Draft Environmental Impact Report

Dogwood Geothermal Energy Project:

- Dogwood Geothermal Energy Project (CUP No. 23-0020)
- Heber 2 Solar Energy Project (CUP No. 23-0021)
- Heber Field Company Geothermal Wells & Pipeline Project (CUP No.23-0022)

SCH No. 2024010510

Imperial County, California

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Table of Contents

Tables

Tables (cont'd)

Figures

Appendices

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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 Dogwood Geothermal Energy Project and to propose mitigation measures, where required, to reduce significant impacts.

Project Overview

The Dogwood Geothermal Energy Project is located on approximately 125 acres of privately-owned lands in southern Imperial County, California, approximately one mile south of the City of Heber jurisdictional limit and approximately 0.5 miles west from the City of Calexico jurisdictional limit. The project site is within portions of three parcels: Assessor Parcel Numbers (APN) 054-250-031, 059-020-001, and 054-250-017. APN 054-250-31 is within the existing Heber 2 Geothermal Energy Complex (HGEC) located at 855 Dogwood Road, Heber, CA, and APN 059-020-001 and APN 054-250-017 are immediately southeast and east, respectively, of the HGEC.

The project applicant, OrHeber 3, LLC, Heber Field Company, LLC, and the Second Imperial Geothermal Company (collectively, the "Applicants", and all wholly owned subsidiaries of Ormat Technologies, Inc. [Ormat]) has filed three separate Conditional Use Permits (CUP) applications with the County of Imperial for the construction and operation of various facilities. The three CUP applications are described below. Collectively, these three CUP applications are herein referred to as the "project."

1. **Dogwood Geothermal Energy Project – CUP No. 23-0020**

The Dogwood Geothermal Energy Project includes a geothermal plant and associated ancillary and auxiliary facilities, new substation, 7 megawatt (MW) solar facility, and medium voltage distribution cable from the proposed solar facility to the geothermal plant. These project components are summarized below.

a. **ORMAT Energy Converter (Geothermal Energy Production Unit):** The proposed ORMAT Energy Converter (OEC) unit would be a two-turbine combined cycle binary unit, operating on a subcritical Rankine cycle, with isopentane as the motive fluid. The OEC system consists of a generator, turbines, a vaporizer, air cooled condensers, preheaters and recuperators, and an evacuation skid/vapor recovery maintenance unit (VRMU) for purging and maintenance events. The design capacity for the unit is 25 MW (net).

b. **Isopentane Storage Tanks:** Two double-walled 20,000-gallon above-ground storage tanks would be installed for motive fluid (isopentane) storage. Numerous safety and fire prevention measures would be installed on/near the ABST, including the following:

   - Concrete foundations with blast walls separating the tank from the OEC.
   - An automated water suppression system.
   - Concrete containment areas.

- Two flame detectors, which will immediately detect any fire and immediately trigger the automatic fire suppression system.
- A gas detector, which will immediately detect any isopentane leak and notify the control room (manned 24/7).

c. Cooling Tower: A cooling tower array will perform air-cooling operations of the geothermal fluid. The cooling tower will include a series of heat-absorbing evaporators and condensers to capture and transfer heat stored in the geothermal fluid. No water is necessary.

d. Dogwood Substation: The proposed Dogwood geothermal plant will require a new substation to step up the low voltage electrical energy generated at the Dogwood geothermal unit to the higher voltage required for commercial transmission. Pending Imperial Irrigation District (IID) review, no upgrades to off-site transmission facilities are necessary. If upgrades to off-site facilities are later deemed necessary through an IID transmission study, recommendations could include protection upgrades and metering replacements at existing IID substations and/or upgrades to telecommunications, distribution lines, and transmission lines. Such upgrades would use existing infrastructure, easements, right-of-way, and corridors to the extent practicable.

The new Dogwood substation will connect directly to the existing point of interconnection with the IID controlled grid. The substation will include a 13.8 kV circuit breaker to protect the electric generator, a minimum of 80 megavolt ampere 13.8 kV/115 kV transformer, and 115 kV potential and current transformers for metering and system protection. A main control building would contain instrumentation and telecommunications equipment located within the within the greater HGEC.

The substation footprint would measure up to 145 feet by 66 feet and would be surrounded by an eight-foot-tall chain link fence with vehicle and personnel access gates. The surface of the substation would be covered by gravel and the substation equipment would be placed onto concrete foundations.

e. Parasitic Solar Energy Facility: A 7 MW solar facility would provide supplemental/auxiliary energy to the proposed Dogwood geothermal plant. The solar facility is classified as behind-the-meter and would provide supplemental energy directly to the Dogwood geothermal unit (OEC). This energy would not enter the transmission grid.

f. Medium Voltage Distribution Line: The energy generated by the proposed Dogwood solar facility would be collected at an on-site XMD and switch on the western edge of the Heber 2 Project site, adjacent to South (S) Dogwood Road. A medium voltage distribution cable would cross S Dogwood Road and be attached via trays to the existing pipeline that runs west before turning north to cross the Beech Drain and Main Canal at the existing above-ground pipeline span. The cable would continue to follow the existing pipeline alignment and connect into the new Dogwood OEC. No new footings or foundations are required for the cable trays.

2. Heber 2 Solar Energy Project – CUP No. 23-0021

a. Parasitic Solar Energy Facility: A 15 MW solar facility would provide supplemental/auxiliary energy to the existing Heber 2 geothermal plant. The solar facility is classified as behind-the-meter and would provide supplemental energy directly to the Heber 2 geothermal unit (OEC). This energy would not enter the transmission grid. The energy generated by the solar facility would be collected by an on-site XMD and switch and transmitted via a medium voltage distribution cable (as described above).

3. **Heber Field Company (HFC) Geothermal Wells and Pipeline Project – CUP No. 23-0022**

a. **Geothermal Production and Injection Wells:** Production wells flow geothermal fluid to the surface, and injection wells are used to inject geothermal fluid from the energy plant back into the geothermal reservoir. Injection ensures the longevity and renewability of the geothermal resource. The Applicant proposes to develop three geothermal production wells, all within the Imperial County Geothermal Overlay Zone. The wells will be sited at three locations within APNs 059-020-001 and 054-250-017. The injection well would be installed within the HGEC, immediately next to the proposed Dogwood OEC.

b. **Geothermal Fluid Pipeline:** Approximately 4,500 feet (0.85 miles) of geothermal fluid production pipeline are proposed for installation on APN 059-020-001. This new segment of pipeline will connect to an existing pipeline collection point that will deliver the geothermal brine to the proposed Dogwood OEC. The well on APN 054-250-017 would connect to the existing pipeline segment adjacent to the proposed well pad site. The pipeline would be used to transport geothermal fluid from the production wells to the power plants.

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 impacts associated with the following topics: Forestry Resources, Mineral Resources, Population/Housing, Public Services (Schools, Parks and Other Public Facilities), Recreation, Utilities (Wastewater, Stormwater, and Solid Waste), and Wildfire. Therefore, these impacts are not addressed in this EIR; however, the rationale for eliminating these issues is discussed in Chapter 6.0, Effects Found Not Significant.

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
- Agriculture Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use and Planning
- Noise and Vibration
- Public Services
- Transportation
- Tribal Cultural Resources

Table ES-3 summarizes existing environmental impacts that were determined to be potentially significant, mitigation measures, and level of significance after mitigation associated with the project. Additional measures would be implemented to further minimize unintended impacts and events as a result of facility construction and operation and are referred to as Applicant Proposed Measures and Best Management Practices. These measures are contained in Section 2.7 of Chapter 2.0, Project Description.

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 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 geothermal and solar farm project, and other geothermal and 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 impacts on IID drains, air quality, and health and safety hazards. Further, comments received during the scoping process include pipeline integrity and safety concerns (in particular, of existing pipelines in the area and integrity of any proposed pipelines, leaking and spillage); current and proposed pest management practices (Pest Management Plan), to mitigate negative impacts to surrounding farmland including insects, vertebrates, weeds, and plant pathogens; and, implementation and monitoring of non-structural water quality best management practices and reporting (pursuant to Operations Management Plan).

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
Agricultural Resources			
Impact 3.3-1: Conversion of Important Farmlands to non-agricultural use.	Potentially Significant	The following mitigation measures are applicable to the Dogwood Geothermal Energy Project (CUP #23-0020) and Heber 2 Solar Energy Project (CUP #23-0021) only: **AG-1a. Payment of Agricultural and Other Benefit Fees.** Prior to the issuance of a grading permit or building permit (whichever is issued first), one of the following options included below shall be implemented: **A. Mitigation for Non-Prime Farmland:** **Option 1:** *Provide Agricultural Conservation Easement(s).* The Permittee shall procure Agricultural Conservation Easements on a "1 on 1" basis on land of equal size, of equal quality farmland, outside the path of development. The conservation easement shall meet DOC regulations and shall be recorded prior to issuance of any grading or building permits; or **Option 2:** *Pay Agricultural In-Lieu Mitigation Fee.* The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 20 percent of the fair market value per acre for the total acres of the proposed site based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Imperial County Agricultural Commissioner's office and will be used for such purposes as the acquisition, stewardship, preservation, and enhancement of agricultural lands within Imperial County; or, **Option 3:** *Public Benefit Agreement.* The Permittee and County voluntarily enter into an enforceable Public Benefit Agreement or Development Agreement that includes an Agricultural Benefit Fee payment that: 1) is consistent with Board Resolution 2023-#17; and 2) must be held by the County in a restricted account to be used by the County only for such purposes as the stewardship, preservation	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
		and enhancement of agricultural lands within Imperial County and to implement the goals and objectives of the Agricultural Benefit program (as amended by the Board of Supervisors on November 7, 2023: Resolution "Amending the Public Benefit Program for use with Solar Power Plants in Imperial County"), as specified in the Development Agreement, including addressing the mitigation of agricultural job loss on the local economy. **B. Mitigation for Prime Farmland:** **Option 1:** *Provide Agricultural Conservation Easements.* Provide Agricultural Conservation Easement(s). The permittee shall procure Agricultural Conservation Easements on a "2 on 1" basis on land of equal size, of equal quality farmland, outside the path of development. The conservation easement shall meet DOC regulations and shall be recorded prior to issuance of any grading or building permits; or **Option 2:** *Agricultural In-Lieu Mitigation Fee.* The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 30 percent of the fair market value per acre for the total acres of the proposed site based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Imperial County Agricultural Commissioner's office and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County; or **Option 3:** *Public Benefit Agreement.* The Permittee and County voluntarily enter into an enforceable Public Benefit Agreement or Development Agreement that includes an Agricultural Benefit Fee payment that 1) is consistent with Board Resolution 2023-#17; and 2) must be held by the County in a restricted account to be used by the County only for such purposes as the stewardship, preservation and enhancement of agricultural lands within Imperial County and to	

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Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		implement the goals and objectives of the Agricultural Benefit program (as amended by the Board of Supervisors on November 7, 2023: Resolution "Amending the Public Benefit Program for use with Solar Power Plants in Imperial County"), as specified in the Development Agreement, including addressing the mitigation of agricultural job loss on the local economy; the Project and other recipients of the Project's Agricultural Benefit Fee funds; or emphasis on creation of jobs in the agricultural sector of the local economy for the purpose of off-setting jobs displaced by this Project; or **Option 4:** *Avoid Prime Farmland.* The Permittee must revise their Conditional Use Permit Application/Site Plan to avoid Prime Farmland. **AG-1b. Site Reclamation Plan.** The DOC has clarified the goal of a reclamation and decommissioning plan: the land must be restored to land which can be farmed. In addition to Mitigation Measure AG-1a for Prime Farmland and Non-Prime Farmland, the Applicant shall submit to Imperial County, a Reclamation Plan prior to issuance of a grading permit. The Reclamation Plan shall document the procedures by which the project site will be returned to its current agricultural condition. Permittee shall also provide financial assurance/bonding in the amount equal to a cost estimate prepared by a California-licensed general contractor or civil engineer for implementation of the Reclamation Plan in the even Permittee fails to perform the Reclamation Plan.	
Impact 3.3-3: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.	Potentially Significant	The following mitigation measures are applicable to the Dogwood Geothermal Energy Project (CUP #23-0020) Heber 2 Solar Energy Project (CUP #23-0021): **AG-2 Pest Management Plan.** Prior to the issuance of a grading permit or building permit (whichever occurs first), a Pest Management Plan shall be developed by the project applicant and approved by the County of Imperial Agricultural Commissioner. The project applicant	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
		shall maintain a Pest Management Plan until reclamation is complete. The plan shall provide the following: 1. Monitoring, preventative, and management strategies for weed and pest control during construction activities at any portion of the project (e.g., transmission line); 2. Control and management of weeds and pests in areas temporarily disturbed during construction where native seed will aid in site revegetation as follows: • Monitor for all pests including insects, vertebrates, weeds, and pathogens. Promptly control or eradicate pests when found, or when notified by the Agricultural Commissioner's office that a pest problem is present on the project site. The assistance of a licensed pest control advisor is recommended. All treatments must be performed by a qualified applicator or a licensed pest control business; • All treatments must be performed by a qualified applicator or a licensed pest control operator; • "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. Effective control methods may include physical/mechanical removal, bio control, cultural control, or chemical treatments; • Use of "permanent" soil sterilants to control weeds or other pests is prohibited because this would interfere with reclamation; • Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of Food Agriculture	

