inches in diameter would be stored on dunnage to prevent wildlife from taking refuge in them, to the extent feasible. • To fully mitigate for habitat loss and potential take of the Mojave desert tortoise, the Applicant will provide compensatory mitigation at a ratio of 1:1 ~~3:1~~. For the purposes of this measure, the project site (i.e., footprint) means all Project areas with new direct ground disturbance during construction and operation of the Project. This includes all lands directly disturbed that will no longer provide viable long-term habitat for the Mojave desert tortoise, such as the solar field, substation and new access roads. Areas within the gen-tie line corridor where no ground disturbance will occur are not included in the area to be mitigated through compensation. Compensatory mitigation could include agency-approved payment of an in-lieu fee; acquiring mitigation land or conservation easements; restoration or habitat enhancement activities on preservation lands; or a combination of the three. **BIO-5** **Prepare and Implement an Operation and Maintenance Worker Education Plan.** An Operation and Maintenance Worker Education Plan shall be prepared to advise personnel on general operations measures. The Worker Education Plan	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		shall be submitted to the County of Imperial Planning and Development Services Department for review and approval prior to issuance of building permits. The following provisions shall be included in the Worker Education Plan and implemented throughout the operational lifespan of the Project: Operation and maintenance personnel shall be prohibited from: • Exceeding nighttime and daytime vehicle speeds of 10 miles per hour and 25 miles per hour, respectively, within the facility, on access roads and within the Gen-Tie line corridor. Speed limit signs shall be posted throughout the project site to remind workers of travel speed restrictions. • Harming, harassing, or feeding wildlife and/or collecting special-status plant or wildlife species. • Disturbing active avian nests • Traveling (either on foot or in a vehicle) outside of the Project footprint except on public roads. • Littering on the Project area. • Allowing persons not employed at the facility to remain on site after daylight hours. • Exceeding normal nighttime operational noise or lighting levels • Bringing domestic pets and firearms to the site. The Operation and Maintenance Worker Education Plan shall require that: • All operation and maintenance vehicles and equipment park in approved designated areas only. • The project site and Gen-Tie line corridor be kept clear of trash and other litter to reduce the attraction of opportunistic	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		predators such as common ravens, coyotes, and feral dogs that may prey on sensitive species. • Operation and maintenance employees maintain Hazardous Materials Spill Kits on-site. All operation and maintenance staff shall be trained in how to use Hazardous Materials Spill Kits in the event of a spill. • An approved Long-Term Maintenance Plan for the retention/detention basins be developed and implemented. • Weed and Raven management shall be addressed in a project-specific pest management plan (See BIO-5) • Maintain shielding on external lighting to direct down and towards the project site and away from adjacent undeveloped land. • Workers sign acknowledgement form indicating that the Environmental Awareness Training and Education Program that has been completed and would be kept on record • desert tortoise avoidance and minimization measures be implemented if desert tortoise is detected during pre-construction surveys • The ground beneath all parked equipment and vehicles shall be inspected for wildlife before moving. • Personnel are trained to avoid causing wildfires and manage them safely and promptly if necessary **BIO-6** **Burrowing Owl Avoidance and Minimization.** Take Avoidance (pre-construction) surveys for burrowing owl shall be completed prior to project construction. Surveys shall be conducted as detailed within Appendix D of the Staff Report on Burrowing Owl Mitigation (California Department of Fish and	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		Game [CDFG] 2012). If burrowing owl is not detected, construction may proceed. • If burrowing owl is identified during the non-breeding season (September 1 through January 31), then a 50 meter buffer will be established by the biological monitor. Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until a CDFW-approved exclusion plan has been implemented. The buffer distance may be reduced if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities. • If burrowing owl is identified during the breeding season (February 1 through August 31), then an appropriate buffer will be established by the biological monitor in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until young have fledged. The buffer distance may be reduced in consultation with CDFW if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities. **BIO-7** **Pre-Construction Nesting Bird Surveys.** To the extent possible, construction shall occur outside the typical avian breeding season (February 15 through September 15). If construction must occur during the general avian breeding season, a pre-construction nest survey shall be conducted within the impact area and a 500-foot (150-meter) buffer by qualified biologist no more than 7 days prior to the start of vegetation clearing and/or ground disturbing construction activities in any given area of the Project footprint. Construction crews shall coordinate with the qualified biologist at least 7 days prior to the start of construction in a given area to ensure that the construction area has been adequately surveyed. A nest is	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		defined as active once birds begin constructing or repairing the nest in readiness for egg-laying. A nest is no longer an "active nest" if abandoned by the adult birds or once nestlings or fledglings are no longer dependent on the nest. If no active nests are discovered, construction may proceed. If active nests are observed that could be disturbed by construction activities, these nests and an appropriately sized buffer (typically a 200-foot (61-meter) buffer for non-raptor species nests and at least a 500-foot (150-meter) buffer for raptor or federally listed species nests) would be avoided until the young have fledged. Final construction buffers or setback distances shall be determined by the qualified biologist in coordination with USFWS and CDFW on a case-by-case basis, depending on the species, season in which disturbance shall occur, the type of disturbance, and other factors that could influence susceptibility to disturbance (e.g., topography, vegetation, existing disturbance levels, etc.). Active nests shall be avoided until the young have fledged and/or the monitor determines that no impacts are anticipated to the nesting birds or their young. If vegetation clearing and/or ground disturbing activities cease for 14 or more consecutive days during the nesting season in areas where suitable nesting habitat remains, repeat nesting bird surveys shall be required to ensure new nesting locations have not been established within the impact area and the defined buffers. **BIO-8** **Develop a Bird and Bat Conservation Strategy (BBCS)**. A BBCS shall be developed by the Project Applicant in coordination with the County of Imperial, USFWS, and CDFW. The BBCS will include the following components: • A description and assessment of the existing habitat and avian and bat species;	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• An avian and bat risk assessment and specific measures to avoid, minimize, reduce, or eliminate avian and bat injury or mortality during all phases of the project. • A post-construction monitoring plan that will be implemented to assess impacts on avian and bat species resulting from the Project. • The post-construction monitoring plan will include a description of standardized carcass searches, scavenger rate (i.e., carcass removal) trials, searcher efficiency trials, and reporting. Statistical methods will be used to estimate Project avian and bat fatalities if sufficient data is collected to support statistical analysis. • An injured bird response plan that delineates care and curation of any and all injured birds. • A nesting bird management strategy to outline actions to be taken for avian nests detected within the impact footprint during operation of the Project. • A conceptual adaptive management and decision-making framework for reviewing, characterizing, and responding to monitoring results. • Monitoring studies following commencement of commercial operation of each CUP area. Monitoring results will be reviewed annually by the Applicant and the County of Imperial, in consultation with CDFW and USFWS, to inform adaptive management responses. During Project construction, incidental avian carcasses or injured birds found during construction shall be documented. Should a carcass be found by Project personnel, the carcass shall be photographed, the location shall be marked, the carcass shall not be moved, and a qualified biologist shall be contacted to examine the carcass. When a carcass is	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		detected, the following data shall be recorded (to the extent possible): observer, date/time, species or most precise species group possible, sex, age, estimated time since death, potential cause of death or other pertinent information, distance and bearing to nearest structure (if any) that may have been associated with the mortality, location (recorded with Global Positioning System), and condition of carcass. • If any federal listed, state listed or fully protected avian carcasses or injured birds are found during construction or post-construction monitoring, the Project Applicant shall notify USFWS and CDFW within 24 hours via email or phone and work with the resource agencies to determine the appropriate course of action for these species. For such listed species, the CUP owner shall obtain or retain a biologist with the appropriate USFWS Special Purpose Utility Permit(s) and CDFW Scientific Collecting Permit(s) to collect and salvage all dead and injured birds, and store/curate them in freezers for later disposition and analysis. **BIO-9** **Pre-Construction Surveys for American Badger.** Preconstruction surveys shall be conducted by a qualified biologist for the presence of American badger dens within 14 days prior to commencement of construction activities. The surveys shall be conducted in areas of suitable habitat for American badger, which include desert scrub habitats. 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: • American badger potential den: 30 feet.	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• American badger active den: 100 feet. • 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 • Outside the reproductive season defined as February 1 through September 30 for American badger if the qualified Lead Biologist determines through camera monitoring for three consecutive days that potential dens are inactive, the biologist shall excavate these dens by hands with a shovel to prevent American badgers from re-using them during construction. • Outside of the reproductive season defined as February 1 through September 30 for American badger if the Lead Biologist determines that potential dens may be active, an onsite passive relocation program shall be implemented. This program shall consist of excluding American badgers from occupied burrows by installation of one-way doors at burrow entrances, monitoring of the burrow for seven days to confirm usage has discontinued, and excavation and collapse of the burrow to prevent reoccupation. After the qualified biologist determines that American badgers have stopped using the dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent use during construction.	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Impact 3.4-2: Potential impacts on riparian habitat or sensitive vegetation	Potentially Significant	**BIO-10** **Compensatory Mitigation for Riparian Woodland and Ephemeral Wash.** Following the completion of project construction, Palo Verde- Ironwood Woodland will be created, enhanced and or conserved within the undeveloped portions of the project site at a ratio of 3:1 (i.e., 3 acres created or enhanced for each acre impacted)by permanent or temporary project activities). Permanent impacts to jurisdictional waters and wetlands shall be mitigated at a minimum 1:1 ratio either through on-site and/or off-site re-establishment, enhancement and conservation of jurisdictional waters or through an approved-mitigation bank or in lieu fee program, if one is available. The type of mitigation, mitigation location and the final mitigation ratios will be established during the permit process for the Project's USACE Section 404 permit, the RWQCB Section 401 Water Quality Certification, and a CDFW Streambed Alteration Agreement~~.~~, as applicable. **BIO-11** **Develop and Implement a Pest Management Plan.** The Project shall develop and implement a Pest Management Plan that will reduce negative impacts to surrounding (not necessarily adjacent) farmland during construction, operation and reclamation. The Plan shall include: • Methods for Preventing the Introduction and Spread of pests, including weeds. • Monitoring methods for all agricultural pests and weeds with potential to adversely impact adjacent native habitat (Species on California Invasive Plants Council Inventory rated as Moderately to Highly Invasive) to including insects, vertebrates, weeds, and pathogens.	Less than Significant

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• Eradication and Control Methods All treatments must be performed by a qualified applicator or a licensed pest control business. o "Control" means to reduce the population of common pests below economically damaging levels, and includes attempts to exclude pests before infestation, and effective control methods after infestation. o Effective control methods may include physical/mechanical removal, biocontrol, cultural control, or chemical treatments. o Use of "permanent" soil sterilants to control weeds or other pests is prohibited due to the fact that this would interfere with reclamation. • Notification Requirements: o Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of Food Agriculture (CDFA) and the USDA. o Request a sample be taken by the Agricultural Commissioner's Office of a suspected invasive species. • Eradication of exotic pests will be done under the direction of the Agricultural Commissioner's Office and/or CDFA. • Obey all pesticide use laws, regulations, and permit conditions.	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• Allow access by Agricultural Commissioner staff for routine visual and trap pest surveys, compliance inspections, eradication of exotic pests, and other official duties. • Ensure that all project employees that handle pest control issues are appropriately trained and certified, that all required records are maintained and available for inspection, and that all permits and other required legal documents are current. • Maintain records of pests found and treatments or pest management methods used. Records should include the date, location/block, project name (current and previous if changed), and methods used. For pesticides include the chemical(s) used, EPA Registration numbers, application rates, etc. A pesticide use report may be used for this. • Reporting Methods o Submit a report of monitoring, pest finds, and treatments, or other pest management methods to the Agricultural Commissioner quarterly within 15 days after the end of the previous quarter, and upon request. o The report is required even if no pests were found or treatment occurred. It may consist of a copy of all records for the previous quarter, or may be a summary letter/report as long as the original detailed records are available upon request.	
Impact 3.4-4: Potential impacts on the movement of any native resident or migratory fish and wildlife species or with established	Potentially Significant	Implement Mitigation Measures BIO-5 and BIO-8 (as described above).	Less than Significant