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Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		and the U.S. Department of Agriculture. Request a sample be taken by the Agricultural Commissioner's Office of a suspected invasive species. Eradication of exotic pests shall be done under the direction of the Agricultural Commissioner's Office and/or California Department of Food and Agriculture; • 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 all project employees that handle pest control issues are appropriately trained and certified, all required records are maintained and made available for inspection, and all required 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; • 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	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		long as the original detailed records are available upon request. 3. A long-term strategy for weed and pest control and management during the operation of the proposed project. Such strategies may include, but are not limited to: • Use of specific types of herbicides and pesticides on a scheduled basis. 4. Maintenance and management of project site conditions to reduce the potential for a significant increase in pest-related nuisance conditions on surrounding agricultural lands. 5. The project shall reimburse the Agricultural Commissioner's office for the actual cost of investigations, inspections, or other required non-routine responses to the site that are not funded by other sources.	
Air Quality			
Impact 3.4-1: Conflict with or obstruct implementation of the applicable air quality plan.	Less than Significant	**AQ-1** **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. 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	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
		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. **Standard Mitigation Measures for Construction Combustion Equipment**	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• 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. • When commercially available, replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set). **AQ-2** **Construction Equipment.** All off-road construction diesel engines not registered under CARB's Statewide Portable Equipment Registration Program, which have a rating of 50 horsepower or more, shall meet, at a minimum, the Tier 4 Final California Emission Standards for Off-road Compression-Ignition Engines as specified in CCR, Title 13, section 2423(b)(1) unless such engine is not available for a particular item of equipment. In the event a Tier 4 Final engine is not available for any off-road engine larger than 100 horsepower, that engine shall be equipped with retrofit controls that would provide NOX and particulate matter emissions that are equivalent to Tier 4 engine. Drill rig engines shall meet a minimum of Tier 4 Interim California Emission Standards. A list of the construction equipment, including all off-road equipment utilized at the project site 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 NO_X analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed the significance thresholds. The Planning and	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		Development Services Department and ICAPCD shall verify implementation of this measure. **AQ-3** **Dust Suppression.** The project applicant shall employ a method of dust suppression (such as water or chemical stabilization) approved by ICAPCD. All unpaved roads associated with construction shall be effectively stabilized of dust emissions using stabilizers/suppressant before the commencement of all construction phases. This will be conducted monthly at a rate of 0.1 gallon/ square yard of chemical dust suppressant. 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 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. **AQ-6** **Speed Limit.** During construction and operation of the proposed project, the applicant shall limit the speed of all vehicles operating onsite on unpaved roads to 15 miles per hour or less.	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Biological Resources			
Impact 3.5-1: Potential impacts on special-status species	Potentially Significant	**BIO-1** **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 on special-status biological resources and the potential penalties for impacts on these resources shall be provided to all construction personnel. At a minimum, the education program shall include 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 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 on 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, which shall be kept on record. **BIO-2** **Preconstruction Nesting Bird Survey:** If construction or other project activities are scheduled to occur during the bird breeding season (typically February 1 through August 31 for raptors 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
		March 15 through August 31 for the majority of migratory bird species), a preconstruction nesting-bird survey shall be conducted by a qualified avian biologist to ensure that active bird nests, including those for the northern harrier, long-billed curlew, and burrowing owl, will not be disturbed or destroyed. In addition, any clearing of vegetation that may occur is required to take place outside of the breeding season. The survey shall be completed no more than 3 days prior to initial ground disturbance. The nesting bird survey shall include the project area and adjacent areas where project activities have the potential to affect active nests, either directly or indirectly, due to construction activity or noise. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist. **BIO-3** **Biological Monitoring:** If preconstruction surveys determine either the presence of special-status species or sensitive biological resources on the project site, a construction monitor may be needed during construction. If determined necessary, construction monitoring shall be conducted by a qualified biologist. The biologist shall be given authority to execute the following functions: • Establish construction exclusion zones and make recommendations for implementing erosion control measures in temporary impact areas. • Ensure all construction activities stay within the staked construction zone and do not go beyond the limits of disturbance. • Minimize trimming/removal of vegetation to within the project impact area.	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• Restrict non-essential equipment to the existing roadways and/or disturbed areas to avoid disturbance to existing adjacent native vegetation. During construction, biological monitors shall inspect and verify field conditions, as needed, to ensure that wildlife and vegetation adjacent to the BSA are not harmed. The biological monitor shall coordinate with the construction supervisor and construction crew and shall have the authority to stop any activity that has the potential to affect special-status species or remove vegetation. **BIO-4** **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 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), a minimum 50-meter buffer shall be established by the biological monitor for low level disturbance, However, the minimum buffer shall be increased depending on the level of construction disturbance (e.g., medium or high). 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	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		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.	
Cultural Resources			
Impact 3.6-2: Impact on archaeological resources	Potentially Significant	**CUL-1** **Evaluate Significance of Find (Unknown Archaeological Resources).** 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 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.	Less than Significant
Impact 3.6-3: Impact on human remains	Potentially Significant	**CUL-2** **Human Remains.** If subsurface deposits believed to be human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist who meets the Secretary of the Interior's Standards for prehistoric and historic archaeology and is familiar with the resources of the region, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no work radius	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
		as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find: • If the find includes human remains, or remains that are potentially human, the professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Imperial County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. • If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC may mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 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 reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the Imperial County Planning and Development Services Department, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.	
Energy			

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Impact 3.7-1: Wasteful, inefficient, or unnecessary consumption of energy resources, during project construction of operation.	Less than Significant	**ENG-1** **Energy Conservation Control Measures.** The project applicant shall implement all the following applicable energy conservation control measures during construction of the project: • Idling times on all diesel-fueled commercial vehicles over 10,000 pounds shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure 13 CCR §2485). Clear signage to this effect shall be provided for construction workers at all access points. • Idling times on all diesel-fueled off-road vehicles over 25 horsepower shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes and fleet operators must develop a written policy as required by 13 CCR §2449 ("CARB Off-Road Diesel Regulations"). • All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • Portable equipment shall be powered by electricity if available. If electricity is not available, propane or natural gas shall be used if feasible. Diesel engines shall only be used if electricity is not available, and it is not feasible to use propane or natural gas.	Less than Significant
Geology and Soils			
Impact 3.8-2: Possible risks to people and structures caused by strong 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	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
		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 applicants. 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 3.8-5: Substantial soil erosion or the loss of topsoil.	Potentially Significant	Implement Mitigation Measure GEO-1 and Mitigation Measure HYD-1.	Less than Significant
Impact 3.8-6: Be located on a geologic unit or soil that is	Potentially Significant	Implement Mitigation Measure GEO-1.	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
unstable or that would become unstable as a result of the project.			
Impact 3.8-7: Be located on expansive soil, as defined in Table 18 1 B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property	Potentially Significant	Implement Mitigation Measure GEO-1.	Less than Significant
Impact 3.8-9: Impact on paleontological resources	Potentially Significant	**GEO-2 Paleontological Resources.** 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.	Less than Significant
Hazards and Hazardous Materials			
Impact 3.10-1: Create a significant hazard to the public or the environment through the routine transport,	Potentially Significant	**HAZ-1 Isopentane Management Measures.** A certified fire protection engineer survey and analysis of current and proposed fire suppression and detection equipment will be performed to evaluate the current systems performance and coverage of protection prior to	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
use, or disposal of hazardous materials.		construction. This analysis will evaluate proposed fire suppression and detection equipment in conjunction with existing equipment and be reviewed and approved by the Imperial County Fire Department and OES prior to building permits approval. The following measures will be required for the project: 1. All isopentane storage tanks will be protected by approved automatic fire suppression equipment. All automatic fire suppression will be installed and maintained to the current adapted fire code and regulation. 2. An approved automatic fire detection system will be installed as per the California Fire Code. All fire detection systems will be installed and maintained to the current adapted fire code and regulations. 3. Fire department access roads and gates will be in accordance with the current adapted fire code and the facility will maintain a Knox Box for access on site. 4. Applicants will provide product containment areas(s) for both product and water run-off in case of fire applications and retained for removal. 5. Each tank will be equipped with an automated water suppression system. 6. Each tank will be equipped with two flame detectors and one gas detector (for a total of 4 flame detectors and 2 gas detectors for the two tanks). a. In the case of an isopentane leak, the gas detector(s) will detect it immediately and send a notification to the operator at the control room (manned 24/7) to mobilize fixing the leak. b. In case of a fire, the flame detector(s) will detect it and immediately start the automatic fire suppression system.	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		c. In case of a fire, there will also be a horn and strobe system that will turn on automatically to alert the plant employees. 7. Concrete containment areas will be constructed for the isopentane tanks. 8. Isopentane vessels will rarely be filled to 90 percent capacity. 9. Isopentane safety-control measures will be established. 10. A blast wall will be built between the two proposed isopentane vessels. 11. Diking and impoundment of the proposed isopentane tanks shall be installed to minimize the magnitude and extent of a tank failure.	
Hydrology/Water Quality			
Impact 3.11-1: 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 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)	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
		• 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.	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		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. **HAZ-1 Isopentane Management Measures.**	
Impact 3.11-3: Result in substantial erosion or siltation on- or off-site.	Potentially Significant	Implement Mitigation Measure HYD-1.	Less than Significant
Impact 3.11-4: Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.	Potentially Significant	Implement Mitigation Measure HYD-2.	Less than Significant
Impact 3.11-5: Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Potentially Significant	Implement Mitigation Measure HYD-1.	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
Impact 3.11-6: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Potentially Significant	Implement Mitigation Measures HYD-1 and HYD-2.	Less than Significant
Tribal Cultural Resources			
Impact 3.16-1: Cause a substantial adverse change in the significance of a tribal cultural resource.	Potentially Significant	**TCR-1** If previously unidentified tribal cultural resources are identified during construction activities, construction work within 100 feet of the find shall be halted and directed away from the discovery until a Secretary of the Interior qualified archaeologist and tribal representative assesses the significance of the resource. The archaeologist, in consultation with Imperial County and any interested Tribes, shall make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the finds are determined to be a tribal cultural resource as defined in PRC Section 21074.	Less than Significant

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).

The proponent does not have control of an alternate site; if control were viable, the proponent would have to re-initiate the application process as a new project. Similar to the proposed project site, an alternate site would require environmental review once the proponent has prepared sufficient project description information. At present, the proponent does not have control of an alternate site. This alternative would be the most complex, costly, and time-consuming alternative to implement. It is unknown if the environmental impacts associated with this Alternative would be less than the proposed project because it would be speculative to evaluate an unsecured alternate site. This is primarily due to the fact that the proponent does not have control of an alternate site. Therefore, an alternative site was eliminated from further consideration in this EIR.

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 and Alternative 2: Reduced Project Site. 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)(1), “the specific alternative of ‘no project’ shall also be evaluated along with its impact.” Also, pursuant to Section 15126.6(e)(2); “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 further developed with geothermal and solar energy facilities. The No Project/No Development Alternative would not meet the project objectives.

Alternative 2: Reduced Project Site

The purpose of Alternative 2 is to avoid the Prime Farmland located within the project site. As discussed in Section 3.3, Agricultural Resources, implementation of the project would result in the temporary conversion of approximately 106.88 acres of land currently under or available for agricultural production to non-agricultural uses, as described below:

- Dogwood Geothermal Energy Project (CUP #23-0020): Approximately 5.31 acres of the Dogwood parasitic solar facility footprint are classified as Prime Farmland and 34.67 acres are classified as Farmland of Statewide Importance.
- Heber 2 Solar Energy Project (CUP #23-0021): Approximately 17.63 acres of the Heber 2 parasitic solar facility footprint are classified as Prime Farmland and 49.27 acres are classified as Farmland of Statewide Importance.

This alternative would avoid approximately 22.94 acres of Prime Farmland on the project site (5.31 acres on Dogwood parasitic solar facility footprint and 17.63 acres on the Heber 2 parasitic solar facility footprint). The size and MW output of the solar facilities would be slightly reduced under this alternative.

Environmentally Superior Alternative

Table ES-2 provides a qualitative comparison of the impacts for each alternative compared to the proposed project. As noted on Table ES-2, 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 on Table ES-2, Alternative 2 would be the environmental superior alternative because it would reduce impacts for the following environmental issue areas as compared to the proposed project: agricultural resources, air quality, biological resources, cultural resources, hydrology/water quality, tribal cultural resources, and utilities/service systems.

Table ES-2. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Aesthetics	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Agricultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Air Quality	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Less Impact
Biological Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Cultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact

Table ES-2. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Energy	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Geology and Soils	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact (Avoid)	*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:* No Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Hazards and Hazardous Materials	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact
Hydrology/ Water Quality	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact

Table ES-2. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Land Use/Planning	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Noise	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Public Services	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Transportation	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Tribal Cultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact

Table ES-2. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Utilities/Service Systems	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Less Impact

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 Dogwood Geothermal Energy 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 2.0 of this EIR.

1.1 Overview of the Proposed Project

The project site is located on approximately 125 acres of privately-owned lands in southern Imperial County, California, approximately one mile south of the City of Heber jurisdictional limit and approximately 0.5 miles west from the City of Calexico jurisdictional limit. The project site is within portions of three parcels: Assessor Parcel Numbers (APN) 054-250-031, 059-020-001, and 054-250-017. APN 054-250-31 is within the existing Heber 2 Geothermal Energy Complex (HGEC) located at 855 Dogwood Road, Heber, CA, and APN 059-020-001 and APN 054-250-017 are immediately southeast and east, respectively, of the HGEC.

The project applicant, OrHeber 3, LLC, Heber Field Company, LLC, and the Second Imperial Geothermal Company (collectively, the "Applicants", and all wholly owned subsidiaries of Ormat Technologies, Inc. [Ormat]) has filed three separate Conditional Use Permits (CUP) applications with the County of Imperial for the construction and operation of various facilities. The three CUP applications are described below. Collectively, these three CUP applications are herein referred to as the "project."

1. **Dogwood Geothermal Energy Project – CUP No. 23-0020**

The Dogwood Geothermal Energy Project includes a geothermal plant and associated ancillary and auxiliary facilities, new substation, 7 megawatt (MW) solar facility, and medium voltage distribution cable from the proposed solar facility to the geothermal plant. These project components are summarized below.

a. **ORMAT Energy Converter (Geothermal Energy Production Unit):** The proposed ORMAT Energy Converter (OEC) unit would be a two-turbine combined cycle binary unit, operating on a subcritical Rankine cycle, with isopentane as the motive fluid. The OEC system consists of a generator, turbines, a vaporizer, air cooled condensers, preheaters and recuperators, and an evacuation skid/vapor recovery maintenance unit (VRMU) for purging and maintenance events. The design capacity for the unit is 25 MW (net).

b. **Isopentane Storage Tanks:** Two double-walled 20,000-gallon above-ground storage tanks would be installed for motive fluid (isopentane) storage. Numerous safety and fire prevention measures would be installed on/near the ABST, including the following:

   - Concrete foundations with blast walls separating the tank from the OEC.
   - An automated water suppression system.
   - Concrete containment areas.

- Two flame detectors, which will immediately detect any fire and immediately trigger the automatic fire suppression system.
- A gas detector, which will immediately detect any isopentane leak and notify the control room (manned 24/7).

c. Cooling Tower: A cooling tower array will perform air-cooling operations of the geothermal fluid. The cooling tower will include a series of heat-absorbing evaporators and condensers to capture and transfer heat stored in the geothermal fluid. No water is necessary.

d. Dogwood Substation: The proposed Dogwood geothermal plant will require a new substation to step up the low voltage electrical energy generated at the Dogwood geothermal unit to the higher voltage required for commercial transmission. Pending Imperial Irrigation District (IID) review, no upgrades to off-site transmission facilities are necessary. If upgrades to off-site facilities are later deemed necessary through an IID transmission study, recommendations could include protection upgrades and metering replacements at existing IID substations and/or upgrades to telecommunications, distribution lines, and transmission lines. Such upgrades would use existing infrastructure, easements, right-of-way, and corridors to the extent practicable.

The new Dogwood substation will connect directly to the existing point of interconnection with the IID controlled grid. The substation will include a 13.8 kV circuit breaker to protect the electric generator, a minimum of 80 megavolt ampere 13.8 kV/115 kV transformer, and 115 kV potential and current transformers for metering and system protection. A main control building would contain instrumentation and telecommunications equipment located within the within the greater HGEC.

The substation footprint would measure up to 145 feet by 66 feet and would be surrounded by an eight-foot-tall chain link fence with vehicle and personnel access gates. The surface of the substation would be covered by gravel and the substation equipment would be placed onto concrete foundations.

e. Parasitic Solar Energy Facility: A 7 MW solar facility would provide supplemental/auxiliary energy to the proposed Dogwood geothermal plant. The solar facility is classified as behind-the-meter and would provide supplemental energy directly to the Dogwood geothermal unit (OEC). This energy would not enter the transmission grid.

f. Medium Voltage Distribution Line: The energy generated by the proposed Dogwood solar facility would be collected at an on-site XMD and switch on the western edge of the Heber 2 Project site, adjacent to South (S) Dogwood Road. A medium voltage distribution cable would cross S Dogwood Road and be attached via trays to the existing pipeline that runs west before turning north to cross the Beech Drain and Main Canal at the existing above-ground pipeline span. The cable would continue to follow the existing pipeline alignment and connect into the new Dogwood OEC. No new footings or foundations are required for the cable trays.

2. Heber 2 Solar Energy Project – CUP No. 23-0021

a. Parasitic Solar Energy Facility: A 15 MW solar facility would provide supplemental/auxiliary energy to the existing Heber 2 geothermal plant. The solar facility is classified as behind-the-meter and would provide supplemental energy directly to the Heber 2 geothermal unit (OEC). This energy would not enter the transmission grid. The energy generated by the solar facility would be collected by an on-site XMD and switch and transmitted via a medium voltage distribution cable (as described above).

3. **Heber Field Company (HFC) Geothermal Wells and Pipeline Project – CUP No. 23-0022**

a. **Geothermal Production and Injection Wells:** Production wells flow geothermal fluid to the surface, and injection wells are used to inject geothermal fluid from the energy plant back into the geothermal reservoir. Injection ensures the longevity and renewability of the geothermal resource. The Applicant proposes to develop three geothermal production wells, all within the Imperial County Geothermal Overlay Zone. The wells will be sited at three locations within APNs 059-020-001 and 054-250-017. The injection well would be installed within the HGEC, immediately next to the proposed Dogwood OEC.

b. **Geothermal Fluid Pipeline:** Approximately 4,500 feet (0.85 miles) of geothermal fluid production pipeline are proposed for installation on APN 059-020-001. This new segment of pipeline will connect to an existing pipeline collection point that will deliver the geothermal brine to the proposed Dogwood OEC. The well on APN 054-250-017 would connect to the existing pipeline segment adjacent to the proposed well pad site. The pipeline would be used to transport geothermal fluid from the production wells to the power plants.