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
native resident or migratory wildlife corridors			
Cultural Resources			
Impact 3.5-2: Impact on archaeological resources	Potentially Significant	**CR-1** Pursuant to CEQA Guidelines §15064.5(f), in the event that previously unidentified unique archaeological resources are encountered during construction or operational repairs, archaeological monitors will be authorized to temporarily divert construction work within 100 feet of the area of discovery until significance and the appropriate mitigation measures are determined by a qualified archaeologist familiar with the resources of the region. Applicant shall notify the County within 24 hours. Applicant shall provide contingency funding sufficient to allow for implementation of avoidance measures or appropriate mitigation. **CR-2** In the event of the discovery of previously unidentified archaeological materials, the contractor shall immediately cease all work activities within approximately 100 feet of the discovery. After cessation of excavation, the contractor shall immediately contact the Imperial County Department of Planning and Development Services. Except in the case of cultural items that fall within the scope of the Native American Grave Protection and Repatriation Act, the discovery of any cultural resource within the project area shall not be grounds for a "stop work" notice or otherwise interfere with the project's continuation except as set forth in this paragraph. In the event of an unanticipated discovery of archaeological materials during construction, the applicant shall retain the services of a qualified professional archaeologist, meeting the Secretary of the Interior's Standards for a Qualified Archaeologist, to evaluate the significance of the materials prior to resuming any construction-related activities in the vicinity of	Less than Significant

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures		Significance After Mitigation
			the find. If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA and it cannot be avoided, the applicant shall implement an archaeological data recovery program.	
Impact 3.5-3: Impact on Human Remains	Potentially Significant	**CR-3**	In the event that evidence of human remains is discovered, construction activities within 200 feet of the discovery will be halted or diverted and the Imperial County Coroner will be notified (Section 7050.5 of the HSC). If the Coroner determines that the remains are Native American, the Coroner will notify the NAHC, which will designate a MLD for the project (Section 5097.98 of the PRC). The designated MLD then has 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains (AB 2641). If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a document with the county in which the property is located (AB 2641).	Less than Significant
Geology and Soils				
Impact 3.6-2: Possible risks to people and structures caused by seismic ground shaking.	Potentially Significant	**GEO-1**	**Prepare Geotechnical Report(s) as Part of Final Engineering for the Project and Implement Required Measures.** Facility design for all project components shall comply with the site-specific design recommendations as provided by a licensed geotechnical or civil engineer to be retained by the project applicant. The final geotechnical and/or civil engineering report shall address and make recommendations on the following:	Less than Significant

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• Site preparation • Soil bearing capacity • Appropriate sources and types of fill • Potential need for soil amendments • Structural foundations • Grading practices • Soil corrosion of concrete and steel • Erosion/winterization • Seismic ground shaking • Liquefaction • Expansive/unstable soils In addition to the recommendations for the conditions listed above, the geotechnical investigation shall include subsurface testing of soil and groundwater conditions, and shall determine appropriate foundation designs that are consistent with the version of the CBC that is applicable at the time building and grading permits are applied for. All recommendations contained in the final geotechnical engineering report shall be implemented by the project applicant. The final geotechnical and/or civil engineering report shall be submitted to Imperial County Public Works Department, Engineering Division for review and approval prior to issuance of building permits.	
Impact 3.6-5: Substantial soil erosion or the loss of topsoil	Potentially Significant	Implement Mitigation Measure GEO-1 and Mitigation Measure HYD-1.	Less than Significant
Impact 3.6-9: Impact on paleontological resources	Potentially Significant	**GEO-2** **Paleontological Resources.** In the event that unanticipated paleontological resources or unique geologic resources are	Less than Significant

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures		Significance After Mitigation
			encountered during ground-disturbing activities, work must cease within 50 feet of the discovery and a paleontologist shall be hired to assess the scientific significance of the find. The consulting paleontologist shall have knowledge of local paleontology and the minimum levels of experience and expertise as defined by the Society of Vertebrate Paleontology's Standard Procedures (2010) for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. If any paleontological resources or unique geologic features are found within the project site, the consulting paleontologist shall prepare a paleontological Treatment and Monitoring Plan to include the methods that will be used to protect paleontological resources that may exist within the project site, as well as procedures for monitoring, fossil preparation and identification, curation of specimens into an accredited repository, and preparation of a report at the conclusion of the monitoring program.	
Hydrology/Water Quality				
Impact 3.8-1: Violation of water quality standards	Potentially Significant	**HYD-1**	**Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration.** The project applicant or its contractor shall prepare a SWPPP specific to the project and be responsible for securing coverage under SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the appropriate agency prior to commencement of work and shall be made conditions of the contract with the contractor selected to build and	Less than Significant

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		decommission the project. The SWPPP shall incorporate control measures in the following categories: • Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching) • Sediment control practices (e.g., temporary sediment basins, fiber rolls) • Temporary and post-construction on- and off-site runoff controls • Special considerations and BMPs for water crossings and drainages • Monitoring protocols for discharge(s) and receiving waters, with emphasis place on the following water quality objectives: dissolved oxygen, floating material, oil and grease, potential of hydrogen (pH), and turbidity • Waste management, handling, and disposal control practices • Corrective action and spill contingency measures • Agency and responsible party contact information • Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP The SWPPP shall be prepared by a Qualified SWPPP Practitioner and/or Qualified SWPPP Developer with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. BMPs for soil stabilization and erosion control practices	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure. **HYD-2** **Incorporate Post-Construction Runoff BMPs into Project Drainage Plan**. The project Drainage Plan shall adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of stormwater to existing drainage systems. Infiltration basins will be integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary.	
Impact 3.8-8: Conflict with water quality control plan or sustainable groundwater management plan	Potentially Significant	Implement Mitigation Measures HYD-1 through HYD-2	Less than Significant

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Statement of Overriding Considerations

CEQA Guidelines Section 15093 requires the Lead Agency to balance, as applicable, the economic, legal, social, and technological, or other benefits of the project against its unavoidable environmental risks when determining whether to approve the project. No significant and unmitigated impacts have been identified for the proposed project; therefore, the County would not be required to adopt a Statement of Overriding Considerations pursuant to Section 15093 for this project.

Project Alternatives

Alternatives Considered but Rejected

Alternative Site

Section 15126.6(f)(2) of the CEQA Guidelines addresses alternative locations for a project. The key question and first step in the analysis is whether any of the significant effects of the proposed project would be avoided or substantially lessened by constructing the proposed project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need to be considered for inclusion in the EIR. Further, CEQA Guidelines Section 15126.6(f)(1) states that among the factors that may be taken into account when addressing the feasibility of alternative locations are whether the project proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent).

With respect to the proposed project, no significant, unmitigable impacts have been identified. With implementation of proposed mitigation, all potentially significant environmental impacts will be mitigated to a level of less than significant.

The Applicant investigated the opportunity to develop the project site in the general project area and determined that the currently proposed project site is the most suitable for development of the solar facility. An alternative site was considered and is depicted on Figure 7-1 (Chapter 7, Alternatives). This site is located southeast of the project site on privately-owned agricultural lands. The site, located on APN 025-600-027, comprises approximately 126 acres of land.

However, this site was rejected from detailed analysis for the following reasons:

- The alternative location site, as compared to the proposed project site, is located on agricultural land. According to the farmland maps prepared by the California Department of Conservation (2017), the alternative site is designated as Prime Farmland and Farmland of Statewide Importance. Therefore, compared to the proposed project, the alternative site would result in potentially significant impacts associated with conversion of Important Farmland to non-agricultural uses.
- Burrowing owls were not present on the project site during the biological surveys. As the proposed project is not within the IID Service District, no IID canals or drains (which are very attractive to burrowing owls) are present within the project site. Compared to the proposed project site, the alternative site is located entirely on agricultural fields and surrounded on all sides by agricultural fields. Agricultural fields provide habitat for burrowing owl. Irrigation canals and drains are commonly used as burrowing nesting sites in the Imperial Valley. It is anticipated that the potential for burrowing owl to occur on the alternative site during construction and operations is greater compared to the proposed project site.

- No significant, unmitigated impacts have been identified for the proposed project. Construction and operation of the proposed project at this alternative location would likely result in similar impacts associated with the proposed project, or additional impacts (conversion of Important Farmland to non-agricultural uses) that are currently not identified for the project at the currently proposed location.

As such, the County considers this alternative location infeasible and rejects further analysis of this alternative because of the factors listed above.

Original Site Plan Submittal

The project applicant originally proposed to construct and operate a 40 MW solar energy facility on approximately 300 acres within the western portion of the larger 640-acre project site parcel. The originally-proposed project was contemplated to be constructed in two phases (see Figure 7-2 in Chapter 7, Alternatives). Each phase would have produced 20 MW of energy and cover approximately 146 acres. A Power Purchase Agreement for 20 MW to San Diego Gas & Electric was secured by the project applicant for the first phase of the project. The second 20 MW phase would not be constructed until the time that an additional PPA is secured. The remaining portion of the property would remain undeveloped in order to protect sensitive environmental resources. (Note: The project was subsequently modified to a 20 MW solar energy facility on an approximately 100-acre site as described in Section 2 Project Description).

Although this alternative would result in an increased power production capacity and greater GHG emission offset compared to the proposed project, the County rejects the Original Site Plan Submittal from further analysis due to increased biological resources impacts, increased jurisdictional waters impacts, and potential disturbance to known and unknown cultural resources.

As shown on Figure 3.4-1 (Section 3.4, Biological Resources), arrow weed thicket, which is recognized by CDFW as a sensitive vegetation type, is known to occur in the southwest portion of the project site (Phase I development area as shown on 7-2). As shown on Figure 3.4-2 (Section 3.4, Biological Resources), the Phase I development area contains numerous braided ephemeral drainage channels, which could be considered federally and state jurisdictional. Based on this context, the Original Site Plan Submittal has the potential to impact a sensitive vegetation community and increased impacts on potentially jurisdictional waters compared to the proposed project. Further this alternative has the potential to disturb portions of a known cultural resource site.

Alternatives Evaluated

The environmental analysis for the proposed project evaluated the potential environmental impacts resulting from implementation of the proposed project, as well as alternatives to the project. The alternatives include: Alternative 1: No Project/No Development; Alternative 2: Development within Renewable Energy Overlay Zone – Agricultural Lands; Alternative 3: Development within Renewable Energy Overlay Zone – Desert Lands; and Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative. A detailed discussion of the alternatives considered is included in Chapter 7. Table ES-2 summarizes the impacts resulting from the proposed project and the identified alternatives.

Alternative 1: No Project/No Development Alternative

The CEQA Guidelines require analysis of the No Project Alternative (PRC Section 15126). According to Section 15126.6(e), "the specific alternative of 'no project' shall also be evaluated along with its

impacts. The 'no project' analysis shall discuss the existing conditions at the time the 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."

The No Project/No Development Alternative assumes that the project, as proposed, would not be implemented and the project site would not be developed.

The No Project/No Development Alternative would not meet a majority of the objectives of the project. Additionally, the No Project/No Development Alternative would not help California meet its statutory and regulatory goal of increasing renewable power generation, including GHG reduction goals of Assembly Bill (AB) 32 (California Global Warming Solutions Act of 2006).

Alternative 2: Development within Renewable Energy Overlay Zone – Agricultural Lands

The purpose of this alternative is to develop the proposed project within the existing boundary of County's Renewal Energy (RE) Overlay Zone. The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of renewable energy facilities while minimizing the impact on other established areas.

The Alternative 2 project site is located entirely within the RE Overlay Zone. Alternative 2 would involve the construction and operation of a 20 MW solar energy facility and associated infrastructure on approximately 100 acres within a 130-acre parcel (APN 034-260-036) located approximately 4 miles northeast of the Dixieland area in unincorporated Imperial County. The Alternative 2 project site is designated as Agriculture under the County's General Plan and zoned A-3 (Heavy Agriculture).

Similar to the proposed project, Alternative 2 would require approval of a CUP to allow for the construction and operation of a solar project. Compared to the proposed project, the Alternative 2 project site is located within the RE Overlay Zone and would not require a General Plan Amendment or Zone Change to include/classify the project site into the RE Overlay Zone. The A-3 zone allows a maximum height limit of 120 feet for non-residential structures. No Variance would be required under this alternative because the proposed height of the transmission towers (70 feet) would not exceed 120 feet.

Alternative 2 would meet most of the basic objectives of the proposed project. However, this alternative would result in greater impacts for the following environmental issue areas as compared to the proposed project: aesthetics and visual resources, biological resources, cultural resources, and tribal cultural resources. Because the Alternative 2 site is located on agricultural lands, this alternative would result in the conversion of agricultural land to non-agricultural uses. Compared to the proposed project, this alternative would result in additional impacts (conversion of agricultural land to non-agricultural uses) that are currently not identified for the project at the currently proposed location. Further, the project applicant does not own, or otherwise control this property.

Alternative 3: Development within Renewable Energy Overlay Zone – Desert Lands

The purpose of this alternative is to develop the proposed project within the existing boundary of the County's RE Overlay Zone. The Alternative 3 project site is located entirely within the RE Overlay Zone. Alternative 3 would involve the construction and operation of a 20 MW solar energy facility and associated infrastructure on approximately 100 acres within a 161-acre parcel (APN 021-190-003) located approximately 0.5 mile south of Slab City. The Alternative 3 project site is located on undeveloped desert land. Existing transmission lines traverse the southwest corner of the project site.

The Alternative 3 project site is located within the RE Overlay Zone and would not require a General Plan Amendment or Zone Change to include/classify the project site into the RE Overlay Zone. The Alternative 3 project site is designated as Recreation under the County's General Plan and zoned General Agricultural with a renewable energy overlay (A-2-RE).

Similar to the proposed project, Alternative 3 will require approval of a CUP to allow for the construction and operation of a solar project. Compared to the proposed project, the Alternative 3 project site is located within the RE Overlay Zone and would not require a General Plan Amendment or Zone Change to include/classify the project site into the RE Overlay Zone. The A-2-RE zone allows a maximum height limit of 120 feet for non-residential structures. No Variance would be required under this alternative because the proposed height of the transmission towers (70 feet) would not exceed 120 feet.

Alternative 3 would meet most of the basic objectives of the proposed project. However, this alternative would result in greater impacts for the following environmental issue areas as compared to the proposed project: aesthetics and visual resources, cultural resources, tribal cultural resources, and hydrology/water quality. Further, the project applicant does not own, or otherwise control this property.

Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative

This alternative would involve the development of a number of geographically distributed small to medium solar PV systems (100 kilowatts to 1 MW) within existing developed areas, typically on the rooftops of commercial and industrial facilities throughout Imperial County. Under this alternative, no new land would be developed or altered. Depending on the type of solar modules installed and the type of tracking equipment used, a similar or greater amount of acreage (i.e., greater than 100 acres of total rooftop area) may be required to attain the proposed project's capacity of 20 MW of solar PV generating capacity. This alternative would involve placement of PV structures, transmission lines, and development of additional supporting facilities, such as switching stations and substations at various locations throughout the County. 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.

This alternative would require hundreds of installation locations across Imperial County, many of which would require approval of discretionary actions, such as design review, CUPs, or zone variances depending on local jurisdictional requirements. Similar to the proposed project, this alternative would be designed to operate year-round using PV panels to convert solar energy directly to electrical power. This alternative would involve the construction of transmission lines and development of additional supporting facilities, such as switching stations and substations at various locations throughout the County to distribute the energy.

Rooftop PV systems exist in small areas throughout California. Larger distributed solar PV installations are becoming more common. An example of a distributed PV system is 1 MW of distributed solar energy installed by Southern California Edison on a 458,000 square-foot industrial building in Chino, California.[1]

Similar to utility-scale PV systems, the acreage of rooftops or other infrastructure required per MW of electricity produced is wide ranging, which is largely due to site-specific conditions (e.g., solar

[1] http://newsroom.edison.com/releases/california-regulators-approve-southern-california-edison-proposal-to-create-nations-largest-solar-panel-installation-program

insolation levels, intervening landscape or topography, PV panel technology, etc.). Based on SCE's use of 458,000-square feet for 1 MW of energy, approximately 9,160,000 square feet (approximately 210 acres) would be required to produce 20 MW.

As shown on Table ES-2, implementation of Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative would result in reduced impacts for the following environmental issue areas as compared to the proposed project: hydrology/water quality. Overall, this alternative would result in greater impacts related to aesthetics, air quality, biological resources, cultural resources, tribal cultural resources, and utilities and service systems.

Environmentally Superior Alternative

The No Project/No Development Alternative would be considered the environmentally superior alternative, since it would eliminate all of the significant impacts identified for the project. However, CEQA Guidelines Section 15126.6(e)(2) states that "if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." As shown in Table ES-2, Alternative 2 and Alternative 3 would both result in less impacts on Land Use and Planning because they are located within the RE Overlay Zone and would not require a General Plan Amendment or Zone Change to include/classify the project site into the RE Overlay Zone. No Variance would be required under either of these alternatives because the proposed height of the transmission towers (70 feet) would not exceed the 120 feet height limit of non-residential structures in the A-2-RE Zone or A-3 Zone. However, compared to the proposed project, the Alternative 2 site is located on agricultural lands and would result in the conversion of agricultural land to non-agricultural uses. Compared to the proposed project, this alternative would result in additional impacts (conversion of agricultural land to non-agricultural uses) that are currently not identified for the project at the currently proposed location. Based on these considerations, Alternative 3 is considered the Environmentally Superior Alternative.

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Table ES-2. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Development within Renewable Energy Overlay Zone – Agricultural Lands	Alternative 3: Development within Renewable Energy Overlay Zone – Desert Lands	Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative
Aesthetics and Visual Resources	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Potentially Significant *Comparison to Proposed Project:* Greater Impact	*CEQA Significance:* Potentially Significant *Comparison to Proposed Project:* Greater Impact	*CEQA Significance:* Potentially Significant *Comparison to Proposed Project:* Greater Impact
Air Quality	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar	*CEQA Significance:* Potentially Significant *Comparison to Proposed Project:* Greater Impact
Biological Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Greater Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Greater Impact	*CEQA Significance:* Potentially Significant *Comparison to Proposed Project:* Greater Impact
Cultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Potentially Significant *Comparison to Proposed Project:* Greater Impact	*CEQA Significance:* Potentially Significant *Comparison to Proposed Project:* Greater Impact	*CEQA Significance:* Potentially Significant *Comparison to Proposed Project:* Greater Impact

Table ES-2. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Development within Renewable Energy Overlay Zone – Agricultural Lands	Alternative 3: Development within Renewable Energy Overlay Zone – Desert Lands	Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative
Geology and Soils	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact
GHG Emissions	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Hydrology/ Water Quality	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Potentially Significant *Comparison to Proposed Project:* Greater Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Land Use/Planning	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact

Table ES-2. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Development within Renewable Energy Overlay Zone – Agricultural Lands	Alternative 3: Development within Renewable Energy Overlay Zone – Desert Lands	Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative
Transportation/ Traffic	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Utilities/Service Systems	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Greater Impact

Notes:
CEQA=California Environmental Quality Act; GHG=greenhouse gas

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1 Introduction

This environmental impact report (EIR) has been prepared to meet the requirements of the California Environmental Quality Act (CEQA) for purposes of evaluating the potential environmental impacts, mitigation measures, and alternatives associated with the proposed Wister Solar Energy Facility Project. This EIR describes the existing environment that would be affected by, and the environmental impacts which could potentially result from the construction and operation of the proposed project as described in detail in Chapter 3.0 of this EIR.

1.1 Overview of the Proposed Project

The proposed Wister Solar Energy Facility Project is located on Assessor Parcel Number (APN) 003-240-001. The proposed solar energy facility consists of three primary components: 1) solar energy generation equipment and associated facilities including a substation and access roads (herein referred to as "solar energy facility"); 2) gen-tie line that would connect the proposed on-site substation to the Point of Interconnection (POI) at the existing IID 92 kV "K" line; and, 3) an on-site wireless communication system or off-site fiberoptic cable.

The proposed Wister Solar Energy Facility Project involves the construction and operation of a 20 megawatt (MW) photovoltaic (PV) solar energy facility on approximately 100 acres of privately-owned land north of Niland. The proposed project would be comprised of solar PV panels on single-axis horizontal trackers, an on-site substation and inverters, transformers, and underground electrical cables.

The power produced by the proposed project would be conveyed to the local power grid via an on-site 92 kilovolt (kV) substation, which will be tied directly to the Imperial Irrigation District's (IID) 92 kV transmission line. A gen-tie line would connect the Wister substation to the POI at the existing IID 92kV "K" line.

An on-site communication system or ~~A proposed~~ an off-site fiberoptic line that would extend from the proposed on-site substation would be connected with the existing Niland Substation approximately two miles to the south, which would then be added to connect the proposed on-site substation to the region's telecommunications system. The length of the proposed fiber optic telecommunications cable route would be approximately two miles.

1.1.1 Agency Roles and Responsibilities

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the project.