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 CUPs.** Implementation of the project would require the approval of CUPs by the County to allow for the construction and operation of the proposed facilities. The following CUPs are under consideration for approval as evaluated in this EIR:

   - CUP 23-0020 (Dogwood Geothermal Plant and Solar Energy Facility)
   - CUP 23-0021 (Heber 2 Solar Energy Facility)
   - CUP 23-0022 (HFC Geothermal Wells and Pipeline)

   The project parcels are currently zoned as A-2-G-SPA and A-2-G-U.

   Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone:

   n) Oil, gas and geothermal exploration meeting requirements specified in Division 17

   s) Solar energy extraction generation provided that is for on-site consumption only

   Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

   y) Electrical generation plants (less than 50 MW) excluding nuclear or coal fired and meeting requirements in Division 17

   z) Electrical substations in an electrical transmission system (500 kv/230 kv/161 kv)

   bb) Facilities for the transmission of electrical energy (100-200 kv)

   ii) Geothermal test facilities, Intermediate projects, and major exploratory wells, meeting requirements in Division 17

rr) Major Geothermal projects per Division 17

ww) Resource extraction and energy development as per Division 17

aaa) Solar energy electrical generator

2. **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 approval or denial of 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 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. In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

1.2.3 Senate Bill 32

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by Executive Order (EO) B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

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 Sections 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

The Draft EIR will be distributed to various federal, state, regional, local agencies and interested parties for a 50-day public review period, in accordance with Section 15087 of the CEQA Guidelines. The Draft EIR and documents incorporated by reference will be made available for public review at the County of Imperial Planning and Development Services Department, 801 Main Street, El Centro, California 92243. Documents are available for review during regular business hours.

Luis Valenzuela, Planner II

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 reviewed and responded to in the Final EIR. The Final EIR will be reviewed by the Imperial County Planning Commission and Board of Supervisors as a part of the procedure to certify the Final 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 Dogwood Geothermal Energy Project on January 19, 2024. 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 January 19, 2024. 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
- Imperial Irrigation District
- Imperial County Air Pollution Control District
- Walter and Toni Holtz
- Heber Geothermal Royalty Owners Group

The comments submitted on the NOP during the public review and comment period are included as Appendix A to this EIR.

Assembly Bill 52 Compliance

In accordance with Assembly Bill (AB) 52, Imperial County, as the CEQA lead agency, sent an AB 52 consultation request letter to the Campo Band of Mission Indians and Fort Yuma-Quechan Indian Tribe on January 19, 2024. No responses were received from the Campo Band of Mission Indians or Fort Yuma-Quechan Indian Tribe.

Scoping Meeting and Environmental Evaluation Committee

During the NOP public review period, the Dogwood Geothermal Energy Project was discussed as an informational item at the County's Environmental Evaluation Committee meeting on February 8, 2024.

Additionally, a virtual scoping meeting for the general public as well public agencies was held on February 8, 2024, 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 January 19, 2024. 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. One written comment letter was received during the scoping meeting and is included as Appendix A to this EIR.

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
- Agriculture Resources
- Hazards and Hazardous Materials
- Hydrology/Water Quality

- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Land Use and Planning
- Noise and Vibration
- Public Services
- Transportation
- Tribal Cultural Resources
- Utilities/Service Systems (Water Supply)

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 Forestry Resources, Mineral Resources, Population/Housing, Public Services (Schools, Parks and Other Public Facilities), Recreation, 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 discussed in Chapter 6.0, Effects Found Not Significant.

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 geothermal and solar farm project, and other geothermal and 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 impacts on IID drains, air quality, and health and safety hazards. Further, comments received during the scoping process include pipeline integrity and safety concerns (in particular, of existing pipelines in the area and integrity of any proposed pipelines, leaking and spillage); current and proposed pest management practices (Pest Management Plan), to mitigate negative impacts to surrounding farmland including insects, vertebrates, weeds, and plant pathogens; hazards associated with storage of isopentane; fire suppression; and, implementation and monitoring of non-structural water quality best management practices and reporting (pursuant to Operations Management Plan).

1.4.5 Document Organization

The structure of the Draft EIR is identified below. The Draft EIR is organized into 10 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 Dogwood Geothermal 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 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; agricultural resources; air quality; biological resources; cultural resources; energy; geology and soils; GHG emissions; hazards and hazardous materials; hydrology/water quality; land use and planning; noise and vibration; public services; transportation; tribal cultural resources; 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 Dogwood Geothermal 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 implementation of the project.

OrHeber 3, LLC, Heber Field Company, LLC, and the Second Imperial Geothermal Company (collectively, the "Applicants", and all wholly owned subsidiaries of Ormat Technologies, Inc. [Ormat]) have filed three separate Conditional Use Permit (CUP) applications with the County of Imperial for the construction and operation of various facilities. The three CUP applications consist of the following:

1) **Dogwood Geothermal Energy Project (OrHeber 3, LLC) – CUP No. 23-0020**
    - One (1) twenty-five (25) net megawatt (MW) Integrated Two Level Unit (ITLU) Air Cooled ORMAT Energy Converter (OEC) generating unit
    - Two (2) 20,000-Gallon Isopentane Above Ground Storage Tanks for Motive Fluid Storage
    - One (1) Project substation for transmission to the grid
    - Ancillary and auxiliary facilities (including, compressed air system and fire prevention system)
    - A seven (7) MW solar photovoltaic (PV) facility dedicated to the Dogwood geothermal plant
    - Medium voltage distribution cable from the Dogwood solar facility to Dogwood geothermal plant (OEC). The cable would be co-located along an existing above ground pipeline.
2) **Heber 2 Solar Energy Project (Second Imperial Geothermal Company) – CUP No. 23-0021**
    - A fifteen (15) MW solar PV facility dedicated to the Heber 2 geothermal plant
3) **Heber Field Company (HFC) Geothermal Wells and Pipeline Project (Heber Field Company, LLC) – CUP No. 23-0022**
    - Three (3) geothermal production wells
    - One (1) new geothermal injection well
    - Brine pipelines (approximately 4,500 linear feet)

Collectively, these three CUP applications are herein referred to as the "project" for purposes of evaluation in this EIR.

2.1 Project Location

The project site is located on approximately 125 acres of privately-owned lands in southern Imperial County, California, approximately one mile south of the City of Heber jurisdictional limit and approximately 0.5 miles west from the City of Calexico jurisdictional limit (Figure 2-1). The project site is within portions of three parcels: Assessor Parcel Numbers (APN) 054-250-031, 059-020-001, and 054-250-017 (Figure 2-2). Table 2-1 identifies the assessor parcel numbers (APN) associated with the project site, the APN acreage, project site component approximate acreage, General Plan land use

designation, and zoning. APN 054-250-31 is within the existing Heber 2 Geothermal Energy Complex (HGEC) located at 855 Dogwood Road, Heber, CA, and APN 059-020-001 and APN 054-250-017 are immediately southeast and east, respectively, of the HGEC (Figure 2-3). An overview of the project site and proposed facilities are shown in Figure 2-3.

Interstate 8 (I-8; Kumeyaay Highway), located approximately 4.5 miles directly north, provides primary highway access to the site. Dogwood Road stems off I-8 and provides immediate site access. From the south, Willoughby Road runs west-east approximately 1,700 feet from the site and connects to Dogwood Road, providing immediate site access.

Table 2-1. Project Assessor Parcel Numbers, Project Component Site Acreages, General Plan Land Use, and Zoning

APN	APN Acreage	Site Component Acreage	General Plan Land Use	Zoning
054-250-031	39.93	~5.68	Heber Specific Plan Area	A-2-G-SPA
059-020-001	246.61	~117.59	Urban	A-2-G-U
054-250-017	160.08	~2	Heber Specific Plan Area	A-2-G-SPA
Total	446.62	~125.27	--	--

2.1.1 Dogwood Geothermal Energy Project (CUP #23-0020)

The Dogwood Geothermal Energy Project would be located on APNs 054-250-031, 059-020-001, and 054-250-017 (Figure 2-3). The proposed geothermal power plant would be located within the existing fenceline of the HGEC, operated by the Second Imperial Geothermal Company, a subsidiary of ORMAT which includes the Heber 2, Heber South, and Goulds 2 geothermal energy facilities located at 855 Dogwood Road, Heber, CA (APN 054-250-31). The development area for the Dogwood geothermal plant is completely disturbed from existing energy generation operations and devoid of any vegetation, surface waters, or existing facilities that would require relocation or demolition.

The proposed geothermal power plant is approximately one mile south of the City of Heber jurisdictional limit and approximately half a mile west from the City of Calexico jurisdictional limit. The proposed geothermal power plant is generally located north of Jasper Road and west of South (S) Dogwood Road.

As shown in Figure 2-3, the proposed 7 MW parasitic solar photovoltaic facility would be located southeast of the HGEC in the central portion of APN 059-020-001. Currently, APN 059-020-001 is used for the cultivation of crops, specifically alfalfa.

2.1.2 Heber 2 Solar Energy Project (CUP #23-0021)

As shown in Figure 2-3, the proposed Heber 2 solar energy facility 15 MW parasitic solar PV facility would be located southeast of the HGEC in the northern portion of APN 059-020-001.