County of Imperial

Implementation of the project would involve the following approvals by the County of Imperial:

1. **Approval of Conditional Use Permit (CUP) – Solar Energy Facility.** Implementation of the project would require the approval of a CUP by the County to allow for the construction and operation of the proposed solar energy facility project. The project site is located on one privately-owned legal parcel (APN No. 003-240-001) zoned Open Space/Preservation with a Geothermal Overlay (S-2-G). Pursuant to Title 9, Division 5, Chapter 19, the following

uses are permitted in the S-2 zone subject to approval of a CUP from Imperial County: *Major facilities relating to the generation and transmission of electrical energy provide[d] such facilities are not under State or Federal law, to [be] approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters. Such uses shall include but be limited to the following:*

- *Electrical generation plants*
- *Facilities for the transmission of electrical energy (100-200 kV)*
- *Electrical substations in an electrical transmission system (500 kv/230 kv/161 kV)*
- *Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*

2. **Approval of CUP – Groundwater Well.** Pursuant to Title 9 Division 21: Water Well Regulations, §92102.00, the Applicant will be required to obtain a CUP for the proposed on-site groundwater well. As required by §92102.00, no person shall (1) drill a new well, (2) activate a previously drilled but unused well, (unused shall mean a well or wells that have not been used for a 12 month period) by installing pumps, motors, pressure tanks, piping, or other equipment necessary or intended to make the well operational, (3) increase the pumping capacity of a well, or (4) change the use of a well, without first obtaining a CUP through the County Planning & Development Services Department.
3. **General Plan Amendment.** An amendment to the County's General Plan, Renewable Energy and Transmission Element is required to implement the proposed project. CUP applications proposed for specific renewable energy projects not located in the RE Overlay Zone would not be allowed without an amendment to the Renewal Energy (RE) Overlay Zone. APN No. 003-240-001 (in which the solar energy facility will be located) is immediately adjacent to, but outside of the RE Overlay Zone. Therefore, the applicant is requesting a General Plan Amendment to include/classify APN No. 003-240-001, into the RE Overlay Zone. No change in the underlying general plan land use is proposed.
4. **Zone Change.** The project site (APN No. 003-240-001) is located immediately adjacent to, but outside of the RE Overlay Zone; therefore, the applicant is requesting a zone change to include/classify APN No. 003-240-001 (which includes the solar energy facility) into the RE Overlay Zone.
5. **Variance.** A Variance is required to exceed the height limit for transmission towers within the S-2 zone. The existing S-2 zone allows a maximum height limit of 40 feet, whereas implementation of the project may involve the construction of transmission towers of up to 70 feet in height. Therefore, a variance for any structure exceeding the existing maximum height limit of 40 feet would be required.
6. **Certification of the EIR.** After the required public review for the Draft EIR, the County will respond to written comments, edit the document, and produce a Final EIR to be certified by the Planning Commission and Board of Supervisors prior to making a decision on the project.

Subsequent ministerial approvals may include, but are not limited to:

- Grading and clearing permits
- Building permits
- Reclamation plan
- Encroachment permits
- Transportation permit(s)

Other Agencies Reviews and/or Consultations

The following agencies may be involved in reviewing and/or consultations with the project proponent as it relates to construction of the project:

Federal

UNITED STATES FISH AND WILDLIFE SERVICE

- The United States Fish and Wildlife Service (USFWS) enforces compliance with regulations related to special-status species or their habitat as required under the Federal Endangered Species Act (ESA).

UNITED STATES ARMY CORPS OF ENGINEERS

- Section 404 Permit (Clean Water Act [CWA]). The CWA establishes a program to regulate the discharge of dredge and fill material into waters of the U.S. including wetlands. Activities regulated under this program include fills for development, water resource projects (e.g., dams and levees), infrastructure development (e.g., highways and airports), and conversion of wetlands to uplands for farming and forestry. Either an individual 404b permit or authorization to use an existing USACE Nationwide Permit will need to be obtained if any portion of the construction requires fill into a river, stream, or stream bed that has been determined to be a jurisdictional waterway.

State

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (TRUSTEE AGENCY)

- The California Department of Fish and Wildlife (CDFW) is a Trustee Agency and enforces compliance with regulations related to California special-status species or their habitats as required under the California Endangered Species Act (CESA).

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

- **National Pollution Discharge Elimination System Construction General Permit Order No. 2009-009-DWQ.** Requires the applicant to file a public Notice of Intent to discharge stormwater and to prepare and implement a stormwater pollution prevention plan (SWPPP).
- **Jurisdictional Waters.** Agencies and/or project proponents must consultant with the California Regional Water Quality Control Board (RWQCB) regarding, when applicable, regarding compliance with the CWA Section 401 Water Quality Certification or permitting under California Porter-Cologne Act.

Local

IMPERIAL COUNTY FIRE DEPARTMENT

- Review as part of the EIR process including the final design of the proposed fire system.

IMPERIAL IRRIGATION DISTRICT

- For any approvals related to the fiber optic cable.

IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT

- Review as part of the EIR process regarding consistency with the Imperial County Air Pollution Control District (ICAPCD) CEQA Air Quality Handbook, the final "Modified" 2009 8-hour Ozone Air Quality Management Plan, the State Implementation Plan for particulate matter less than 10 microns in diameter (PM_{10}) in the Imperial Valley, the State Implementation Plan (SIP) for particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and verification of Rule 801 compliance.

1.2 Relationship to Statutes, Regulations, and Other Plans

1.2.1 County of Imperial General Plan and Land Use Ordinance

The General Plan provides guidance on future growth in the County of Imperial. Any development in the County of Imperial must be consistent with the General Plan and Land Use Ordinance (Title 9, Division 10).

1.2.2 Renewables Portfolio Standard Program

Established in 2002 under Senate Bill (SB) 1078, California's Renewables Portfolio Standard (RPS) was accelerated in 2006 under SB 107 by requiring that 20 percent of electricity retail sales be served by RE resources by 2010. RE sources include wind, geothermal, and solar. Subsequent recommendations in California energy policy reports advocated a goal of 33 percent by 2020. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order (EO) S-14-08 requiring that "… all retail sellers of electricity shall serve 33 percent of their load with RE by 2020." The following year, EO S-21-09 directed the California Air Resources Board (CARB), under its Assembly Bill (AB) 32 authority, to enact regulations to achieve the goal of 33 percent renewables by 2020.

In the ongoing effort to codify the ambitious 33 percent by 2020 goal, SB X12 was signed by Governor Brown, in April 2011. This new RPS preempts the CARB's 33 percent Renewable Electricity Standard and applies to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities had to adopt the new RPS goals of 20 percent of retails sales from renewables by the end of 2013, 25 percent by the end of 2016, and the 33 percent requirement being met by the end of 2020.

Governor Brown signed into legislation SB 350 in October 2015, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible RE resources by 2030.

1.2.3 California Global Warming Solutions Act of 2006, Assembly Bill 32 (Statutes 2006; Chapter 488; Health and Safety Code Sections 38500 et seq.)

This Act requires the CARB to enact standards that will reduce greenhouse gas (GHG) emissions to 1990 levels by 2020. Electricity production facilities are regulated by the CARB.

1.2.4 Title 17 California Code of Regulations, Subchapter 10, Article 2, Sections 95100 et seq.

These CARB regulations implement mandatory GHG emissions reporting as part of the California Global Warming Solutions Act of 2006.

1.2.5 Federal Clean Air Act

The legal authority for federal programs regarding air pollution control is based on the 1990 Clean Air Act (CAA) Amendments. These are the latest in a series of amendments made to the CAA. This legislation modified and extended federal legal authority provided by the earlier Clean Air Acts of 1963 1970, and 1977.

The Air Pollution Control Act of 1955 was the first Federal legislation involving air pollution. This Act provided funds for federal research in air pollution. The CAA of 1963 was the first Federal legislation regarding air pollution control. It established a federal program within the U.S. Public Health Service and authorized research into techniques for monitoring and controlling air pollution. In 1967, the Air Quality Act was enacted in order to expand Federal government activities. In accordance with this law, enforcement proceedings were initiated in areas subject to interstate air pollution transport. As part of these proceedings, the Federal government for the first time conducted extensive ambient monitoring studies and stationary source inspections.

The Air Quality Act of 1967 also authorized expanded studies of air pollutant emission inventories, ambient monitoring techniques, and control techniques.

1.2.6 Imperial County Air Pollution Control District

The ICAPCD enforces rules and regulations regarding air emissions associated with various activities, including construction and farming, and operational activities associated with various land uses, in order to protect the public health.

1.2.7 Federal Clean Water Act (33 United States Code Section 1251-1387)

The Federal Water Pollution Control Act (33 United States Code [USC] §§1251-1387), otherwise known as the CWA, is a comprehensive statute aimed at restoring and maintaining the chemical, physical and biological integrity of the nation's waters. Enacted originally in 1948, the Act was amended numerous times until it was reorganized and expanded in 1972. It continues to be amended almost every year. Primary authority for the implementation and enforcement of the CWA rests with the U.S. Environmental Protection Agency (EPA). In addition to the measures authorized before 1972, the Act authorizes water quality programs, requires federal effluent limitations and state water quality standards, requires permits for the discharge of pollutants into navigable waters, provides enforcement mechanisms, and authorizes funding for wastewater treatment works construction grants and state

revolving loan programs, as well as funding to states and tribes for their water quality programs. Provisions have also been added to address water quality problems in specific regions and specific waterways.

Important for wildlife protection purposes are the provisions requiring permits to dispose of dredged and fill materials into navigable waters. Permits are issued by the United States Army Corps of Engineers (USACE) under guidelines developed by EPA pursuant to Section 404 of the CWA.

1.2.8 Federal Clean Water Act and California Porter-Cologne Water Quality Control Act

The project is located within the Colorado River Basin RWQCB, Region 7. The CWA and the California Porter-Cologne Water Quality Control Act require that Water Quality Control Plans (more commonly referred to as Basin Plans) be prepared for the nine state-designated hydrologic basins in California. The Basin Plan serves to guide and coordinate the management of water quality within the region.

1.2.9 Federal Endangered Species Act

The ESA (16 USC 1531-1544) provides protection for plants and animals whose populations are dwindling to levels that are no longer sustainable in the wild. The Act sets out a process for listing species, which allows for petition from any party to list a plant or animal. Depending on the species, USFWS or the National Marine Fisheries Service (NMFS) will determine whether listing the species is warranted. If it is warranted, the species will be listed as either threatened or endangered. The difference between the two categories is one of degree, with endangered species receiving more protections under the statute.

1.2.10 National Historic Preservation Act

Federal regulations (36 Code of Federal Regulations [CFR] Part 800.2) define historic properties as "any prehistoric or historic district, site, building, structure, or object included, or eligible for inclusion in, in the National Register of Historic Places (NRHP)." The term "cultural resource" is used to denote a historic or prehistoric district, site, building, structure, or object, regardless of whether it is eligible for the NRHP.

1.2.11 California Endangered Species Act

CESA is enacted through Government Code Section 2050. Section 2080 of the California Fish and Game Code (FGC) prohibits "take" of any species that the commission determines to be an endangered species or a threatened species. Take is defined in Section 86 of the FGC as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

CESA allows for take incidental to otherwise lawful development projects. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate mitigation planning to offset project-caused losses of listed species populations and their essential habitats.

1.2.12 California Lake and Streambed Program (Fish and Game Code Section 1602)

CDFW is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the FGC (Section 1602) requires an entity to notify CDFW of any proposed activity that may substantially modify a river, stream, or lake.