Figure 2-1. Regional Location

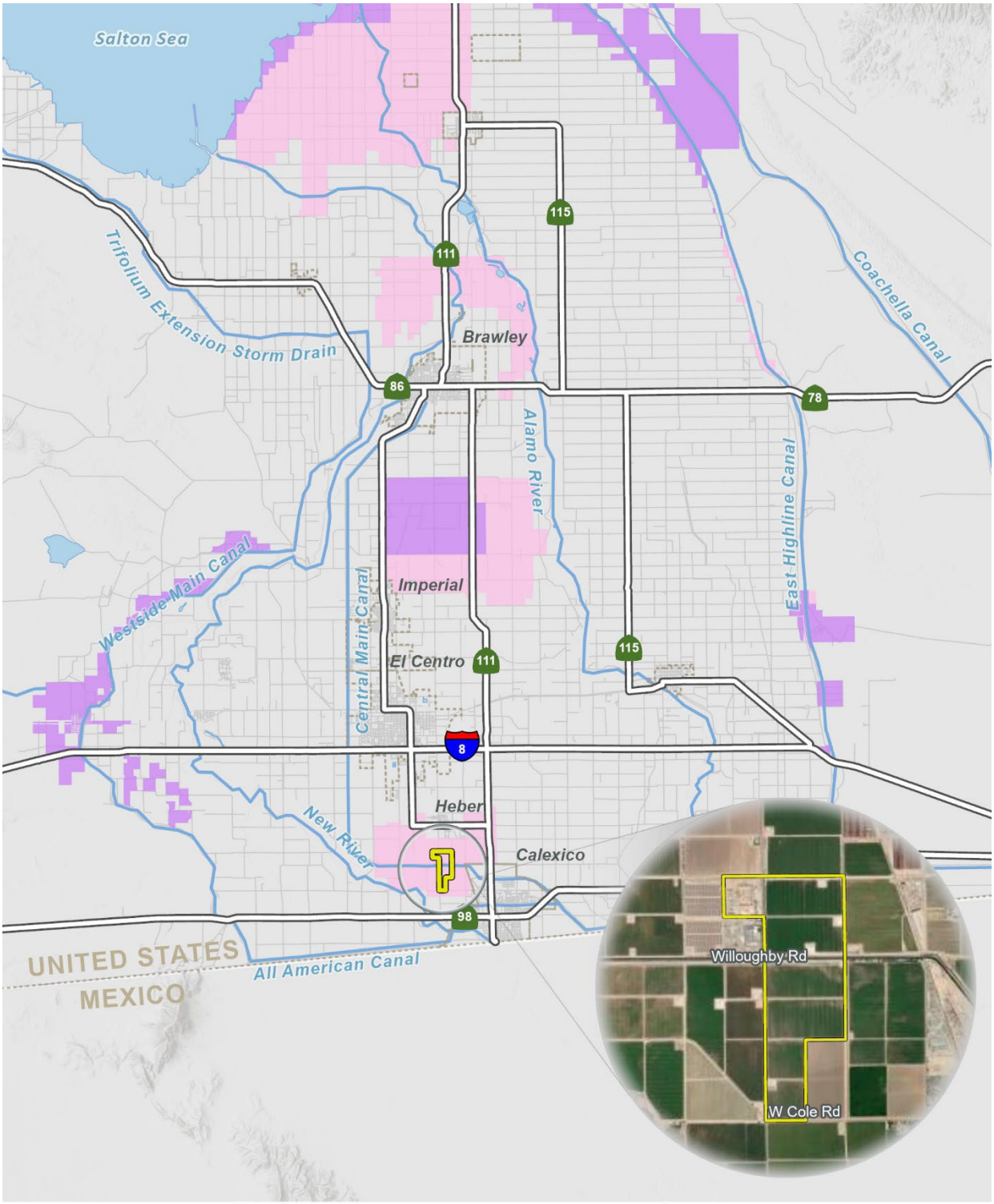


Figure 2-2. Project Location

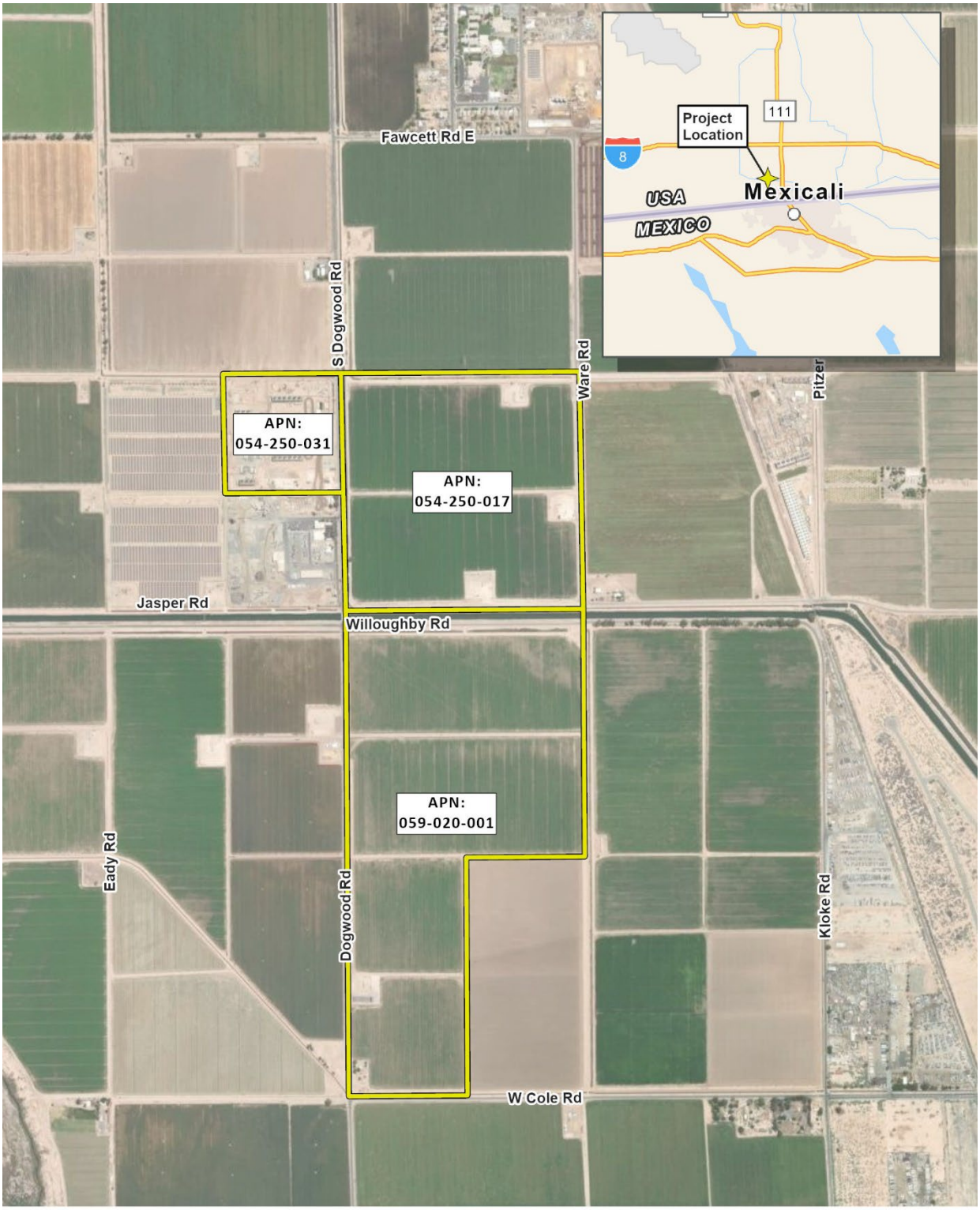
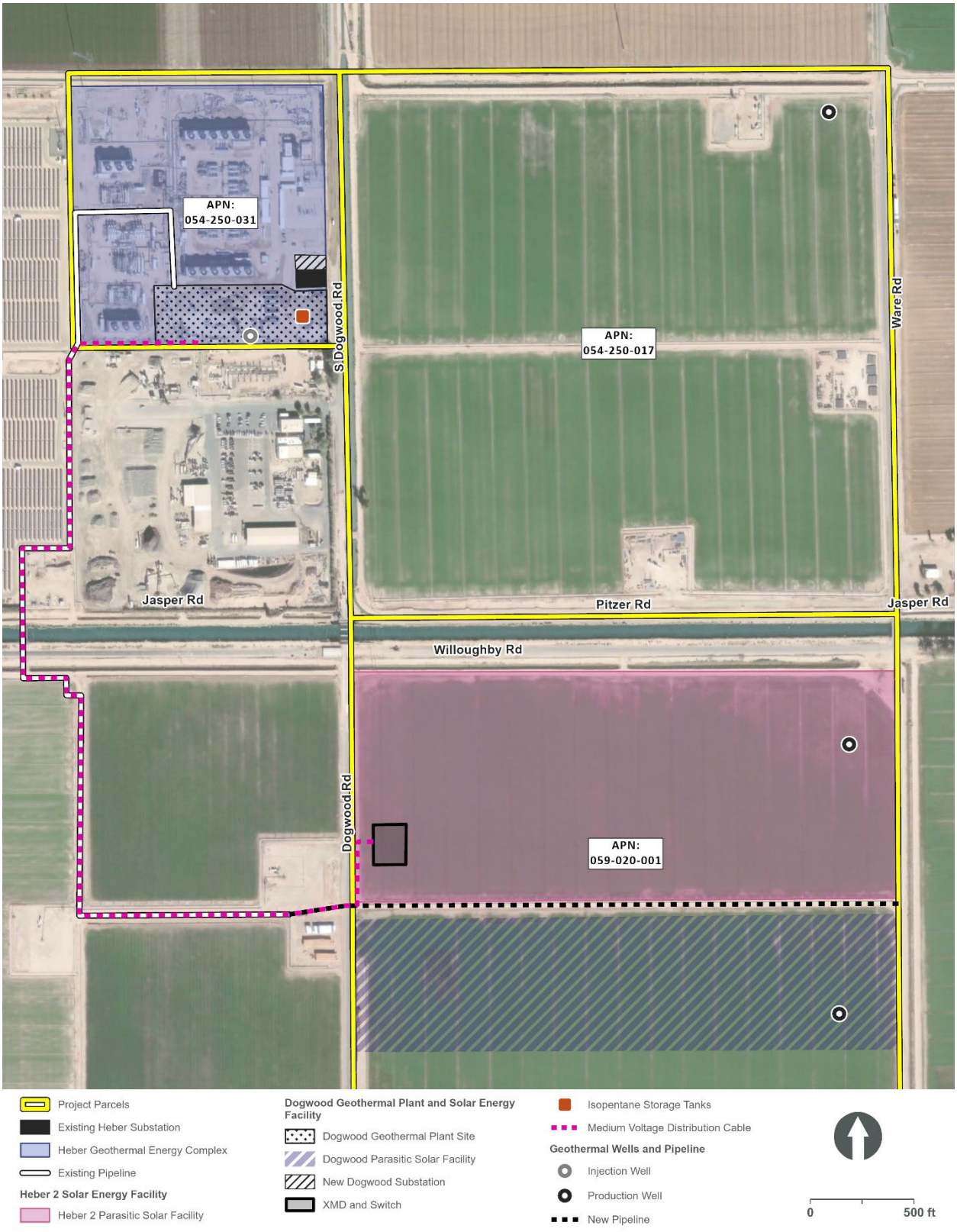


Figure 2-3. Project Overview



2.1.3 HFC Geothermal Wells and Pipeline Project (CUP #23-0022)

The new geothermal production wells and associated pipeline(s) (approximately 4,500 linear feet) will be split between two parcels. As shown in Figure 2-3, two of these wells would be located within APN 059-020-001 with a small segment of pipeline (approximately 1,000 feet) developed within APN 059-020-001 connecting to the existing pipeline network. A third well would be installed adjacent to an existing geothermal well approximately 1,500 feet due east of the HGEC (APN 054-250-017). APN 054-250-017 is currently used for the cultivation of crops, specifically alfalfa. The new injection well would be located adjacent to the proposed Dogwood geothermal plant within the HGEC.

2.1.4 Renewable Energy Overlay Zone

In 2016, the County adopted the Imperial County Renewable Energy and Transmission Element, which includes a renewable overlay zone (RE Overlay). 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 (Imperial County 2021).

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.

As shown in Figure 2-1, the project site is located within the Geothermal Overlay Zone, which is considered as part of the RE Overlay Zone. Therefore, no General Plan Amendment or Rezone would be required to implement the proposed project.

2.2 Project Objectives

- Develop a geothermal power plant with minimal disturbance footprint and environmental impacts by siting the facility on an existing disturbed industrial site.
- Develop clean, renewable geothermal energy in the Heber Geothermal Zone pursuant to the Imperial County General Plan.
- Utilize a location that is in close proximity to existing energy generation facilities and electrical transmission system.
- Develop supporting renewable energy solar PV facilities to support the geothermal power plant operations.
- Use proven and established PV technology that is efficient and requires low maintenance.
- Provide renewable baseload energy and capacity to assist the State of California with meeting the objectives of Senate Bill 100 (100% Clean Energy Act of 2018) and the State's Renewables Portfolio Standard program.
- Minimize and mitigate any potential impact to sensitive environmental resources within the project area.

2.3 Project Facilities

2.3.1 Dogwood Geothermal Energy Project (CUP #23-0020)

The Dogwood Geothermal Energy Project includes a 25 net MW geothermal plant and associated ancillary and auxiliary facilities, new substation, 7 MW solar facility, and medium voltage distribution cable from the proposed solar facility to the geothermal plant. The medium voltage distribution cable would be co-located along an existing above ground pipeline for the majority of its length. Co-location with the existing and proposed above ground pipeline would occur west of Dogwood Road where the existing pipeline is present, and a short span of new pipeline is proposed (discussed under Section 2.3.1.6). The medium voltage cable would connect from the XMD and Switch area within the solar site proposed east of Dogwood Road via a trench (which would be re-covered) until it joins with the proposed segment of new pipeline immediately west of Dogwood Road (which in turn will connect to the existing pipeline in which it would then be co-located). These project components are described in detail below and shown in Figure 2-4.

2.3.1.1 ORMAT Energy Converter (Geothermal Energy Production Unit)

The proposed ORMAT Energy Converter (OEC) unit (Figure 2-5) would be a two-turbine combined cycle binary unit, operating on a subcritical Rankine cycle, with isopentane as the motive fluid. As shown in Figure 2-6, the OEC system consists of a generator, turbines, a vaporizer, air cooled condensers, preheaters and recuperators, and an evacuation skid/vapor recovery maintenance unit (VRMU) for purging and maintenance events. The design capacity for the unit is 25 MW (net).

2.3.1.2 Isopentane Storage Tanks

Two double-walled 20,000-gallon above-ground storage tanks (ABST) would be installed for motive fluid (isopentane) storage. Numerous safety and fire prevention measures would be installed on/near the ABST, including the following:

- Concrete foundations with blast walls separating the tank from the OEC.
- An automated water suppression system.
- Concrete containment areas.
- Two flame detectors, which will immediately detect any fire and immediately trigger the automatic fire suppression system.
- A gas detector, which will immediately detect any isopentane leak and notify the control room (manned 24/7).

2.3.1.3 Cooling Tower

A cooling tower array will perform air-cooling operations of the geothermal fluid. The cooling tower will include a series of heat-absorbing evaporators and condensers to capture and transfer heat stored in the geothermal fluid. No water is necessary.

Figure 2-4. Dogwood Geothermal Energy Project Components

Figure 2-5. Example Pictures of Proposed ORMAT Energy Converters (OECs)

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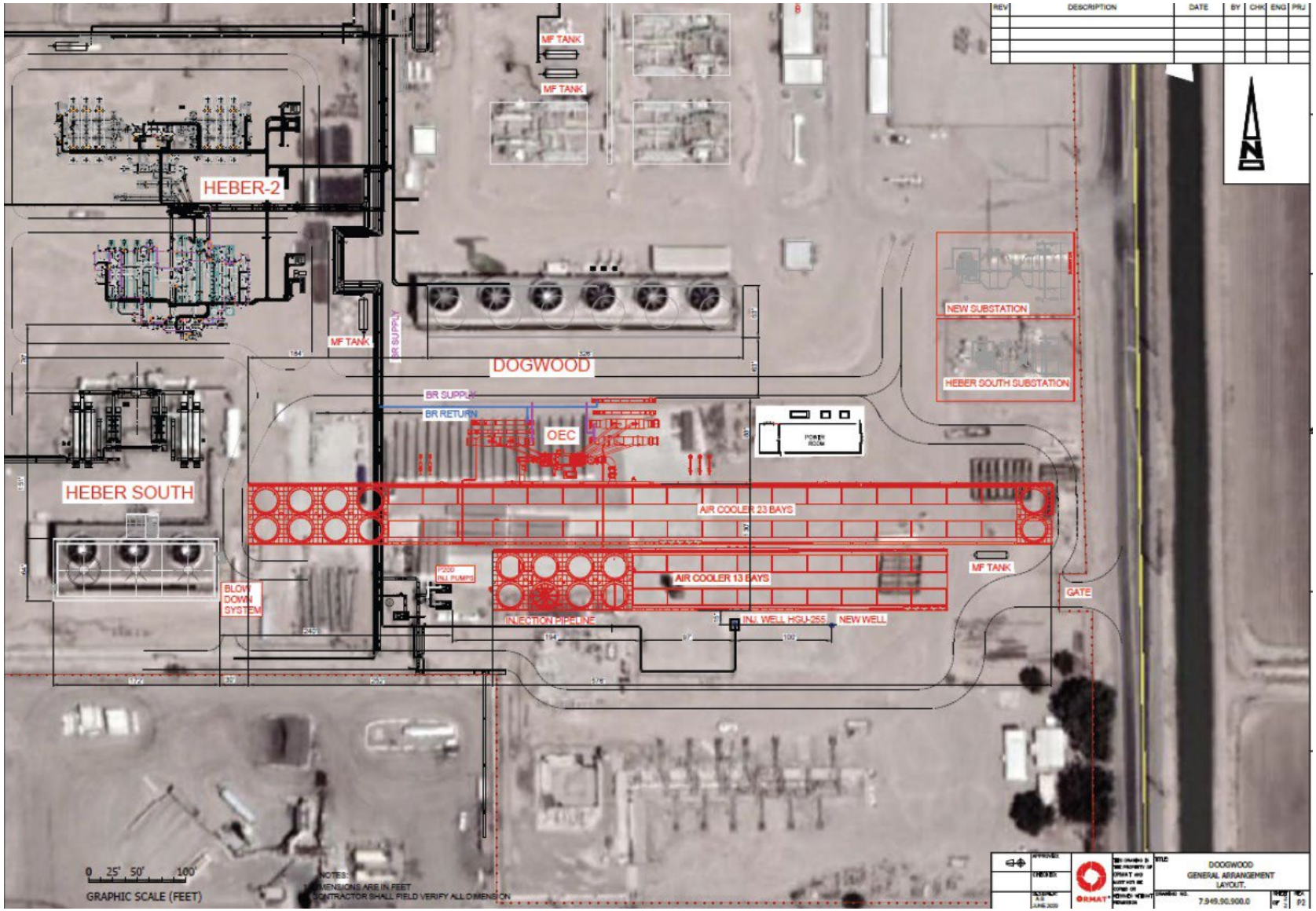
Figure 2-6. ORMAT Energy Converter Site Plan



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2.3.1.4 Dogwood Substation

A new substation will be required to step up the low voltage electrical energy generated at the Dogwood geothermal unit to the higher voltage required for commercial transmission. Pending Imperial Irrigation District (IID) review, no upgrades to off-site transmission facilities are necessary. If upgrades to off-site facilities are later deemed necessary through an IID transmission study, recommendations could include protection upgrades and metering replacements at existing IID substations and/or upgrades to telecommunications, distribution lines, and transmission lines. Such upgrades would use existing infrastructure, easements, right-of-way, and corridors to the extent practicable.

The new Dogwood substation will connect directly to the existing point of interconnection with the IID controlled grid. The substation will include a 13.8 kV circuit breaker to protect the electric generator, a minimum of 80 megavolt ampere 13.8 kV/115 kV transformer, and 115 kV potential and current transformers for metering and system protection. A main control building would contain instrumentation and telecommunications equipment located within the within the greater HGEC.

The substation footprint would measure up to 145 feet by 66 feet and would be surrounded by an eight-foot-tall chain link fence with vehicle and personnel access gates. The surface of the substation would be covered by gravel and the substation equipment would be placed onto concrete foundations.

2.3.1.5 Parasitic Solar Energy Facility

A 7 MW solar facility would provide supplemental/auxiliary energy to the proposed Dogwood geothermal plant. The solar facility is classified as *behind-the-meter* and would provide supplemental energy directly to the Dogwood geothermal unit (OEC). This energy would not enter the transmission grid. The solar facility will effectively reduce the margin between gross and net geothermal energy generation, allowing for the more efficient generation of geothermal energy and to allow more geothermal energy to enter the grid.

2.3.1.6 Medium Voltage Distribution Line

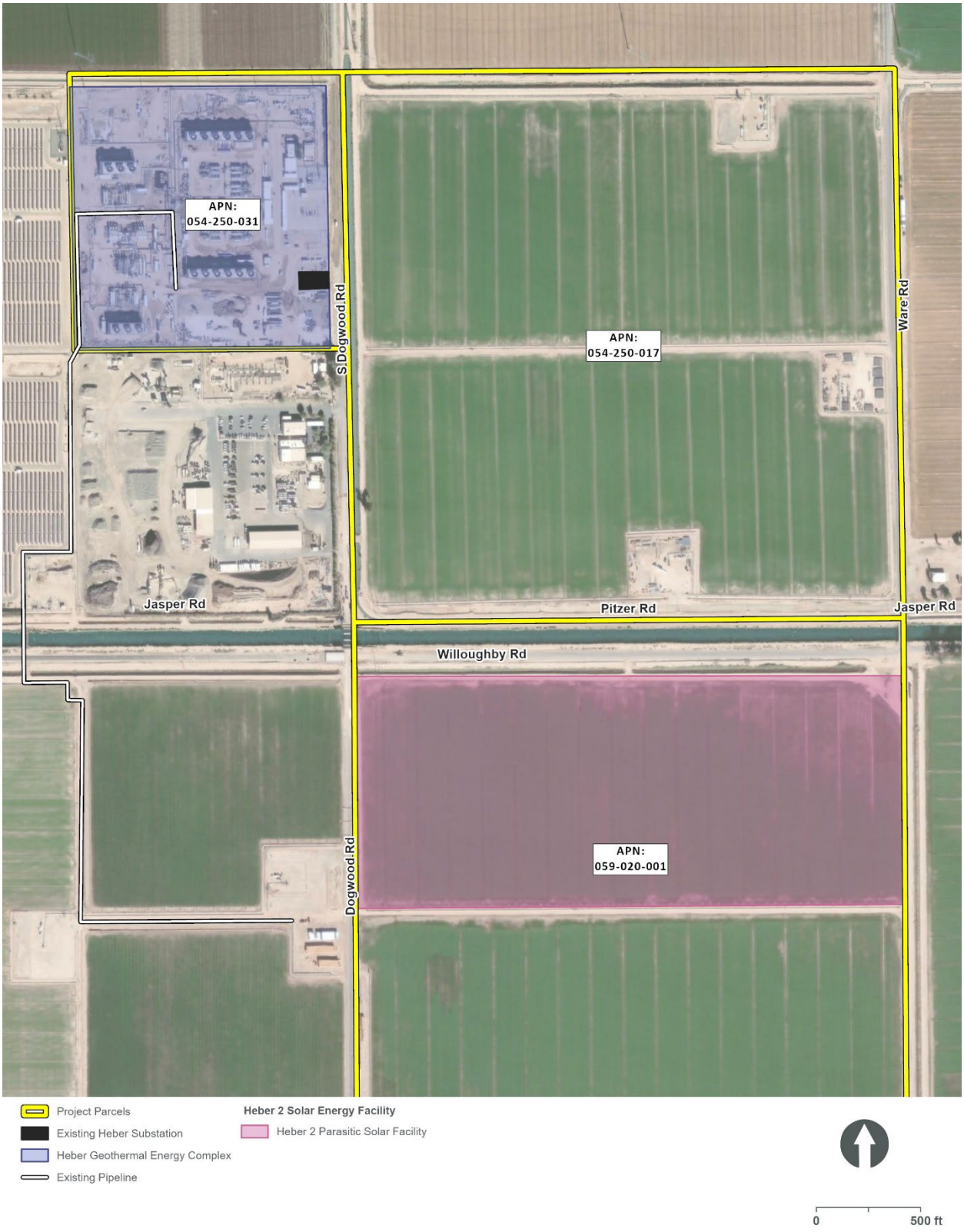
As shown in Figure 2-4, the energy generated by the proposed Dogwood solar facility would be collected at an on-site XMD and switch on the western edge of the Heber 2 solar energy facility site, adjacent to South (S) Dogwood Road. A medium voltage distribution cable would cross S Dogwood Road and be attached via trays to the existing pipeline that runs west before turning north to cross the Beech Drain and Main Canal at the existing above-ground pipeline span. The cable would continue to follow the existing pipeline alignment and connect into the new Dogwood OEC. No new footings or foundations are required for the cable trays.

2.3.2 Heber 2 Solar Energy Project (CUP #23-0021)

2.3.2.1 Parasitic Solar Energy Facility

A 15 MW solar facility would provide supplemental/auxiliary energy to the existing Heber 2 geothermal plant (Figure 2-7). The solar facility is classified as *behind-the-meter* and would provide supplemental energy directly to the Heber 2 geothermal unit (OEC). This energy would not enter the transmission grid. The solar facility will effectively reduce the margin between gross and net geothermal energy generation, allowing for the more efficient generation of geothermal energy and to allow more geothermal energy to enter the grid.

Figure 2-7. Heber 2 Solar Energy Project Components



The energy generated by the solar facility would be collected by an on-site XMD and switch and transmitted along via a medium voltage distribution cable (as described above in Section 2.3.1.6 and shown in Figure 2-4).

2.3.3 HFC Geothermal Production Wells and Pipeline Project (CUP #23-0022)

2.3.3.1 Geothermal Production and Injection Wells

Production wells flow geothermal fluid to the surface, and injection wells are used to inject geothermal fluid from the energy plant back into the geothermal reservoir. Injection ensures the longevity and renewability of the geothermal resource. The Applicant proposes to develop three geothermal production wells, all within the Imperial County Geothermal Overlay Zone. The wells will be sited at three locations within APNs 059-020-001 and 054-250-017. Three well locations are shown in Figure 2-8, however, these are identified as preliminary locations and may be ultimately located within APNs 059-020-001 and 054-250-017. The injection well would be installed within the HGEC, immediately next to the proposed Dogwood OEC.

During well installation, each well pad would accommodate a drilling rig, support equipment, portable bathroom, baker tanks, and project vehicles. Each well pad would be prepared to create a level pad for the drill rig and a graded surface for the support equipment. A typical well pad is shown in Figure 2-9. Stormwater runoff from undisturbed areas around the constructed drill pads would be directed into ditches surrounding the drill pad and back onto undisturbed ground, consistent with BMPs for storm water identified in “Drilling and Operating Geothermal Wells in California” (CalGem PR7S). The site would be graded to prevent fugitive stormwater runoff off the well pad and has been designed to withstand a 100-year storm event.

Each well would be drilled with a rotary drill rig similar to those used to drill oil and gas wells. The production wells would each be drilled and cased to a design depth of approximately 5,000 feet. A typical profile of a geothermal production well is shown in Figure 2-10. Following the cementing of the surface casing, blowout prevention equipment (BOPE) would be installed. During drilling operations, a minimum of 10,000 gallons of cool water and 12,000 pounds of inert, non-toxic barite (barium sulfate) would be stored at each well pad (as appropriate for the type of material) for use in preventing uncontrolled well flow, as necessary.

Once the well is completed, a well head will be installed and connected to the pipeline network to convey geothermal fluids. A motor control building would be installed next to the well head to provide system controls, sensors, and treatment systems. During normal well field operations, total geothermal fluid production rates are expected to be approximately 15,150 gallons per minute (gpm) at 280°F. Injection would occur at the same approximate levels (i.e., 15,150 gpm) but at lower temperatures of near 170°F.

2.3.3.2 Geothermal Fluid Pipeline

Approximately 4,500 feet (0.85 miles) of geothermal fluid production pipeline are proposed for installation on APN 059-020-001. This new segment of pipeline will connect to an existing pipeline collection point that will deliver the geothermal brine to the proposed Dogwood OEC. As shown in Figure 2-8, the well on APN 054-250-017 would connect to the existing pipeline segment adjacent to the proposed well pad site. A typical well pad is shown in Figure 2-9. The pipeline would be used to transport geothermal fluid from the production wells to the power plants.

Construction of the pipeline network would begin by vertically auguring nominal 24-inch diameter holes into the ground about three to five feet deep at approximately 30-foot intervals along the pipeline route. Two holes for pipeline supports would be drilled at each anchor point. Dirt removed from the holes would be cast on the ground adjacent to each hole. The steel pipe “sleeper” would be placed in the hole and concrete poured to fill the hole slightly above the ground surface.

After the anchor points are installed, approximately 30-foot-long steel pipe sections would be delivered and placed along the pipeline construction corridor. A small crane would lift the pipe sections onto the pipe supports and temporary pipe jacks so that they could be welded together into a solid pipeline.

Once welded and the welds tested, the pipe would be jacketed with insulation and an aluminum sheath (appropriately colored, likely covert green, to blend with the area).

When completed, the top of the new geothermal pipelines would average three to four feet above the ground surface to accommodate terrain undulations and to facilitate movement of wildlife. Electrical power and instrumentation cables for the wells would then either be installed in steel conduit constructed along the pipe or hung by cable from pipe along the pipeline route.

Figure 2-8. HFC Geothermal Wells and Pipeline Project Components

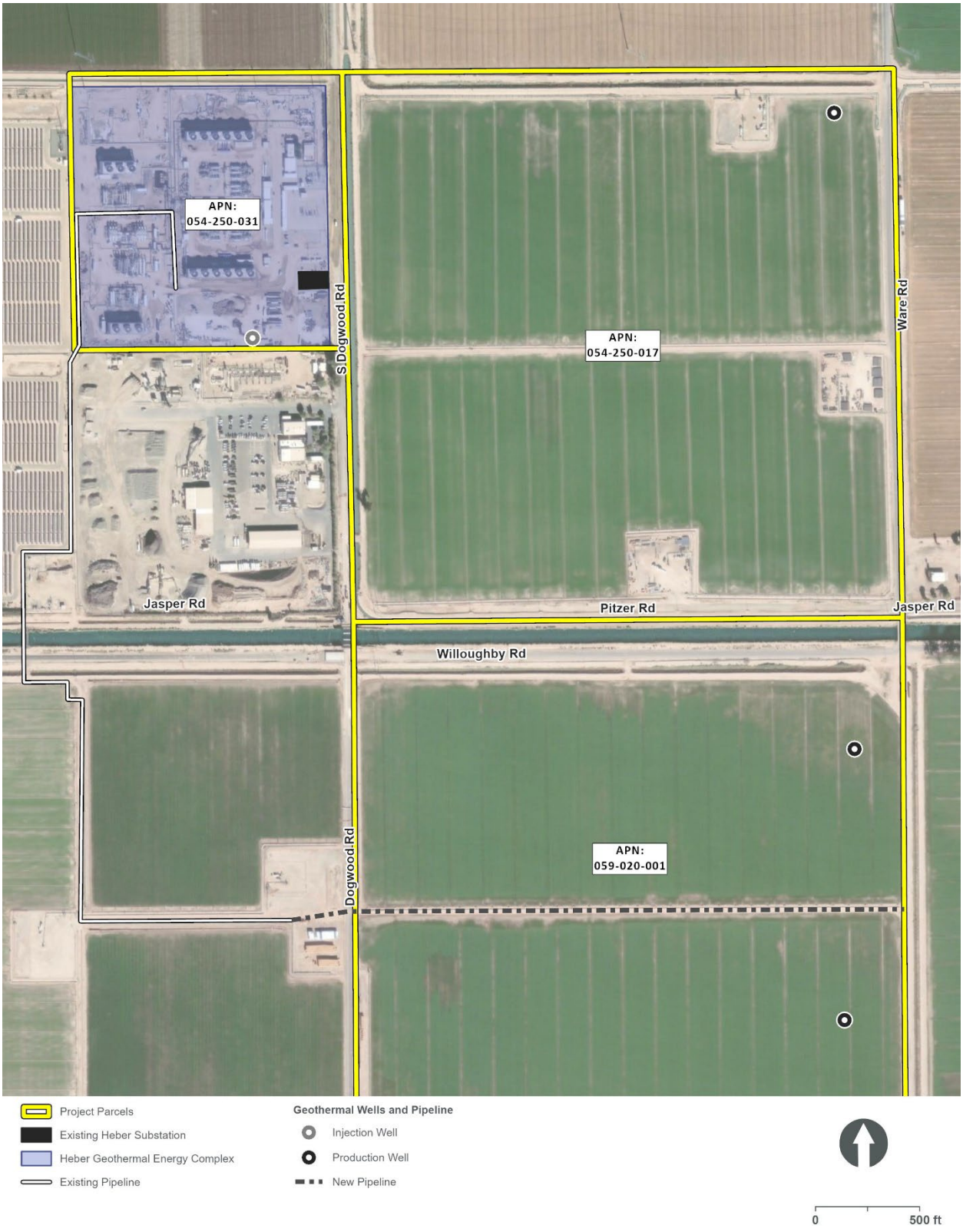


Figure 2-9. Typical Well Pad Layout to Drill a Geothermal Production Well

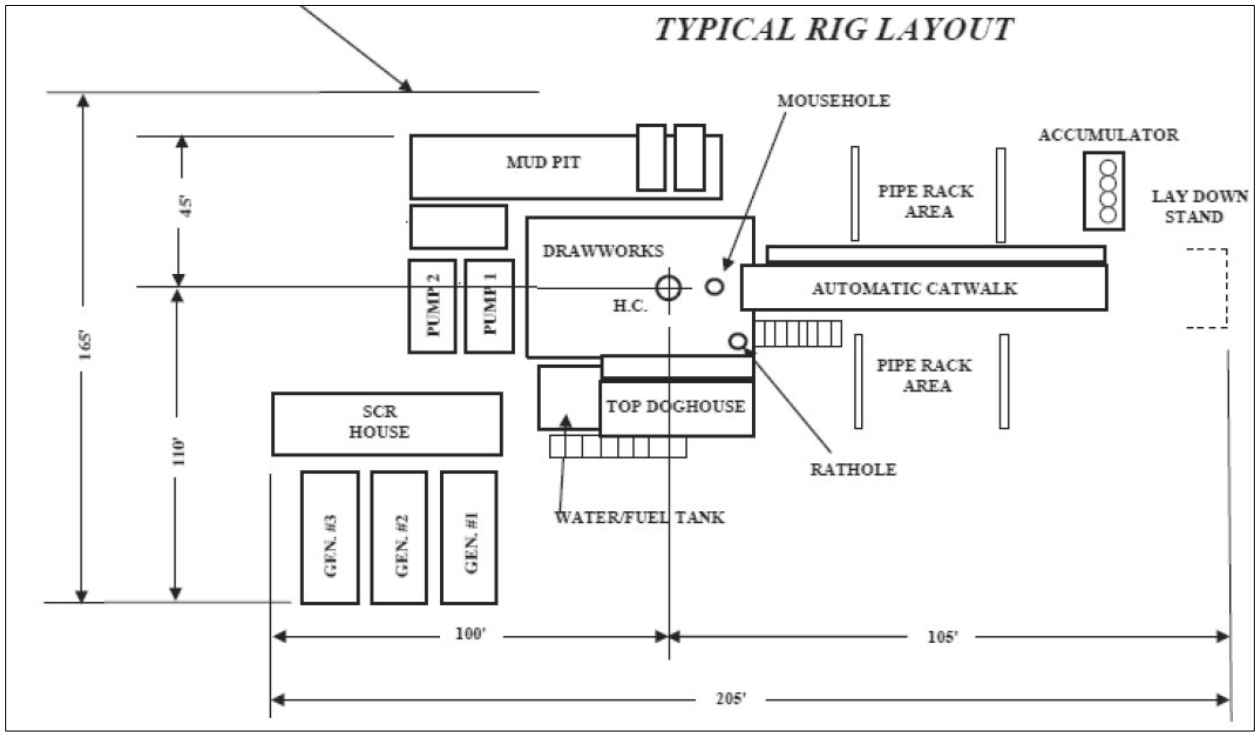
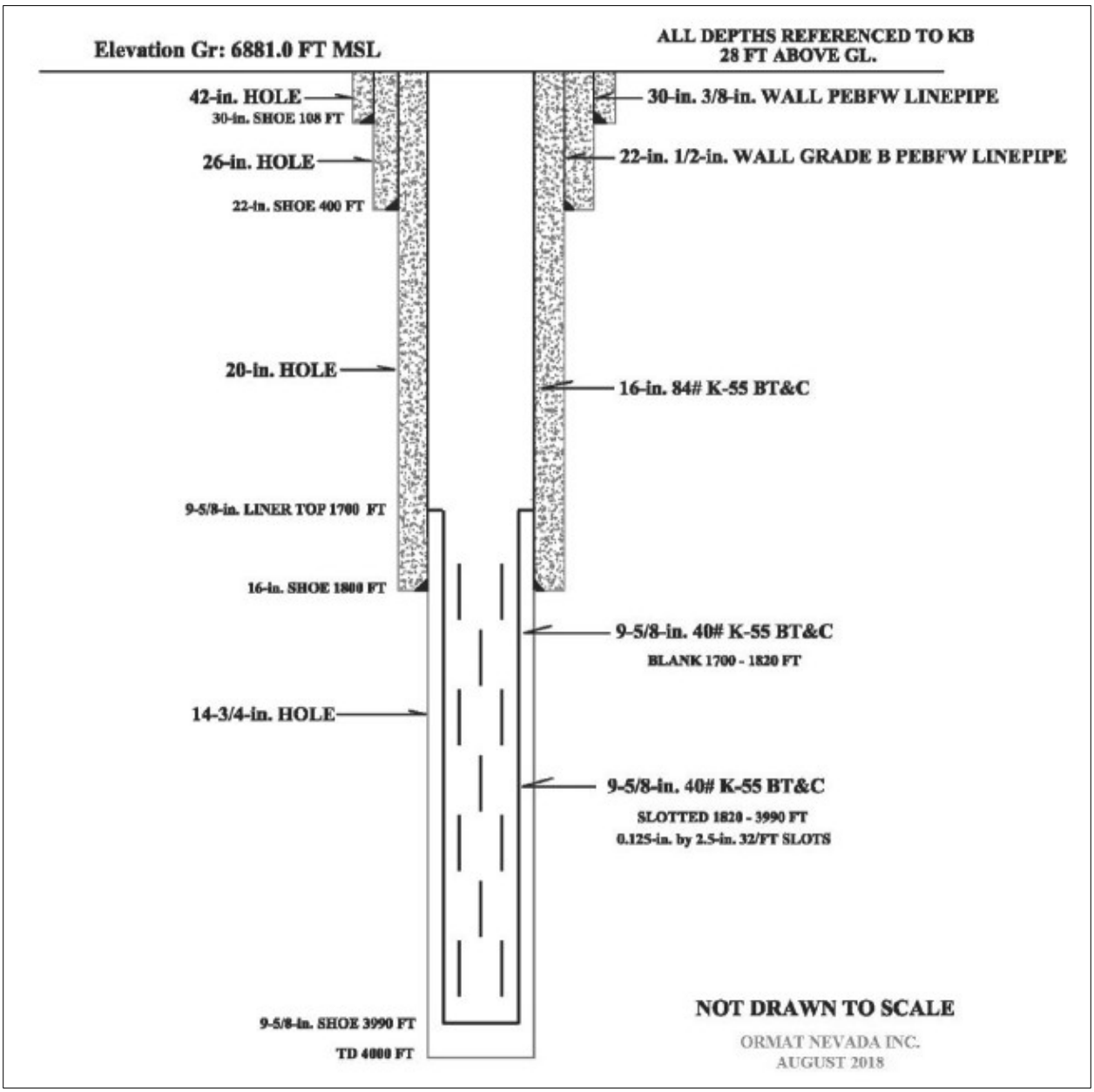