1.3 Purpose of an EIR

The purpose of an EIR is to analyze the potential environmental impacts associated with a project. CEQA (Section 15002) states that the purpose of CEQA is to: (1) inform the public and governmental decision makers of the potential, significant environmental impacts of a project; (2) identify the ways that environmental damage can be avoided or significantly reduced; (3) prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and (4) disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

1.4 EIR Process

1.4.1 Availability of Reports

~~This~~ The Draft EIR and documents incorporated by reference ~~are~~ were made available for public review at the County of Imperial Planning and Development Services Department, 801 Main Street, El Centro, California 92243. Copies ~~are~~ were also available for review at the City of El Centro Public Library, 1140 N. Imperial Avenue, El Centro, California. Documents at these locations ~~may be reviewed~~ were available for review during regular business hours.

Patricia Valenzuela, Planner IV

County of Imperial, Planning and Development Services Department

801 Main Street

El Centro, California 92243

Comments received during the public review period of the Draft EIR ~~will be~~ have been reviewed and responded to in the Final EIR. The Final EIR will then be reviewed by the Imperial County Planning Commission and Board of Supervisors as a part of the procedure to adopt the EIR. Additional information on this process may be obtained by contacting the County of Imperial Planning and Development Services Department at (442) 265-1736.

1.4.2 Public Participation Opportunities/Comments and Coordination

Notice of Preparation

The County of Imperial issued a notice of preparation (NOP) for the preparation of an EIR for the Wister Solar Energy Facility Project on November 6, 2019. The NOP was distributed to city, county, state, and federal agencies, other public agencies, and various interested private organizations and individuals in order to define the scope of the EIR. The NOP was also published in the Imperial Valley Press on November 6, 2019. The purpose of the NOP was to identify public agency and public

concerns regarding the potential impacts of the project, and the scope and content of environmental issues to be addressed in the EIR. Correspondence in response to the NOP was received from the following entities and persons:

- Native American Heritage Commission
- IID
- Imperial County Department of Public Works
- Augustine Band of Cahuilla Indians

The comments submitted on the NOP during the public review and comment period are included as Appendix A to this EIR.

Scoping Meeting and Environmental Evaluation Committee

During the NOP public review period, the Wister Solar Energy Facility Project was discussed as an informational item at the County's Environmental Evaluation Committee meeting on November 14, 2019.

Additionally, a scoping meeting for the general public as well public agencies was held on November 14, 2019 at 6:00 p.m., to further obtain input as to the scope of environmental issues to be examined in the EIR. The NOP, which included the scoping meeting date and location, was published in the Imperial Valley Press on November 6, 2019. The meeting was held by the Imperial County Planning & Development Services Department in the Board of Supervisors Chambers located at the County Administration Center at 940 Main Street, El Centro, California. At the scoping meeting, members of the public were invited to ask questions regarding the proposed project and the environmental review process, and to comment both verbally and in writing on the scope and content of the EIR. No written or verbal comments were received during the scoping meeting.

1.4.3 Environmental Topics Addressed

Based on the analysis presented in the NOP and the information provided in the comments to the NOP, the following environmental topics are analyzed in this EIR.

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources (includes Tribal Cultural Resources)
- Geology and Soils
- GHG Emissions
- Hydrology/Water Quality
- Land Use and Planning
- Transportation/Traffic
- Utilities/Service Systems

Eliminated from Further Review in Notice of Preparation

The initial study (IS)/NOP completed by the County (Appendix A of this EIR) determined that environmental effects to Agriculture and Forestry Resources, Energy, Hazards and Hazardous Materials, Mineral Resources, Noise and Vibration, Recreation, Population/Housing, Public Services, Utilities (Wastewater, Stormwater, and Solid Waste), and Wildfire would not be potentially significant. Therefore, these impacts are not addressed in this EIR; however, the rationale for eliminating these issues is briefly discussed below:

Agriculture Resources

According to the farmland maps prepared by the California Department of Conservation (2017), the project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (California Department of Conservation 2017). The proposed project would not convert Important Farmland to non-agricultural uses.

The project site is currently designated by the General Plan as "Recreation" and is zoned Open Space/Preservation with a Geothermal Overlay (S-2-G). According to the 2016/2017 Imperial County Williamson Act Map produced by the California Department of Conservation's Division of Land Resource Protection, the project site is not located on Williamson Act contracted land (California Department of Conservation 2016). The proposed project has no potential to conflict with existing zoning for agricultural use or a Williamson Act contract. Therefore, implementation of the proposed project would not impact agriculture resources.

Forestry Resources

No portion of the project site or the immediate vicinity is zoned or designated as forest lands, timberlands, or Timberland Production. As such, the proposed project would not result in a conflict with existing zoning or cause rezoning. Therefore, implementation of the proposed project would not impact forestry resources.

Energy

The use of energy associated with the project includes both construction and operational activities. Construction activities consume energy through the use of heavy construction equipment and truck and worker traffic. The proposed project will use energy-conserving construction equipment, including standard mitigation measures for construction combustion equipment recommended in the ICAPCD CEQA Air Quality Handbook (ICAPCD 2017). The use of better engine technology, in conjunction with the ICAPCD's standard mitigation measures will reduce the amount of energy used for the project.

Implementation and operation of the proposed project would promote the use of renewable energy and contribute incrementally to the reduction in demand for fossil fuel use for electricity-generating purposes. The project would generate renewable energy resources and is considered a beneficial effect. Based on these considerations, the proposed project would not result in significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

The project will help California meet its Renewable Portfolio Standard of 50 percent of retail electricity sales from renewable sources by the end of 2030.The electricity generation process associated with the project would utilize solar technology to convert sunlight directly into electricity. Solar PV technology is consistent with the definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California Public Resources Code (PRC). The proposed project would not conflict with or obstruct a state or local plan for renewable energy of energy efficiency. The proposed project would result in a less than significant impact related to energy.

Hazards and Hazardous Materials

Construction of the proposed project will involve the limited use of hazardous materials, such as fuels and greases to fuel and service construction equipment. No extremely hazardous substances are anticipated to be produced, used, stored, transported, or disposed of as a result of project construction.

No operations and maintenance facilities, or habitable structures are proposed on-site. Operation of the project will be conducted remotely. Regular, routine maintenance of the project may result in the potential to handle hazardous materials. However, the hazardous materials handled on-site would be limited to small amounts of everyday use cleaners and common chemicals used for maintenance.

The applicant will be required to comply with State laws and County Ordinance restrictions, which regulate, and control hazardous materials handled on-site. Such hazardous wastes would be transported off-site for disposal according to applicable State and County restrictions and laws governing the disposal of hazardous waste during construction and operation of the project. Based on these considerations, a less than significant impact would occur.

The project site is not located within 0.25 mile of an existing or proposed school. Therefore, the proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. No impact would occur.

Based on a review of the Cortese List conducted in October 2019, the project site is not listed as a hazardous materials site. Therefore, the proposed project would not create a significant hazard to the public or the environment and no impact would occur.

The project site is not located within two miles of a public airport or public use airport. Therefore, the proposed project would not result in airport hazards for people residing or working in the project area and no impact would occur.

The proposed project is not expected to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The project applicant will be required, through the conditions of approval, to prepare a street improvement plan for the project that will include emergency access points and safe vehicular travel. In addition, local building codes would be followed to minimize flood, seismic, and fire hazard. Therefore, the proposed project would result in a less than significant impact associated with the possible impediment to emergency plans.

Mineral Resources

The project site is not used for mineral resource production and the applicant is not proposing any form of mineral extraction. According to Figure 8: Imperial County Existing Mineral Resources of the Conservation and Open Space Element of the General Plan, no known mineral resources occur within the project site nor does the project site contain mapped mineral resources. Therefore, the proposed project would not result in the loss of availability of any known mineral resources that would be of value to the region and the residents of California nor would the proposed project result in the loss of availability of a locally important mineral resource.

Based on a review of the California Department Division of Oil, Gas, and Geothermal Resources Well Finder, there is one idle geothermal well (Well No. 02591491) located in the northwest quarter of the project parcel (California Department of Oil, Gas, and Geothermal Resources n.d.). This geothermal well would be avoided by the proposed project. Implementation of the proposed project would not impact geothermal wells.

Noise and Vibration

The Imperial County Title 9 Land Use Ordinance, Division 7, Chapter 2, Section 90702.00 - Sound level limits, establishes one-hour average sound level limits for the County's land use zones. Industrial operations are required to comply with the noise levels prescribed under the general industrial zones.

Therefore, the project is required to maintain noise levels below 75 decibels (dB) (averaged over one hour) during any time of day.

The project would be expected to comply with the Noise Element of the General Plan which states that construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB, when averaged over an eight hour period, and measured at the nearest sensitive receptor. Construction equipment operation is also limited to the hours of 7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m. on Saturdays. Compliance with Imperial County's standards for construction noise levels would result in less than significant noise impacts during project construction.

Ground-borne vibration and ground-borne noise could originate from earth movement during the construction phase of the proposed project. Construction of the proposed project may require post driving and vibratory rollers and has the potential to result in temporary vibration impacts on structures and humans. However, the project site is in a generally rural area and surrounded by relatively undisturbed desert lands. Sensitive receptors located within one mile of the project site consist of a few scattered rural homes west of the site. There are no sensitive receptors within 1,500 feet of the project site boundary. The project would be expected to comply with all applicable requirements for long-term operation, as well as with measures to reduce excessive ground-borne vibration and noise to ensure that the project would not expose persons or structures to excessive ground-borne vibration. No further analysis is warranted.

The project site is not located within two miles of a public airport or private airstrip. Therefore, the proposed project would not expose people residing or working in the project area to excessive noise levels and no impact would occur.

Population/Housing

Development of housing is not proposed as part of the project. No full-time employees are required to operate the project. The project facility will be monitored remotely. It is anticipated that maintenance of the facility will require minimal site presence to perform periodic visual inspections and minor repairs. On intermittent occasions, the presence of additional workers may be required for repairs or replacement of equipment and panel cleaning; however, due to the nature of the facility, such actions will likely occur infrequently. Therefore, the proposed project would not result in a substantial growth in the area, as the number of employees required to operate and maintain the facility is minimal.

No housing exists within the project site and no people reside within the project site. Therefore, the proposed project would not displace substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere. The proposed project would result in no impact to population and housing.

Public Services

Fire Protection. Fire protection and emergency medical services in the area are provided by the Imperial County Fire Department. The project site is located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan (County of Imperial 1997), the potential for a major fire in the unincorporated areas of the County is generally low. Both the access and service roads (along the perimeter of the project facility) would have turnaround areas to allow clearance for fire trucks per fire department standards (70 feet by 70 feet, and 20-foot-wide access road). While the proposed project may result in an increase in demand for fire protection service, the project would not result in an increase in demand that would, in turn, result in a substantial adverse physical impact associated with the provision of new or physically altered fire protection

facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. Based on these considerations, the project would not result in a need for fire facility expansion and a less than significant impact would occur.

Police Protection. Police protection services in the project area is provided by the Imperial County Sheriff's Department. Although the potential is low, the proposed project ~~may~~ could attract ~~vandals~~ trespassers or other ~~security risks~~ unauthorized uses. The increase in construction related traffic could temporarily increase demand on law enforcement services. However, the project site would be fenced with a 6-foot high chain link security fence topped with barbed wire and points of ingress/egress would be accessed via locked gates. In addition, periodic on-site personnel visitations for security would occur during operations and maintenance of the proposed project, thereby minimizing the need for police surveillance. While the proposed project may result in a temporary increase in demand for law enforcement service, the project would not result in an increase in demand that would, in turn, result in a substantial adverse physical impact associated with the provision of new or physically altered sheriff facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. The sheriff's department has indicated that an all-terrain vehicle would be needed in order to patrol the project site; however, the fenced and secure project site does not result in an increase in demand on law enforcement that would require existing or new facilities to be upgraded in order to maintain service ratios. Further, as conditions of approval of the project, the project applicant will be required to participate in the Imperial County Public Benefit Program for the life of this CUP and shall at all times be a party to a public benefit agreement in a form acceptable to County Counsel in order to pay for all costs, benefits, and fees associated with the approved project, and the applicant will be required to reimburse the Sheriff's Department for any investigations regarding theft on the Project site and related law enforcement. Approval of this public benefit agreement will be by the Board of Supervisors prior to the issuance of the first building permit. These potential impacts are less than significant. ~~This is considered a less than significant impact.~~

Schools. The proposed project does not include the development of residential land uses that would result in an increase in population or student generation. Construction of the proposed project would not result in an increase in student population within the Imperial County's School District since it is anticipated that construction workers would commute in during construction operations. The proposed project would have no impact on Imperial County schools.

Parks and Other Public Facilities. No full-time employees are required to operate the project. The project facility will be monitored remotely. It is anticipated that maintenance of the facility will require minimal site presence to perform periodic visual inspections and minor repairs. Therefore, substantial permanent increases in population that would adversely affect local parks, libraries, and other public facilities are not expected. The project is not expected to have an impact on parks, libraries, and other public facilities.

Recreation

The project site is not used for formal recreational purposes. Also, the proposed project would not generate new employment on a long-term basis. As such, the project would not significantly increase the use or accelerate the deterioration of regional parks or other recreational facilities. The temporary increase of population during construction that might be caused by an influx of workers would be minimal and not cause a detectable increase in the use of parks. Additionally, the project does not

include or require the expansion of recreational facilities. Therefore, no impact is identified for recreation.

Utilities and Service Systems

Wastewater Facilities. The project would generate a minimal volume of wastewater during construction. During construction activities, wastewater would be contained within portable toilet facilities and disposed of at an approved site. No habitable structures are proposed on the project site, such as O&M buildings; therefore, there would be no wastewater generation from the proposed project. The proposed project would not require or result in the relocation or construction of new or expanded wastewater facilities.

Storm Water Facilities. The proposed project will involve the construction of storm water drainage control facilities within the project site as shown on Figure 2-4 Preliminary Site Plan, ~~which are identified in the project site plan~~, and included in the project impact footprint, of which environmental impacts have been evaluated. Otherwise, the project does not require expanded or new storm drainage facilities off-site (i.e., outside of the project footprint) because the proposed solar facility would not generate a significant increase in the amount of impervious surfaces that would increase runoff during storm events, and therefore, would not require the construction of off-site storm water management facilities. Water from solar panel washing would continue to percolate through the ground, as a majority of the surfaces within the project site would remain pervious. The proposed project would not require or result in the relocation or construction of new or expanded storm water facilities beyond those proposed as part of the project and evaluated in the EIR.

Water Facilities. The proposed project is not anticipated to result in a significant increase in water demand/use during operation; however, water will be needed for solar panel washing and dust suppression. During operation, water would be trucked to the project site from a local water source. Therefore, the proposed project would not require or result in the relocation or construction of new or expanded water facilities.

Power, Natural Gas, and Telecommunication Facilities. The proposed project would involve construction of power facilities and would include a fiber optic connection. However, these are components of the project as evaluated in the EIR. The proposed project would not otherwise generate the demand for or require or result in the relocation or construction of new or expanded electric power, natural gas, or telecommunications facilities that would in turn, result in a significant impact to the environment.

Solid Waste Facilities. Solid waste generation would be minor for the construction and operation of the project. Solid waste would be disposed of using a locally licensed waste hauling service, most likely Allied Waste. Trash would likely be hauled to the Niland Solid Waste Site (13-AA-0009) located in Niland. The Niland Solid Waste Site has approximately 318,669 cubic yards of remaining capacity and is estimated to remain in operation through 2056 (CalRecycle n.d.). Therefore, there is ample landfill capacity in the County to receive the minor amount of solid waste generated by construction and operation of the project.

Additionally, because the proposed project would generate solid waste during construction and operation, the project would be required to comply with state and local requirements for waste reduction and recycling; including the 1989 California Integrated Waste Management Act and the 1991 California Solid Waste Reuse and Recycling Access Act of 1991. Also, conditions of the CUP would contain provisions for recycling and diversion of Imperial County construction waste policies.

Further, when the proposed project reaches the end of its operational life, the components would be decommissioned and deconstructed. When the project concludes operations, much of the wire, steel, and modules of which the system is comprised would be recycled to the extent feasible. The project components would be deconstructed and recycled or disposed of safely, and the site could be converted to other uses in accordance with applicable land use regulations in effect at the time of closure. Commercially reasonable efforts would be used to recycle or reuse materials from the decommissioning. All other materials would be disposed of at a licensed facility. A less than significant impact is identified for this issue.

Wildfire

According to the Draft Fire Hazard Severity Zone Map for Imperial County prepared by the California Department of Forestry and Fire Protection, the project site is not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2007). Therefore, no impact is identified for wildfire.

1.4.4 Areas of Controversy and Issues to be Resolved

Section 15123(b)(2) of the CEQA Guidelines requires that an EIR identify areas of controversy known to the Lead Agency, including issues raised by other agencies and the public as well as issues to be resolved. A primary issue associated with this solar farm project, and other solar facility projects that are proposed in the County, is the corresponding land use compatibility and fiscal/economic impacts to the County. Through the environmental review process for this project, other areas of concern and issues to be resolved include groundwater supply; relocation, modification, or reconstruction of IID facilities; and access.

1.4.5 Document Organization

The structure of the Draft EIR is identified below. The Draft EIR is organized into 11 chapters, including the Executive Summary.

- The **Executive Summary** provides a summary of the proposed project, including a summary of project impacts, mitigation measures, and project alternatives.
- **Chapter 1 Introduction** provides a brief introduction of the proposed project; relationship to statutes, regulations and other plans; the purpose of an EIR; public participation opportunities; availability of reports; and comments received on the NOP.
- **Chapter 2 Project Description** provides a description of the Wister Solar Energy Facility Project. This chapter also defines the goals and objectives of the proposed project, provides details regarding the individual components that together comprise the project, and identifies the discretionary approvals required for implementation of the project.
- **Chapter 3 Environmental Analysis** provides a description of the existing environmental setting and conditions, an analysis of the environmental impacts of the project for the following environmental issues: aesthetics; air quality; biological resources; cultural resources (includes tribal cultural resources); geology and soils; GHG emissions; hydrology/water quality; land use and planning; transportation/traffic; and utilities/service systems. This chapter also identifies mitigation measures to address potential impacts to the environmental issues identified above.
- **Chapter 4 Analysis of Long-Term Effects** provides an analysis of growth inducing impacts, significant irreversible environmental changes, and unavoidable adverse impacts.

- **Chapter 5 Cumulative Impacts** discusses the impact of the proposed project in conjunction with other planned and future development in the surrounding areas.
- **Chapter 6 Effects Found Not to be Significant** lists all the issues determined to not be significant as a result of the preparation of this EIR.
- **Chapter 7 Alternatives** analyzes the alternatives to the proposed project.
- **Chapter 8 References** lists the data references utilized in preparation of the EIR.
- **Chapter 9 EIR Preparers and Organizations Contacted** lists all the individuals and companies involved in the preparation of the EIR, as well as the individuals and agencies consulted and cited in the EIR.

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2 Project Description

Chapter 2 provides a description of the Wister Solar Energy Project. This chapter also defines the goals and objectives of the proposed project, provides details regarding the individual components that together comprise the project, and identifies the discretionary approvals required for project implementation.

The proposed project consists of three primary components: 1) solar energy generation equipment and associated facilities including a substation and access roads (herein referred to as "solar energy facility"); 2) gen-tie line that would connect the proposed on-site substation to the POI at the existing IID 92-kV "K" line; and, 3) on-site wireless communication system or off-site fiberoptic cable.

2.1 Project Location

2.1.1 Solar Energy Facility and Gen-Tie Line

The project site is located approximately three miles north of Niland, a census-designated place, in the unincorporated area of Imperial County (Figure 2-1). The project site is located on one parcel of land identified as APN 003-240-001 (Figure 2-2). The parcel is comprised of approximately 640 acres of land and is currently zoned Open Space/Preservation with a Geothermal Overlay (S-2-G). The proposed solar energy facility component (including on-site wireless communication system), of the project would be located on approximately 100 acres within the northwest portion of the larger 640-acre project site parcel.

The project site is located east of the intersection of Wilkins Road and an unnamed county road. The project footprint (physical area where proposed project components are to be located) is generally located east of Wilkins Road, north of the East Highline Canal, and west of Gas Line Road.

2.1.2 Fiberoptic Cable

The proposed project includes approximately two miles of fiberoptic line (i.e. cable) from the proposed on-site substation to the existing Niland Substation, located at 402 Beal Road in Niland. Figure 2-3 shows the alignment of the proposed fiberoptic cable. The fiber optic cable would only be constructed in the event that the proposed wireless communication system is not constructed on-site.