Figure 2-10. Profile of a Geothermal Production Well



2.4 Site Construction

2.4.1 Site Preparation

The Dogwood geothermal plant would be developed within the existing HGEC and would not require significant site preparation. The sites for the solar facilities and geothermal production wells are presently used for agricultural cultivation and would require earthwork.

For the well pads, a 200-foot by 200-foot (40,000 square feet) area would be cleared and a chain-link security fence would be installed around each well pad construction site. Site preparation activities for the well pads would include clearing, earthwork, drainage and grading necessary for safe operations and for fire prevention. Clearing would include removal of organic material, stumps, brush and slash, which would either be removed and taken to an appropriate dump site or left onsite. Topsoil would be stripped (typically to the rooting depth) and salvaged during the construction of all pads, as feasible. Salvaged topsoil (and cleared organic material, stumps, brush and slash, if saved) would be stockpiled on the pads for use during final reclamation of disturbed areas. During site preparation, topsoil would only be removed where necessary and the soil would be amended as needed for stability.

To ensure the proposed facilities are situated on safe and stable surfaces, minor excavation and compaction activities would be performed. The top 18 inches of the project site's exposed soil would be removed, extending approximately five feet beyond the proposed facilities. A minimum of 18 inches of Caltrans Class 2 aggregate based will be placed and compacted to the appropriate density (ASTM D1557). On-site soil that has been piled during excavation will be used as backfill material, as necessary. Only soil that is free of debris and deleterious matter would be used as backfill material. The proposed facilities would be placed on shallow-spread footers and wall footers to support the structures. All site preparation and fill placement activities will be monitored by a qualified geotechnical engineer to detect undesirable materials and/or site conditions that may arise during site preparation.

2.4.2 Construction Schedule

Construction of the proposed facilities is anticipated to take up to 35 months, beginning in the first quarter of 2025. Facility construction would include site preparation activities, but no demolition of existing structures/buildings will occur. Table 2-2 provides a breakdown of the proposed construction schedule by phase and duration. Some construction activities will occur concurrently as facilities are installed simultaneously, as noted by the Phase Duration column not summing Activity Durations perfectly.

Table 2-2. Project Construction Process/Phasing

Construction Phase	Construction Activity	Activity Duration	Phase Duration
Site Preparation	Construction Kick-off/Staging	1 week	2 months
	Demolition/Site Clearing	1 week	
	Site Preparation/Rough Grading	2 weeks	
	Fine/Pad Grading, Excavation for Underground Conduit/Utilities, Stormwater	1 month	
Project Construction	Well Pad Construction	3 months	16 months
	Parasitic Solar Construction	6 months	
	Medium Voltage Distribution Cable	4 months	
	OEC Installation	6 months	
	Landscaping, Lighting, Architectural Finishes	1 month	
Well Drilling & Pipeline Interconnection	Well Drilling and Completion	4 months	12 months
	Flow Testing	4 months	
	Pipeline Install and Interconnection	4 months	
Substation Development & Interconnection	Project Substation Development	3 months	4 months
	Interconnection with grid	2 weeks	
	Testing	2 weeks	
Testing & Operational	Testing Phase	2 weeks	1 month
	All Facilities Operational	2 weeks	

2.4.3 Construction Equipment

Construction of the proposed facilities would require heavy and light duty equipment, as well as hand tools. Table 2-3 provides a breakdown of the construction equipment to be used in each phase of project development, by estimated quantity and usage (days; hours per day). Additionally, Table 2-4 below provides estimates for the number of daily vehicle trips the construction phase will require, by number of trips and estimated trip length(s).

Construction activities will be limited to 7:00am through 7:00pm. Construction noise from project development will not exceed the County threshold of 75 decibels at any time of day (Imperial County Codified Ordinances § 90702.00 – Sound Level Limits).

Table 2-3. Project Construction Phases and Equipment

Construction Phase	Equipment	Quantity	Engine Hp	No. Days Used	No. Hours Operated Per Day
Site Preparation (Plant Site and Solar Fields) (2 months)	Heavy Duty Trucks	3	402	30	5
	Excavator	1	97	30	8
	Roller	2	200	30	8
	Light-Duty Truck	8	350	30	4
Project Construction (16 months)	Aerial Man Lifts	8	63	160	6
	Excavator	1	97	40	8
	Crane	2	231	160	6
	Forklift	1	89	40	8
	Forklift	6	89	245	8
	Generator Set	1	84	320	8
	Grader	1	187	30	8
	Heavy Duty Trucks	2	402	90	8
	Rubber Tired Loader	1	203	30	8
	Backhoe	1	97	30	8
	Welders	15	46	245	6
	Light Duty Truck	1	350	40	4
	Light Duty Truck	15	350	245	4
Well Drilling and Pipe Interconnection (12 months)	Light Tower	2	27	90	12
	Drill Rug	1	500	180	24
	Rig Mud Pump	1	500	180	24
	Rig Generator	1	415	180	24
	Heavy Duty Trucks (Mob/Demobilization)	8	450	24	8
	Crane	2	231	24	5
	Backhoe	1	97	24	6
	Forklift	1	89	24	6
	Vacuum Truck	1	385	24	10
	Concrete Truck	1	428	3	4
	Concrete Pumper	1	100	3	4
	Light Duty Truck	4	350	24	4

Construction Phase	Equipment	Quantity	Engine Hp	No. Days Used	No. Hours Operated Per Day
Substation Development and Interconnection (4 months)	Crane	1	231	80	8
	Drill/Bore Rig	1	221	80	8
	Aerial Lift	2	63	80	8
	Heavy Duty Trucks (Delivery)	2	402	20	4
	Backhoe	1	97	14	8
	Forklift	1	89	80	8
	Ditch Digger	1	13	20	8
	Generator Set	2	84	80	8
	Light Duty Truck	5	350	80	4
Testing (1 month)	Generator	1	671	30	24
	Light Tower (27 hp)	2	27	30	12
	Light Tower (9 hp)	2	9	30	12
	Pump (115 hp)	1	115	30	24
	Pump (415 hp)	1	415	30	24
	Light Duty Truck	1	350	30	4

Table 2-4. Construction Vehicle Trips

Construction Phase	Trip Type	Number of Trips Per Day	Trip Length (miles)[2]
Site Preparation (Plant Site and Solar Fields) (2 months)	Workers[1]	46	10.2
	Vendors	10	11.9
	Haul	8	20
Project Construction (16 months)	Workers[1]	46	10.2
	Vendors	40	225
	Haul	2	20
Well Drilling and Pipe Interconnection (12 months)	Workers[1]	46	10.2
	Vendors	10	11.9
	Haul	0	20
Substation Development and Interconnection (4 months)	Workers[1]	46	10.2
	Vendors	10	11.9
	Haul	0	20
Testing (1 month)	Workers[1]	46	10.2
	Vendors	4	11.9
	Haul	0	20

Notes:

1 The daily trip rates used for determining the projects' construction worker trip generation are based on the 10th Edition of ITE Trip Generation manual for General Light Industrial workers. A maximum of 15 workers are assumed for this conservative estimate.

2 Trip lengths consist of default CalEEMod values with exception of vendors for delivery of project equipment during construction, with deliveries of solar panels, geothermal equipment, etc. assumed to originate at Port of Long Beach, approximately 225 miles from project site.

2.4.4 Construction Personnel and Equipment

Project construction would likely require a maximum of 35 workers, with an average of 10 to 20 workers after grading and excavation. After construction is complete, the facilities would be staffed and maintained by 1-2 onsite employees.

2.4.5 Water Use

A Water Quality Management Plan (WQMP) was prepared for both the construction and operations phases of the project. The WQMP includes numerous "good housekeeping" and preventative maintenance, employee training, safe handling/storage, and spill response measures to prevent and minimize any unintended releases.

Water required for facility construction activities, including grading and dust control, will be obtained from the Applicant's existing contract with IID. Up to 5,000 gallons per day (gpd) of water will be required for the first 2-4 months of development of the facility. Approximately 2,000 gpd will be consumed during the remaining development schedule of approximately 12-18 months. Thus, approximately 1.1 million gallons of water (10.1 acre-feet) will be used on-site during construction. Once operating, up to approximately 325 gpd (0.36 acre-feet per year) of non-potable water will be required and provided by the Applicant's existing IID contract/allocation. Water required for well drilling would typically average 50,000 gpd. Water necessary for these activities would be obtained from local irrigation canals in conformance with IID requirements. Alternatively, a temporary pipeline from the respective irrigation canal could be used for water delivery to well sites. Any temporary pipeline would be laid on the surface immediately adjacent to the access road. The project OEC is air cooled and will not require additional water resources. The project will not require additional water from the IID for operations and will be covered under the existing contract.

2.5 Operations and Maintenance

Once the project is complete, the facilities will be staffed with 1-2 full-time employees. The project would require routine maintenance and unscheduled maintenance as needed. The solar facilities will be monitored remotely with visitation on an as needed basis and security personnel will perform periodic site visits.

2.6 Restoration of the Project Site

At the end of the permitted or useful life of the energy facilities, the Applicant will prepare a Site Reclamation and Restoration Plan that establishes the plan and protocol for dismantling, removing, abandoning, transporting, and disposing of the energy facilities, as well as the plan for performing site restoration activities after the facilities are removed. Further, within three years of the cessation of operations, all plant facilities will be dismantled, all wells capped or abandoned as required by the County and CalGEM and the land involved be made compatible with the surrounding uses or as requested by the County Planning Director. A Bond, Letter of Credit, or other forms of security acceptable to Imperial County in the amount of $1,000,000 in addition to that of the amount set by

CalGEM, will be filed with the County that guarantees restoration of the land to its condition prior to the permitted power plant, solar facility, well pad and brine pipeline development.

The general objective of the final reclamation phase is to return the site as close as possible to the conditions prior to geothermal development. A Preliminary Reclamation Plan and Cost Estimate was provided by the Applicant to the County to confirm feasibility of reclamation. Reclamation activities would be planned and conducted in accordance with County requirements.

2.7 Applicant Proposed Measures and Best Management Practices

All project and contractor personnel will be informed of the Applicant's policy regarding environmental protection, safety plans, and emergency response protocols. Collectively, these measures minimize unintended impacts and events as result of facility construction and operation.

2.7.1 Surface and Ground Water Quality

- A Water Quality Management Plan (WQMP) was prepared for both the construction and operations phases of the Project (Appendix A). The WQMP includes numerous "good housekeeping" and preventative maintenance, employee training, safe handling/storage, and spill response measures to prevent and minimize any unintended releases.
- The site will be designed and prepared to provide adequate stormwater conveyance and/or infiltration.
- Any spills or unintended releases of chemicals used during Project construction and/or operation will be cleaned up with the appropriate materials (i.e., absorbent pads, foams/gels) and the affected area remediated to prevent contact with groundwater resources.
- No vehicle fueling or maintenance will take place on exposed soil.

2.7.2 Wildlife

- Speed limits of 5 mph will be observed on the site in order to minimize dust, avoid collision, and incidental mortality of local wildlife.

2.7.3 Vegetation

- Vegetation control, including invasive species eradication, will be implemented to prevent growth under or near the proposed facilities.

2.7.4 Air Quality

- The project will adhere to the Imperial County Air Pollution Control District's (ICAPCD) Regulation VIII, Fugitive Dust Rules, which are designed to mitigate PM_{10} emissions during construction.
- The Applicants shall submit a Construction Dust Control Plan and notify the ICAPCD 10 days prior to the start of any construction activities.
- Any equipment breakdown resulting in air emissions shall be reported to ICAPCD and promptly corrected (within 24 hours when possible).

- To minimize unnecessary emissions, Project equipment and worker vehicles shall be turned off when not in use and not left idling.
- Water shall be applied to the development site and during preparation and construction to control fugitive dust.
- Earth moving work shall be completed in phases (as necessary) to minimize the amount of disturbed area at one time.
- Construction vehicles and heavy equipment that use non-surfaced facility roads and areas will be restricted to 5 mph to control fugitive dust.
- During windy conditions, barriers shall be constructed and/or additional watering will occur to minimize fugitive dust.
- Vehicle access shall be restricted to the disturbance area via signage and/or fencing.
- Equipment shall be operated according to best practices and maintained according to design specifications.
- Construction equipment shall be equipped with an engine designation of EPA Tier 3 (Tier 3) if commercially available and feasible. If a Tier 3 engine is not certified for a particular piece of equipment or not commercially available, then the equipment shall be either equipped with a Tier 2 engine or equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides (NOx) and diesel particulate matter (DPM) to no more than Tier 2 levels. Prior to the issuance of a grading permit, ORMAT will submit a list of all construction equipment, including off road equipment, by make, model, year, horsepower, expected/actual hours of use, and EPA to the County Planning and Development Services Department and ICAPCD.
- The project shall implement the following measures as part of its construction Best Management Practices (BMPs): providing Valley Fever awareness training for workers; providing respirators to workers when requested, including the provision of necessary training; use of closed-cab earth-moving vehicles equipped with HEPA-filtered air systems; employee testing for Valley Fever as needed; and conducting earth-moving activities downwind of workers when possible.