Figure 2-1. Regional Location

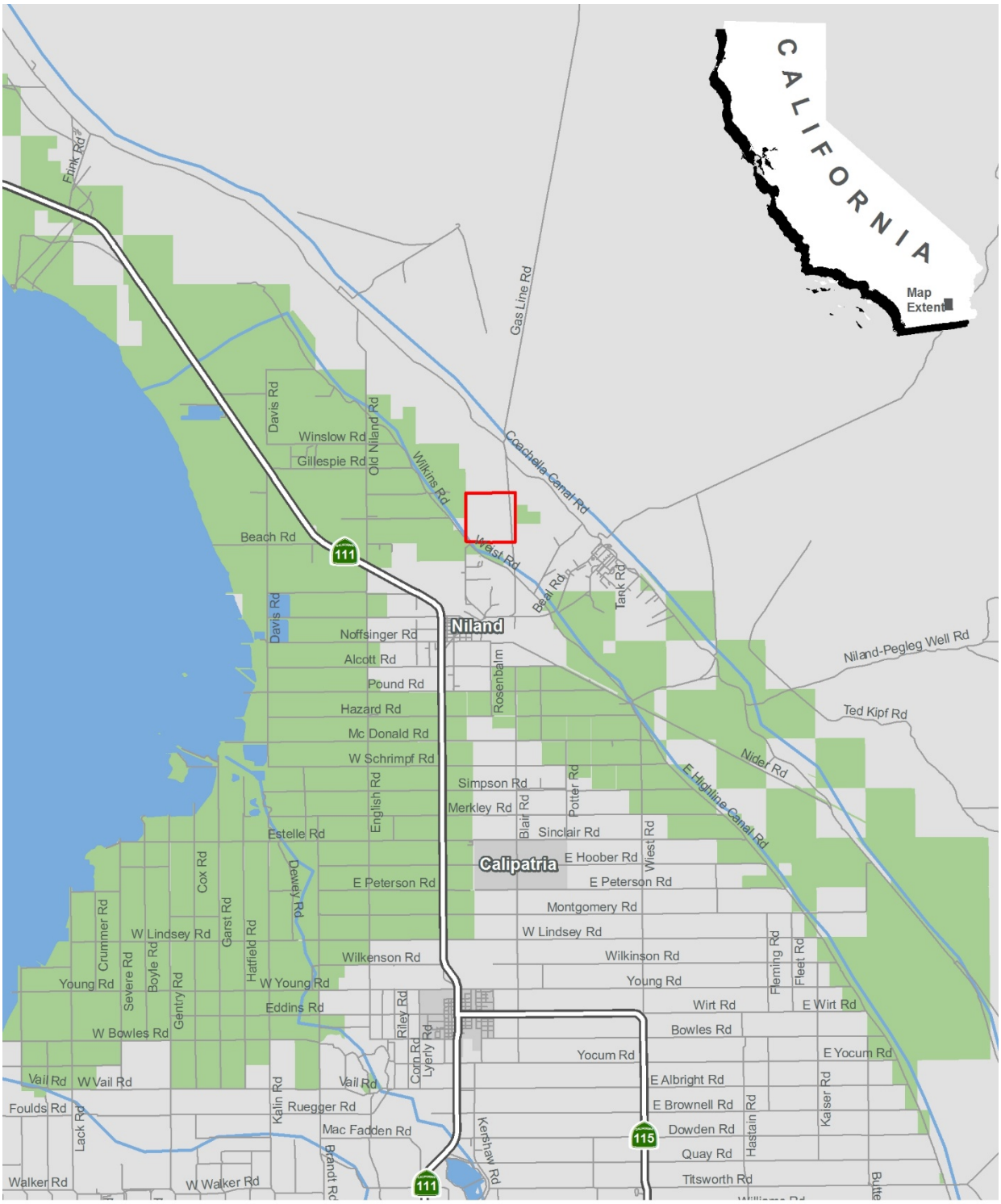
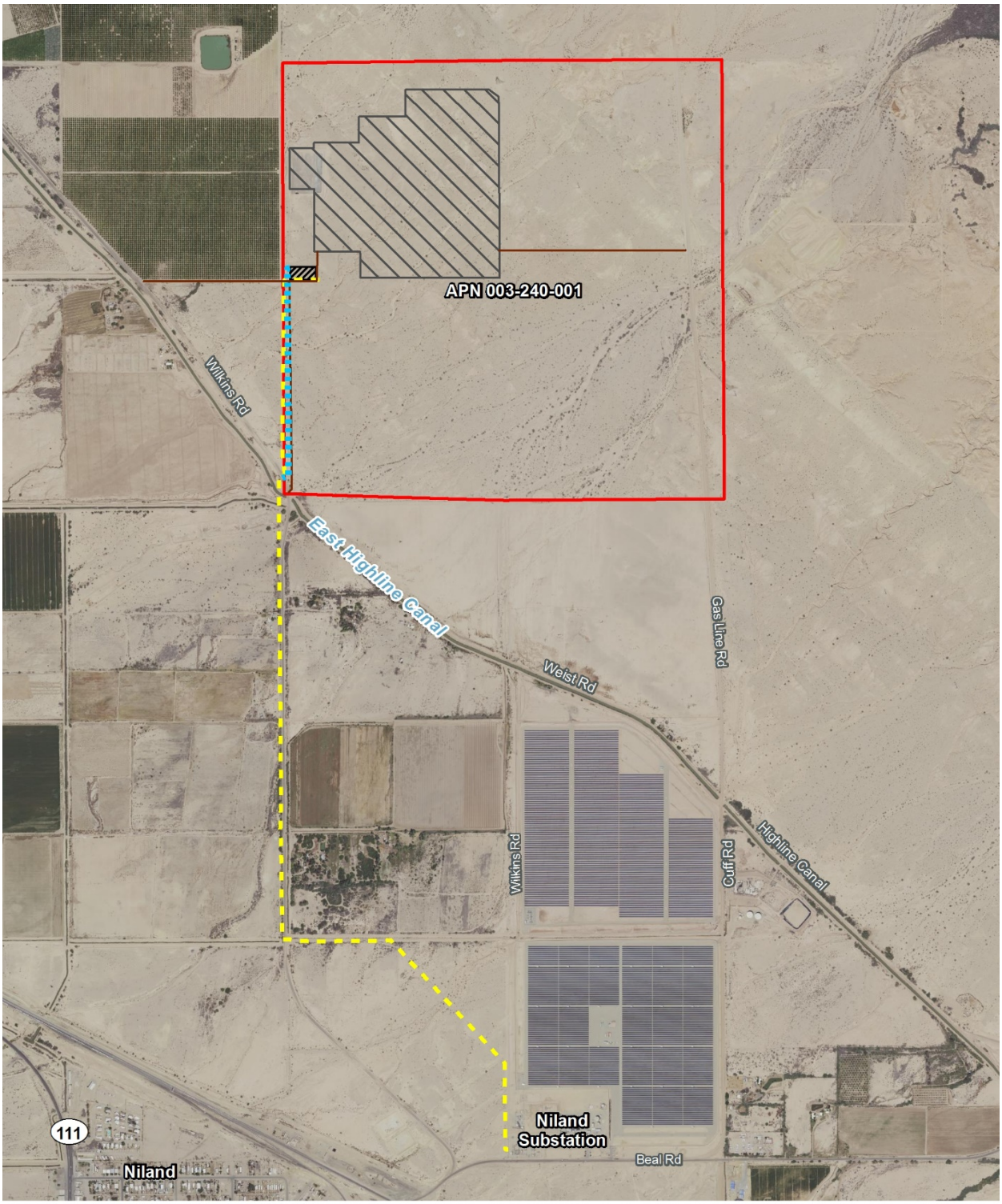


Figure 2-2. Project Site

Figure 2-3. Fiberoptic Cable and Gen-Tie Alignment



2.1.3 Renewable Energy Overlay Zone

In 2016, the County adopted the Imperial County Renewable Energy and Transmission Element, which includes an RE Zone (RE Overlay Map). This General Plan element was created as part of the California Energy Commission Renewable Energy Grant Program to amend and update the County's General Plan to facilitate future development of renewable energy projects.

The County Land Use Ordinance, Division 17, includes the RE Overlay Zone, which authorizes the development and operation of renewable energy projects with an approved CUP. The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of renewable energy facilities while minimizing the impact on other established uses. CUP applications proposed for specific renewable energy projects not located in the RE Overlay Zone would not be allowed without an amendment to the RE Overlay Zone.

The County's General Plan and Land Use Ordinance allows for renewable energy projects proposed on land classified as a non-RE Overlay zone if the renewable energy project: 1) would be located adjacent to an existing RE Overlay Zone; 2) is not located in a sensitive area; 3) is located in proximity to renewable energy infrastructure; and, 4) and would not result in any significant environmental impacts.

As shown on Figure 3-1, APN No. 003-240-001 (the project site) is located outside, but immediately adjacent to the RE Overlay Zone. Therefore, the applicant is requesting a General Plan Amendment and Zone Change to add APN No. 003-240-001 to the County's RE Overlay Zone. The underlying "Recreation" General Plan designation would remain.

2.2 Project Objectives

- Construct, operate and maintain an efficient, economic, reliable, safe and environmentally sound solar-powered electricity generating facility.
- Help meet California's RPS requirements, which require that by 2030, California's electric utilities are to obtain 50 percent of the electricity they supply from renewable sources.
- Generate renewable solar-generated electricity from proven technology, at a competitive cost, with low environmental impact, and deliver it to the local markets as soon as possible.
- Develop, construct, own and operate the Wister Solar Energy Facility, and ultimately sell its electricity and all renewable and environmental attributes to an electric utility purchaser under a long-term contract to meet California's RPS goals.
- Utilize a location that is in close proximity to an existing switching station and powerlines.
- Minimize and mitigate any potential impact to sensitive environmental resources within the project area.

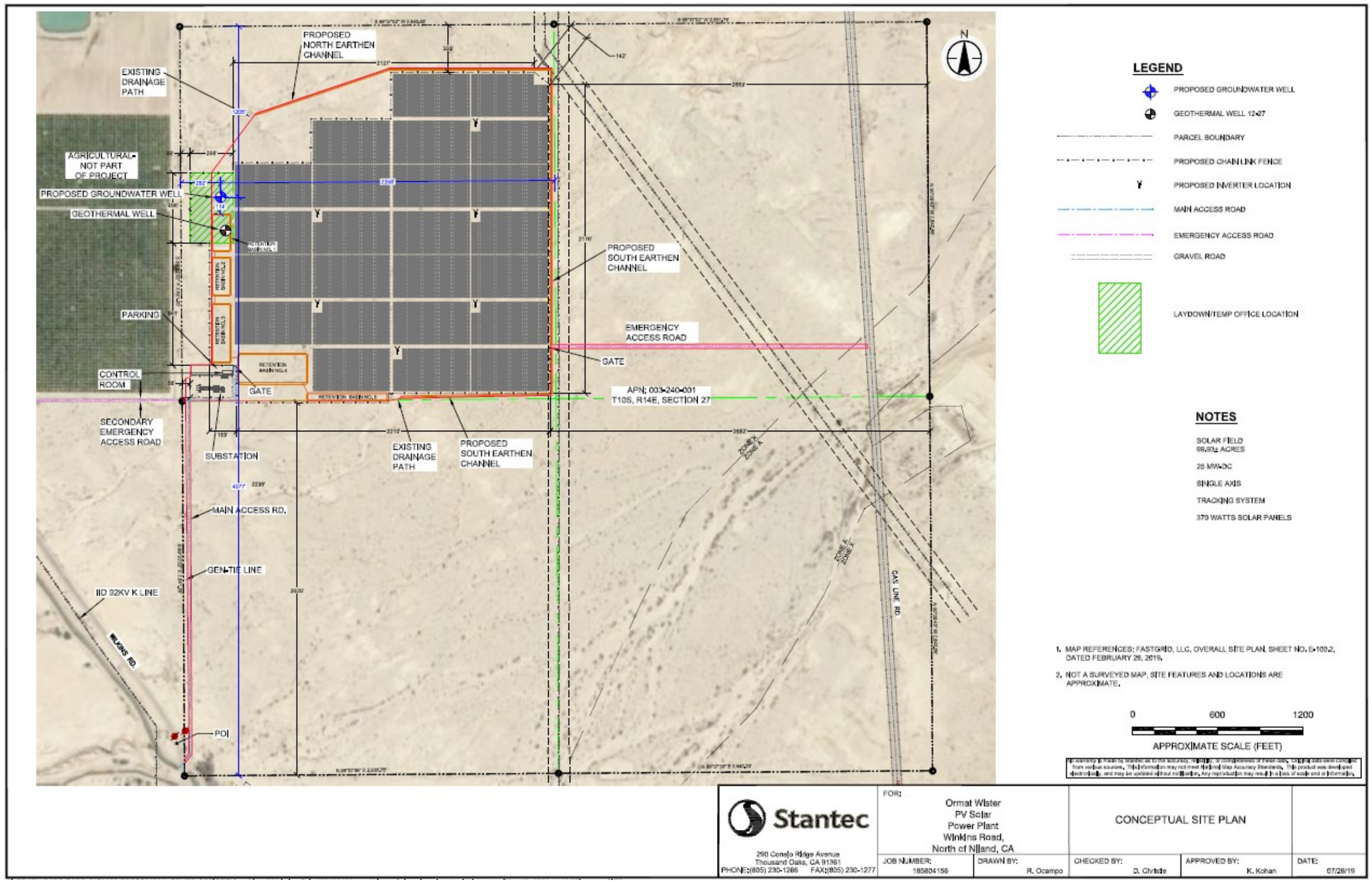
2.3 Project Characteristics

The proposed Wister Solar Energy Facility Project involves the construction and operation of a 20 MW PV solar energy facility on approximately 100 acres within APN No. 003-240-001 (privately-owned land) north of Niland. The proposed solar energy project would be comprised of solar PV panels on single-axis horizontal trackers, an on-site substation and inverters, an on-site wireless communication system, transformers, and underground electrical cables. Figure 2-4 depicts the proposed site plan.

The power produced by the proposed project would be conveyed to the local power grid via an on-site 92-kV substation, which will be tied directly to the Imperial Irrigation District's 92-kV transmission line. A gen-tie line would connect the Wister substation to the POI at the existing IID 92-kV "K" line.

The project applicant has secured a Power Purchase Agreement (PPA) with San Diego Gas and Electric for the sale of power from the project.

Figure 2-4. Preliminary Site Plan



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2.3.1 Photovoltaic Panels/Solar Arrays

PV solar cells convert sunlight directly into direct current (DC) electricity. The process of converting light (photons) to electricity (voltage) in a solid-state process is called the PV effect. A number of individual PV cells are electrically arranged and connected into solar PV modules, sometimes referred to as solar panels.

The solar PV generating facility would consist of 3.5 foot by 4.8-foot PV modules (or panels) on single-axis horizontal trackers in blocks that each hold 2,520 PV panels. Figure 2-5 provides a representative example of single-axis horizontal trackers. The panels would be oriented from east to west for maximum exposure and the foundation would be designed based on soil conditions, with driven piles as the preferred method. The PV modules would be made of a poly-crystalline silicon semiconductor material encapsulated in glass. Installation of the PV arrays would include installation of mounting posts, module rail assemblies, PV modules, inverters, transformers and buried electrical conductors. Concrete would be required for the footings, foundations and pads for the transformers and substation work.

PV modules would be organized into electrical groups referred to as “blocks.” The proposed project would consist of 12 blocks. Every two blocks will be collected to an inverter and would typically encompass approximately 8 acres, including a pad for one transformer and one inverter. Approximately 96 acres of ground disturbance, including acreage for 12 blocks, is required for the proposed project. The proposed project would include design elements (e.g., non- or anti-reflective material) to reduce the potential glare impacts on adjacent sensitive receptors (e.g. local residents, aircraft, traveling public on adjacent County roads).

The electrical output from the PV modules would be low voltage DC power that would be collected and routed to a series of inverters and their associated pad-mounted transformers. Each array would have one inverter and one transformer, which are collectively known as a Power Conversion Station (PCS). The inverters would convert the DC power generated by the panels to alternating current (AC) power and the pad mounted transformers step up the voltage to a nominal level. The outputs from the transformers are grouped together in PV combining switchgear, which in turn supplies the switchyard, where the power is stepped up to 92-kV for interconnection with the transmission system.

Figure 2-5. Representative Example of Typical Single-Axis Tracking Solar Panels

2.3.2 Substation

The proposed Wister Substation would be a new 92/12-kV unstaffed, automated, low-profile substation. The dimensions of the fenced substation would be approximately 300 feet by 175 feet. The enclosed substation footprint would encompass approximately 1.2 acres within the 100-acre project site footprint as part of the approximately 640-acre project parcel. As shown on Figure 2-4, the proposed Wister Substation site would be located at the northwest quarter of the parcel, immediately southwest of the solar field. The California Building Code and the Institute of Electrical and Electronics Engineers (IEEE) 693, Recommended Practices for Seismic Design of Substations, will be followed for the substation's design, structures, and equipment.

A wireless communication system will be located in the southwest portion of the site, within the substation area. This communication system will include a communication tower less than 40-feet in height. The tower will be a freestanding mono-pole without guy wire supports. Equipment associated with the communication system will be located within the substation control building. Overall, this would provide Supervisory Control and Data Acquisition (SCADA), protective relaying, data transmission, and telephone services for the proposed Wister Substation and associated facilities. New telecommunications equipment would be installed at the proposed Wister Substation within the Mechanical and Electrical Equipment Room (MEER). A representative example of a substation is presented on Figure 2-6.

Figure 2-6. Representative Example of Typical Substation Design

2.3.3 Fiberoptic Cable

If the on-site wireless communication system is not constructed as described in Section 2.3.2 Substation, ~~A proposed~~ a fiberoptic line extending from the proposed Wister Substation would be connected with the existing Niland Substation approximately two miles to the south, which would then be added to connect the proposed Wister Substation to the region's telecommunications system. ~~Overall, this would provide Supervisory Control and Data Acquisition (SCADA), protective relaying, data transmission, and telephone services for the proposed Wister Substation and associated facilities. New telecommunications equipment would be installed at the proposed Wister Substation within the Mechanical and Electrical Equipment Room (MEER).~~ As shown on Figure 2-3, the proposed fiber optic telecommunications cable would utilize existing transmission lines to connect to the Niland Substation. The length of the proposed fiber optic telecommunications cable route would be approximately two miles.

2.3.4 Gen-Tie Line

As shown on Figure 2-4, a proposed gen-tie line would connect the Wister substation to the POI at the existing IID 92-kV "K" line. The proposed gen-tie line would originate at the proposed Wister substation and would terminate at the POI, at a distance of approximately 2,500 feet to the south-southwest. Steel poles, standing at a maximum height of 70 feet tall, will be spaced approximately every 300 feet along the route, and would support the 92-kV conductor and fiberoptic cable to the POI. Construction of the 2,500-foot gen-tie line to the POI would utilize overland travel via an all-weather improved access road along the entire route.

2.3.5 Auxiliary Facilities

This section describes the auxiliary facilities that would be constructed and operated in conjunction with the solar facility.

Site Security and Fencing

The project site would be fenced with a 6-foot high chain link security fence topped with barbed wire. Points of ingress/egress would be accessed via locked gates.

Lighting System

Minimal lighting would be required for operations and would be limited to safety and security functions. All lighting would be directed downward and shielded to confine direct rays to the project site and muted to the maximum extent consistent with safety and operational necessity (Title 9, Division 17, Chapter 2: Specific Standards for all Renewable Energy Projects, of the County's Zoning Ordinance).

Access

A total of three access roads will service the proposed project. Access to the project site from the east would be located off Gas Line Road. Access to the solar energy facility portion of the project site from the west would include two routes: one route north from the southwest corner of the parcel off Wilkins Road (main access road), and another route off Wilkins Road just south of the existing orchard to the west of the project. These two access roads from the west would both lead to the same gate at the project site.

All access roads would be constructed with an all-weather surface, to meet the County Fire Department's standards, and lead to a locked gate that can be opened by any emergency responders. The access and service roads would also have turnaround areas at any dead-end to allow clearance for fire trucks per fire department standards (70 feet by 70 feet and 20-foot-wide access road).Figure 2-4 illustrates the project site layout and access points.

An all-weather surface access road, to meet the County's standards, would surround the perimeter of the site, as well as around solar blocks no greater than 500 by 500 feet.

Groundwater Well

The proposed project may utilize groundwater available at the project site for project construction, and potentially limited operational activities. A groundwater well would be constructed and operated near the existing geothermal well pad (and proposed project construction staging area) located in the north-western portion of the project site. Figure 2-4 depicts the location of the proposed groundwater well.

2.4 Project Construction

2.4.1 Construction Sequence

Construction activities would be sequenced and conducted in a manner that addresses storm water management and soil conservation. During construction, electrical equipment would be placed in service at the completion of each 2,500-kilowatt (kW) power-block. The activation of the power-blocks is turned over to interconnection following the installation of transformer and interconnection equipment upgrades. This in-service timing is critical because PV panels can produce power as soon as they are exposed to sunlight, and because the large number of blocks and the amount of time needed to commission each block requires commissioning to be integrated closely with construction on a block-by-block basis.

Construction would generally occur during daylight hours, Monday through Friday. However, non- daylight work hours may be necessary to make up schedule deficiencies, or to complete critical construction activities. For example, during hot weather, it may be necessary to start work earlier to avoid pouring concrete during high ambient temperatures. If construction is to occur outside of the County's specified working hours, permission in writing will be sought at the time. Construction of the proposed project would occur in phases beginning with site preparation and grading and ending with equipment setup and commencement of commercial operations. Overall, construction would consist of three major phases over a period of approximately 6-9 months:

1. Site Preparation, which includes clearing grubbing, grading, service roads, fences, drainage, and concrete pads; (1 month)
2. PV system installation and testing, which includes installation of mounting posts, assembling the structural components, mounting the PV modules, wiring; (7 months) and
3. Site clean-up and restoration. (1 month)

To support these activities, the main pieces of equipment that may be used during construction are listed in Table 2-1.

Construction activities would be conducted in a manner consistent with Imperial County Codified Ordinance. Noise generating sources in Imperial County are regulated under the County of Imperial Codified Ordinances, Title 9, Division 7 (Noise Abatement and Control). Noise limits are established in Chapter 2 of this ordinance. Under Section 90702.00 of this rule, average hourly noise in residential areas is limited to 50 to 55 A-weighted decibel (dbA) from 7 a.m. to 10 p.m., and to 45 to 50 dBA from 10 p.m. to 7 a.m. There are no sensitive noise receptors (e.g., residences, schools) within or adjacent to the project site.

2.4.2 Workforce

The temporary on-site construction workforce would consist of laborers, electricians, supervisory personnel, support personnel and construction management personnel. The average number of construction workers would be approximately 50-60 people per day.

2.4.3 Materials

The proposed project would require general construction materials (i.e., concrete, wood, metal, fuel, etc.) as well as the materials necessary to construct the proposed PV arrays and which are readily available and accessible locally. Most construction waste is expected to be non-hazardous and to consist primarily of cardboard, wood pallets, copper wire, scrap steel, common trash and wood wire spools and can be disposed of safely in local sanitary landfills. Although field equipment used during construction activities could contain various hazardous materials (i.e., hydraulic oil, diesel fuel, grease, lubricants, solvents, adhesives, paints, etc.), these materials are not considered to be acutely hazardous and would be used and disposed of in accordance with the manufacturer's specifications and all applicable County regulations.

Each PV module would be constructed out of poly-crystalline silicon semiconductor material encapsulated in glass. Construction of the PV arrays will include installation of support beams, module rail assemblies, PV modules, inverters, transformers, and underground electrical cables. Concrete will be required for the footings, foundations, pads for transformers, and substation equipment. Concrete will be purchased from a local supplier and transported to the proposed project site by truck. The