2.7.5 Cultural Resources

- The project site is entirely disturbed from cultivation and the probability of encountering an unanticipated cultural resource is low. As a safeguard, project construction personnel will monitor areas during surface disturbing activities. In the event any potential cultural or archaeological resources (e.g., bones, ceramics) are discovered, all construction affecting the discovery site will be suspended immediately until a qualified archaeologist has reviewed the findings. An Unanticipated Discoveries Plan will be prepared prior to resuming construction.

2.7.6 Waste Management

- Workers will be required to properly dispose of all refuse and trash to prevent any litter on the Project site.
- During construction, portable chemical sanitary facilities will be used by all construction personnel. These facilities will be serviced by a local contractor.

- All construction wastes, liquid and solid, will be disposed of in compliance with all appropriate local, state, and federal disposal regulations.
- Solid wastes will be disposed of in an approved solid waste disposal site in accordance with Imperial County Environmental Health Department requirements. Waste will be routinely collected and disposed of at an authorized landfill by a licensed disposal contractor.

2.7.7 Fire Prevention

An Emergency Response Plan covering possible emergencies (e.g. blow-outs, major fluid spills, impacts due to earthquakes, and other emergencies) shall be maintained. At least one Emergency Coordinator, responsible for coordinating all emergency response measures, will be on call and able to quickly reach the project at all times. The Emergency Coordinator shall be thoroughly familiar with all aspects of the Emergency Response Plan and have the authority to commit the resources needed to carry out the contingency plan. Adequate personnel and equipment shall be available to respond to emergencies and to ensure compliance with CUP conditions, including appropriate first aid employee training and other provisions during Project construction and operation. All construction equipment will be equipped with exhaust spark arresters.

In addition, Safety Data Sheets for all known chemicals of concern will be maintained and available to workers and first responders. Personnel will not be allowed to smoke outside of designated areas and a list of emergency phone numbers will be available onsite. In addition to the above-described actions, the following will be enforced;

- Adequate firefighting equipment (i.e., a shovel, a Pulaski, standard fire extinguisher[s], and an ample water supply) will be kept readily available at each active construction site.
- Vehicle catalytic converters (on vehicles that enter and leave the construction site on a regular basis) will be inspected often and cleaned of all flammable debris.
- All cutting/welding torch use, electric-arc welding, and grinding operations will be conducted in an area free from vegetation. An ample water supply and shovel will be on hand to extinguish any fires created from sparks. At least one person in addition to the cutter/welder/grinder will be at the work site to promptly detect fires created by sparks.
- The isopentane tanks will be equipped with an automated water suppression system.
- The isopentane tanks will include a concrete foundation and additional concrete containment areas.
- The isopentane tanks will be equipped with two flame detectors, which will immediately detect any fire and immediately trigger the automatic fire suppression system and the horn and strobe system.
- The isopentane tanks will be equipped with a gas detector, which will immediately detect any isopentane leak and notify the control room (manned by 24/7).
- A survey and analysis of the proposed fire suppression and detection equipment will be performed by a certified fire protection engineer to evaluate the proposed fire response system’s performance. An evaluation of the proposed fire suppression and detection equipment in conjunction with existing equipment will also occur. A full report of findings will be provided to Imperial County Fire Department for review.

- An approved automatic fire detection system shall be installed as per the California Fire Code as adopted by the Imperial County Code. All fire detection systems shall be installed and maintained to the current fire code and regulations adopted by Imperial County.
- Fire Department access roads and gates will be in accordance with the current fire code adopted by Imperial County and the facility will maintain a Knox Box or a similar, Department-approved device for Site access.

2.7.8 Noise

- Diesel equipment used for drilling within 1,000 feet of any residence shall have hospital-type mufflers. Well venting and testing at these wells shall be accompanied by the use of an effective muffling device or "silencer."

2.7.9 Geotechnical and Geologic Hazards

- A formal geotechnical investigation of the site's soil characteristics, seismic conditions, stormwater infiltration, site stability, and potential for liquefaction will be developed.

2.7.10 Public Health and Safety

- The project site is fenced to prevent unauthorized people from accessing and tampering with the geothermal facilities, and to prevent wildlife from entering the facility.
- Signage, such as "No Trespassing" warnings, will continue to be posted at the site to provide notice to unauthorized people to keep out.
- A Hazardous Materials Business Plan (HMBP) will be prepared and submitted to the California Department of Toxic Substances Control (CDTSC), as the Certified Unified Program Agency (CUPA) for Imperial County.
- The Applicants will designate an employee to serve as the on-call Emergency Coordinator who fully comprehends the ERP and would be prepared to enact the ERP in the event of an emergency.
- Minor leaks or spills of fluids from construction equipment will be quickly contained and cleaned up.
- All hazardous materials will be used, transported, and disposed of in accordance with applicable safe handling and disposal regulations.

2.7.11 Traffic and Transportation

- Project personnel will coordinate that movement of any required oversized load on Imperial County roads with the Imperial County Department of Public Works (ICDPW) and/or on State highways with the California Department of Transportation (Caltrans) and the El Centro California Highway Patrol office. Transportation of oversized equipment will be minimized to the greatest extent feasible. Oversized equipment and/or large vehicles which impose greater than legal roads on riding surfaces, including bridges, shall require a transportation permit.
- The project shall consider traffic safety in transporting equipment and materials to the permitted facilities to include temporary signs warning motorists on adjacent roadways and

flagmen shall be used when equipment is being brought to and from the plant and wellfield sites.

- The project shall coordinate with DPW for any requested dedication of rights-of-way needed for Dogwood Road for the consideration of existing and any future road needs.
- The project shall file for an encroachment permit for any work or proposed work in the affected County or Caltrans Road rights-of-way and for any and all new, altered or unauthorized existing driveway(s) to access the lot or lots and for any proposed road crossings.

2.8 Required Project Approvals

2.8.1 Imperial County

The following are the primary discretionary approvals required for implementation of the project:

1. **Approval of CUPs.** Implementation of the project would require the approval of CUPs by the County to allow for the construction and operation of the proposed facilities. The following CUPs are under consideration for approval as evaluated in this EIR:
   - CUP 23-0020 (Dogwood Geothermal Plant and Solar Energy Facility)
   - CUP 23-0021 (Heber 2 Solar Energy Facility)
   - CUP 23-0022 (HFC Geothermal Wells and Pipeline)

   The project parcels are currently zoned as A-2-G-SPA and A-2-G-U.

   Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone:

   n) Oil, gas and geothermal exploration meeting requirements specified in Division 17

   s) Solar energy extraction generation provided that is for on-site consumption only

   Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

   y) Electrical generation plants (less than 50 MW) excluding nuclear or coal fired and meeting requirements in Division 17

   z) Electrical substations in an electrical transmission system (500 kv/230 kv/161 kv)

   bb) Facilities for the transmission of electrical energy (100-200 kv)

   ii) Geothermal test facilities, Intermediate projects, and major exploratory wells, meeting requirements in Division 17

   rr) Major Geothermal projects per Division 17

   ww) Resource extraction and energy development as per Division 17

   aaa) Solar energy electrical generator
2. **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 approval or denial of 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)

2.8.2 Discretionary Actions and Approvals by Other Agencies

Responsible Agencies are those agencies that have discretionary approval over one or more actions involved with development of the project. Trustee Agencies are state agencies that have discretionary approval or jurisdiction by law over natural resources affected by a project. These agencies may include, but are not limited to the following:

- California RWQCB – Notice of Intent for General Construction Permit, CWA 401 Water Quality Certification
- ICAPCD – Fugitive Dust Control Plan, Rule 801 Compliance
- CDFW (Trustee Agency) – ESA Compliance, Section 1600 Streambed Alteration Agreement
- USFWS – ESA Compliance
- USACE – Section 404 of the CWA Permit

3 Environmental Analysis, Impacts, and Mitigation

3.1 Introduction to Environmental Analysis

This section provides an overview of the environmental analysis and presents the format for the environmental analysis in each topical section.

3.1.1 Organization of Issue Areas

Chapter 3 provides an analysis of impacts for those environmental topics that the County determined could result in "significant impacts," based on preparation of an Initial Study and review by the County's Environmental Evaluation Committee and responses received during the scoping process, including the NOP review period and public scoping meeting. Sections 3.2 through 3.17 discuss the environmental impacts that may result with approval and implementation of the project, and where impacts are identified, recommends mitigation measures that, when implemented, would reduce significant impacts to a level less than significant. Each environmental issue area in Chapter 3 contains a description of the following:

- The environmental setting as it relates to the specific issue
- The regulatory framework governing that issue
- The threshold of significance (from Appendix G of the CEQA Guidelines)
- The methodology used in identifying and considering the issues
- An evaluation of the project-specific impacts and identification of mitigation measures
- A determination of the level of significance after mitigation measures are implemented
- The identification of any residual significant impacts following mitigation

3.1.2 Format of the Impact Analysis

This analysis presents the potential impacts that could occur under the project along with any supporting mitigation requirements. Each section identifies the resulting level of significance of the impact using the terminology described below following the application of the proposed mitigation. The section includes an explanation of how the mitigation measure(s) reduces the impact in relation to the applied threshold of significance. If the impact remains significant (i.e., at or above the threshold of significance), additional discussion is provided to disclose the implications of the residual impact and indicate why no mitigation is available or why the applied mitigation does not reduce the impact to a less than significant level.

Changes that would result from the project were evaluated relative to existing environmental conditions within the project site as defined in Chapter 2. Existing environmental conditions are based on the time at which the NOP was published on January 19, 2024. In evaluating the significance of these changes, this EIR applies thresholds of significance that have been developed using: (1) criteria discussed in the CEQA Guidelines; (2) criteria based on factual or scientific information; and (3) criteria based on

regulatory standards of local, state, and/or federal agencies. Mechanisms that could cause impacts are discussed for each issue area.

This EIR uses the following terminology to denote the significance of environmental impacts of the project:

- *No impact* indicates that the construction, operation, and maintenance of the project would not have any direct or indirect effects on the environment. It means no change from existing conditions. This impact level does not need mitigation.
- A *less than significant impact* is one that would not result in a substantial or potentially substantial adverse change in the physical environment. This impact level does not require mitigation, even if feasible, under CEQA.
- A *significant impact* is defined by CEQA Section 21068 as one that would cause "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project." Levels of significance can vary by project, based on the change in the existing physical condition. Under CEQA, mitigation measures or alternatives to the project must be provided, where feasible, to reduce the magnitude of significant impacts.
- An *unmitigable significant impact* is one that would result in a substantial or potentially substantial adverse effect on the environment, and that could not be reduced to a less than significant level even with any feasible mitigation. Under CEQA, a project with significant and unmitigable impacts could proceed, but the lead agency would be required to prepare a "statement of overriding considerations" in accordance with State CEQA Guidelines California Code of Regulations (CCR) Section 15093, explaining why the lead agency would proceed with the project in spite of the potential for significant impacts.

3.2 Aesthetics

This section provides a description of the existing visual and aesthetic resources, as well as potential sensitive receptors in the viewshed of the proposed project, and relevant state and local plans and policies regarding the protection of scenic resources. Effects to the existing visual character of the project area as a result of project-related facilities are considered and mitigation is proposed based on the anticipated level of significance. The information provided in this section is summarized from the *Visual Resources Baseline & Sensitivity Report* prepared by Catalyst Environmental Solutions and the *Glint and Glare Assessment* prepared by SWCA Environmental Consultants. These reports are included as Appendix B and C of this EIR, respectively.

3.2.1 Existing Conditions

Regional

Imperial County encompasses 4,597 square miles in the southeastern portion of California. The County is bordered by Riverside County on the north, the international border of Mexico on the south, San Diego County on the west and Arizona on the east. The length and breadth of the County provide for a variety of visual resources ranging from desert, sand hills, mountain ranges, and the Salton Sea.

The desert includes several distinct areas that add beauty and contrast to the natural landscape. The barren desert landscape of the Yuha Desert, lower Borrego Valley, East Mesa, and Pilot Knob Mesa provide a dramatic contrast against the backdrop of the surrounding mountain ranges. The West Mesa area is a scenic desert bordered on the east by the Imperial Sand Dunes, the lower Borrego Valley, the East Mesa, and Pilot Knob Mesa.

The eastern foothills of the Peninsular Range are located on the west side of the County. The Chocolate Mountains, named to reflect their dark color, are located in the northeastern portion of the County, extending from the southeast to the northwest between Riverside County and the Colorado River. These mountains reach an elevation of 2,700 feet making them highly visible throughout the County. Looking south from the Project site there is a partial view of the Sierra de Los Cucapah Mountain range. The Cucapah mountains add minimal scenic value to the area and run south to Mexico. Across the international border located approximately 12 miles southwest of the Project, Mount Signal is visible from the entire Imperial Valley.

Project Site

The proposed facilities would be located on APN 054-250-31; APN 059-020-001; APN 054-250-017, near the existing Heber Geothermal Energy Complex (HGEC) located at 855 Dogwood Road, Heber, CA. The HGEC is comprised of three stand-alone geothermal power plants: Heber 2, Heber South, and Goulds 2, and is completely devoted to geothermal energy generation. All proposed facilities are located within the Imperial County Geothermal Overlay Zone that allows for Major Geothermal Projects to be permitted via a Conditional Use Permit (CUP) process. Surrounding land uses in the project vicinity are primarily for industrial facilities, energy facilities, and agricultural cultivation. Solar energy facilities and agricultural cultivation are directly west; a construction/aggregates company is adjacent to the south; agricultural operations are present to the north and east; and, geothermal well pads and pipelines are present throughout the local vicinity. Imperial Irrigation District (IID) irrigation canals are also present throughout the project vicinity.

Interstate 8 (I-8), located approximately 4.5 miles directly north, provides primary highway access to the HGEC. Dogwood Road stems off of I-8 and provides immediate access to the project site. From the south, Willoughby Road runs west-east approximately 1,700 feet from the site and connects to Dogwood Road, providing immediate site access. Significant transmission lines and towers are present along Dogwood Road.

The Dogwood Project would be located within the existing HGEC in an area currently used for materials storage and is completely devoid of any vegetation or surface water features. The proposed solar facility sites are presently used for agriculture cultivation. The proposed well pads would also be located in areas presently used for agriculture. The solar facility sites would be located immediately southeast of the HGEC. The new geothermal production wells and associated pipelines will be split between two parcels. Two of these wells would be located within the solar energy sites with a small segment of pipeline developed within the solar sites connecting to the existing pipeline network to the west. A third well would be installed adjacent to an existing geothermal well approximately 1,500 feet east of the HGEC (APN 054-250-017).

The area is characteristically flat with minimal elevation changes throughout the project area. The primary contributor to the otherwise flat project area would be the New River which runs to the south along the project area. Views in this area are characterized by sparse development and agricultural land with minimal topographic features. Residences, transmission lines, sparse vegetation such as trees, and transportation corridors such as roads are discernable throughout the project area.

Scenic Vista

Scenic vistas are typically expansive views from elevated areas. They may or may not be part of a designated scenic overlook or other area providing a static vista view of a landscape. The project site is located in a rural portion of Imperial County and is not located within an area containing a scenic vista designated by the State or the County's General Plan (Imperial County 2021).

Scenic Highways

According to the Conservation and Open Space Element, no State scenic highways have been designated in Imperial County (Imperial County 2016). According to the Caltrans California Scenic Highway Mapping System, the project site is not located within a state scenic highway corridor, nor are there any state scenic highways located in proximity to the project site (Caltrans 2018). The nearest road segment considered eligible for a State scenic highway designation is the segment of the Sunset Cliffs Boulevard/State Route 98 west of Ocotillo. The project site is located approximately 29 miles east of Ocotillo; therefore, it would not be visible from the project site.

Light, Glare, and Glint

Glare is considered a continuous source of brightness, relative to diffused light, whereas glint is a direct redirection of the sun beam in the surface of a PV solar module. Glint is highly directional, since its origin is purely reflective, whereas glare is the reflection of diffuse irradiance; it is not a direct reflection of the sun.

The proposed project is located in a rural undeveloped area of Imperial County. The majority of the light and glare in the project area is a result of motor vehicles traveling on surrounding roadways, airplanes, and farm equipment. Local roadways generate glare both during the night hours when cars travel with lights on, and during daytime hours because of the sun's reflection from cars and pavement surfaces. Nighttime light which is currently emitted from the existing HGEC facility.

Visual Character

Field surveys were conducted on March 9, 2023, to locate and document visually sensitive areas. During the survey, field staff photographed the existing conditions and visibility of the project area from various potential Key Observation Points (KOPs).

The assessment of existing visual conditions were made based on professional judgment that considered sensitive receptors and sensitive viewing areas in the project vicinity. A total of eight locations were identified as KOPs. Figure 3.2-1 depicts the photo-documented KOP and the direction to which the photographs were taken. The existing visual character of the project site is dominated by agricultural uses. Existing features within the project site and surrounding area contributing to the existing visual form are existing solar farms, local roads, and overhead utilities.

The viewer's distance from landscape elements plays an important role in the determination of an area's visual quality. Landscape elements are considered higher or lower in visual importance based on their proximity to the viewer, which contribute to a project area's overall viewshed. Generally, the closer a resource is to the viewer, the more dominant, and therefore visually important, it is to the viewer.

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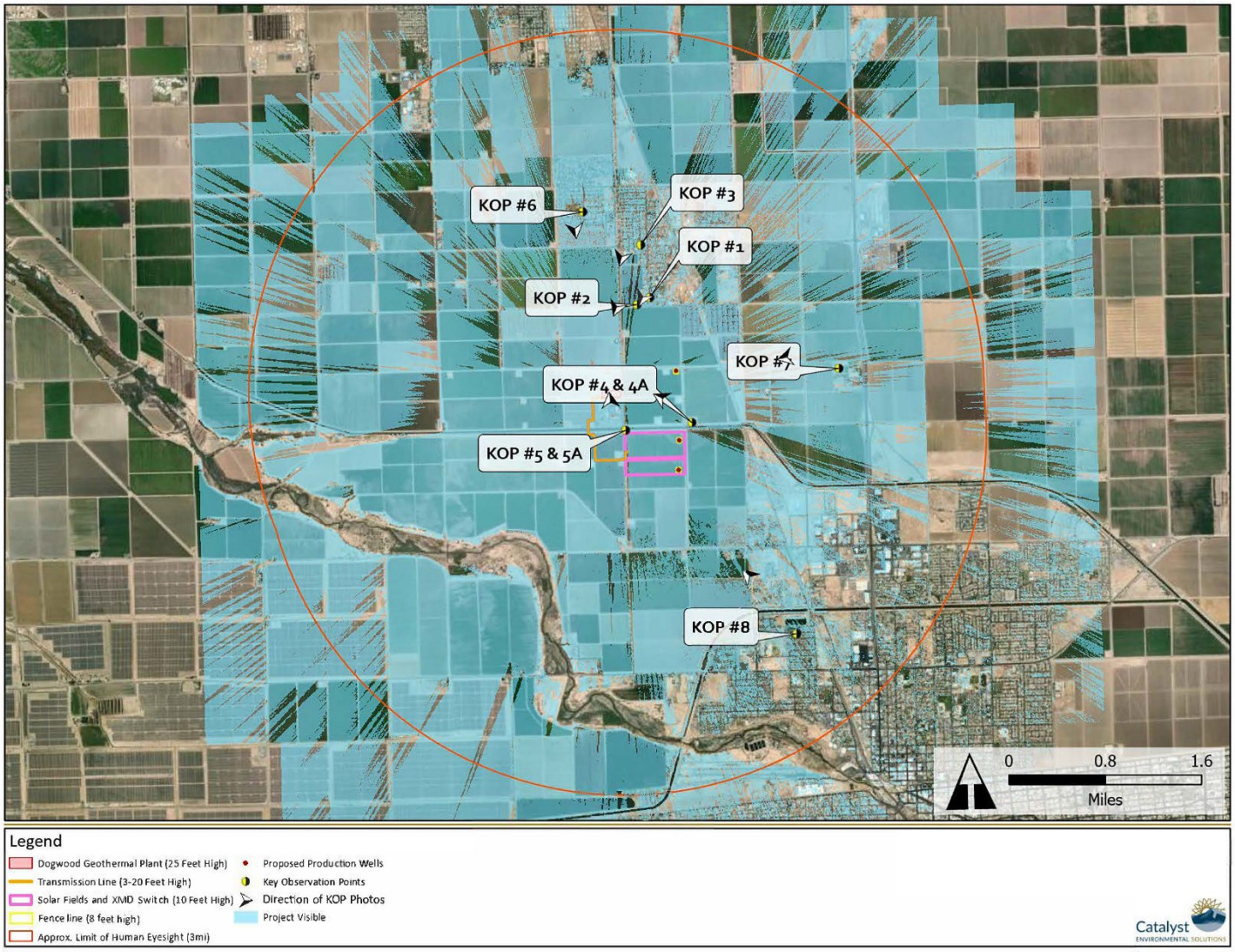
Figure 3.2-1. KOPs and View Direction



Source: Appendix B of this EIR

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KOP 1: View from Heber Elementary School

KOP 1 is Heber Elementary School located at 1052 Heber Avenue, Heber, CA approximately 0.66 miles northeast of the project at the closest edge (Figure 3.2-2). The primary view is located on the corner of 14th Street and Heber Avenue, the major transportation corridor to Heber Elementary School, looking south/southwest down Heber Avenue. The view is representative of views from the nearest traffic and resident dense location with a view of the project. The view is characteristically residential with Heber Avenue serving as the main viewing corridor. Residential buildings obstruct the view of the existing HGEC. There is a mountain range present in the background but has low scenic quality, and views of Mount Signal are completely obstructed by residential buildings. Existing transmission lines are visible in the distance along the horizon and some vegetation provides screening of the project area.

KOP 2: View from Closest Residence to the North

Views from KOP 2 represent the closest residence to the north located at 20 East Fawcett Road approximately 0.5 miles from the project site (Figure 3.2-3). The project site as well as the existing HGEC are visible from this location. The existing view is characteristically flat in the foreground and middle ground, consisting primarily of tan and green agricultural land. Existing transmission lines heading southbound along Dogwood Road are present in front of the existing Heber 2 facility. The existing facility appears as dark low lying uniform squares and rectangles against the horizon. Sparse trees are present off to the west. Mount Signal is visible off to the west.

Figure 3.2-2. KOP 1

Source: Appendix B of this EIR

Figure 3.2-3. KOP 2

Source: Appendix B of this EIR

KOP 3: View from Heber Childrens Park

KOP 3 is located at Heber Childrens Park, 39 Crane Lane, Heber, CA approximately 1 mile north/northeast of the project site (Figure 3.2-4). The area is characterized by a park with a primary-colored recreational structure, open space, and a comparatively medium density of trees. The area is also characterized by residential building structures, transparent fencing in the foreground, and solid white fencing in the background. Local transmission lines and streetlights are visible throughout the foreground. The view of the current project location or any of its associated facilities or transmission lines is completely obstructed by neighborhood residences and surrounding vegetation in the foreground.

KOP 4: View from Closest Residence to the South/Southeast

KOP 4 is from the closest residence approximately 0.75 miles south/southeast of the project site located at 104 Jasper Road, Heber, CA (Figure 3.2-5). From the closest edge of KOP 4 looking to the west/northwest, the existing geothermal facilities and transmission lines area visible in background. The view from KOP 4 is characteristically flat with an agricultural field in the middle ground. In the foreground, vegetation, chain-link fencing, and transmission lines are present. These features provide a combined moderate obstruction of the existing power plant area.

KOP 4A: View from Closest Residence to the South/Southeast

KOP 4A is from the closest residence approximately 0.25 miles south/southeast of the project site located at 104 Jasper Road, Heber, CA (Figure 3.2-6). The landscape is characteristically flat and agricultural with vertical distribution line poles and visually soft lines to connect them. An IID water canal is present in the immediate foreground. Beyond the canal, low-lying vegetation that are shades of tan and green, a vertical water pump, and existing transmission lines are present. In the background, Mount Signal is visible with sparce buildings and vegetative figures in front of it along the horizon.

KOP 5: View from Intersection of Dogwood Road and Willoughby Road

KOP 5 is located at the intersection of Dogwood Road and Willoughby Road approximately 1,000 feet south of the Heber 2 facility (Figure 3.2-7). Looking toward the project site, medium density transmission lines and poles are present in the foreground, reducing in apparent size as they continue north along Dogwood Road. Additionally, an IID canal is present in the foreground with a bridge connecting both sides of Dogwood Road. Dense vegetative features in front of the project area provide screening from the road so that only the tops of the geothermal plants are visible.

Figure 3.2-4. KOP 3

Source: Appendix B of this EIR

Figure 3.2-5. KOP 4

Source: Appendix B of this EIR

Figure 3.2-6. KOP 4a

Source: Appendix B of this EIR

Figure 3.2-7. KOP 5

Source: Appendix B of this EIR

KOP 5A: View from Intersection of Dogwood Road and Willoughby Road

KOP 5A is located at the intersection of Dogwood Road and Willoughby Road and looks south toward the proposed solar facilities, directly across Willoughby Road (Figure 3.2-8). The area is characteristically flat agricultural land. There are limited features visible from KOP 5A with minimal transmission lines and no vegetation obstructing the view in the foreground aside from flat green/tan grassland. Existing transmission lines, sparse buildings and thin, dense, vegetation is visible approximately 1 mile away and further.

KOP 6: View from Margarito "Tito" Huerta Jr. Park

KOP 6 is located at the furthest edge of Margarito "Tito" Huerta Jr. Park at the intersection of West Hawk Street and Palm Avenue, approximately 1.25 miles north of the proposed geothermal facility (Figure 3.2-9). The area is characterized by dense residential buildings and some vegetative features with Palm Avenue serving as a viewing corridor to the project area. Transmission lines can be seen in the middle ground. The Heber 2 geothermal units can be seen in the background facing south down Palm Avenue. Residences and vegetation provide some screening of the existing geothermal units.

KOP 7: View from Mountain View Cemetery

KOP 7 is located at 895 Scaroni Road, Calexico, CA approximately 2.3 miles southeast of the project site (Figure 3.2-10). Looking northwest from the back of the cemetery, the tops of the Heber 1 site are visible however Heber 2 facilities are not visible from this KOP. The area is characterized by expansive and flat agricultural land present in the foreground. Some chain link fencing as well as northbound transmission lines are present. Existing structural features such as generation plants and buildings as well as sparse vegetive features such as trees are present along the horizon.

KOP 8: View from Las Casitas Park

KOP 8 is located at 600 JM Ostrey Street, Calexico, CA southeast of the project site (Figure 3.2-11). Facing northwest toward the project, the project area is not visible from the highest point in Las Casitas Park. The area is characterized by vegetative features and a soccer field with multiple goals throughout the foreground and middle ground. An earthen berm in the background provides a level visual barrier, completely obstructing the view of the project area. Vertical transmission poles and the tops of vegetative features are visible behind the berm providing additional screening of the project area.

Figure 3.2-8. KOP 5a

Source: Appendix B of this EIR

Figure 3.2-9. KOP 6

Source: Appendix B of this EIR

Figure 3.2-10. KOP 7

Source: Appendix B of this EIR

Figure 3.2-11. KOP 8

Source: Appendix B of this EIR

3.2.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the project.

State

California Department of Transportation

Caltrans manages the California Scenic Highway Program. The goal of the program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to the scenic corridor.

Local

Imperial County General Plan

The Imperial County General Plan contains policies for the protection and conservation of scenic resources and open spaces within the County. These policies also provide guidance for the design of new development. The Conservation and Open Space Element of the General Plan provides specific goals and objectives for maintaining and protecting the aesthetic character of the region. Table 3.2-1 provides an analysis of the proposed project's consistency with the Conservation and Open Space Element Goal 5. Additionally, the Circulation and Scenic Highways Element of the General Plan provides policies for protecting and enhancing scenic resources within highway corridors in Imperial County, consistent with the Caltrans State Scenic Highway Program.

Imperial County Land Use Ordinance, Title 9

The County's Land Use Ordinance Code provides specific direction for lighting requirements.

DIVISION 17: RENEWABLE ENERGY RESOURCES, SECTION 91702.00 – SPECIFIC STANDARDS FOR ALL RENEWABLE ENERGY PROJECTS

(R) Lights should be directed or shielded to confine direct rays to the project site and muted to the maximum extent consistent with safety and operational necessity.

Table 3.2-1. Consistency with Applicable General Plan Conservation and Open Space Policies

General Plan Policies	Consistency with General Plan	Analysis
Goal 5: The aesthetic character of the region shall be protected and enhanced to provide a pleasing environment for residential, commercial, recreational, and tourist activity.	Consistent	As described in Section 3.2.3, the proposed project would result in changes to the existing visual character of the project site. However, the proposed project would not result in a significant deterioration in the visual character of the project site or surrounding area from public viewpoints.
Objective 5.1: Encourage the conservation and enhancement of the natural beauty of the desert and mountain landscape.	Consistent	As described in Section 3.2.3, The project's facilities are consistent in nature to the landscapes existing visual character. The development of the Dogwood Project will be built within and directly adjacent to ongoing operations at the HGEC. The combined solar facilities would be visible but would add an overall weak contrast to the existing character of the landscape. Views from most of the key KOPs used in the analysis of aesthetic impacts indicate weak to no contrast with the existing setting. The Imperial County General/Zoning Plan allows for Major Geothermal Projects on the project site and, taking into account the existing power plants, the proposed project would not substantially impact the visual character of the site or its surroundings.

Source: County of Imperial 2016

3.2.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to aesthetics are considered significant if any of the following occur:

- Have a substantial adverse effect on a scenic vista
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway
- In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality

- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area

Methodology

The analysis prepared for this report relied on the *Visual Resources Baseline & Sensitivity Report* (Appendix B of this EIR) and the *Glint and Glare Analysis* (Appendix C of this EIR).

The methods used to determine the project site's existing conditions and the subsequent change with the implementation of the project was determined using aerial and ground level imagery in conjunction with aerial topography. Field surveys were conducted in March 2023 to locate and document visually sensitive areas. During the survey field staff photographed the existing conditions and visibility of the project area from various potential KOPs. The locations of the eight KOPs in relation to the project site are presented in Figure 3.2-1.

Three aspects of the project were considered for visual impact analysis performed in ESRI's ArcGIS Pro geospatial desktop tool; these include the proposed geothermal facility (approximately 25 feet tall) and the two solar facilities (approximately 10 feet tall, aggregated into one square). The blue area in Figure 3.2-1 represents visibility based on the topography of the area. This means the Dogwood solar arrays, Heber 2 solar arrays, Dogwood OEC, and distribution line are all visible from that location at 6 feet off ground surface (human height) with no natural existing topographical obstructions. The extent of the model extends to 3 miles which is the maximum distance of human sight.

The following steps were taken in analyzing visual impacts of the project:

1. Describe the existing visual setting, including any sensitive viewer groups (i.e., baseline conditions);
2. Identify key viewpoints for visual assessment;
3. Describe or depict the visual appearance of the project at the KOPs.
4. Assess the visual changes that would be introduced by the project and the viewer response based on defined attributes which are neither good nor bad. Change in visual character cannot be described as having good or bad attributes until compared with viewer responses to the change;
5. Determine the degree of visual impact;
6. Proposed methods to minimize adverse impacts

Impact Analysis

Impact 3.2-1 Would the project have a substantial adverse effect on a scenic vista?

Scenic vistas are typically expansive views from elevated areas that may or may not be part of a designated scenic overlook or other area providing a static view of a landscape. During construction, the use of standard construction equipment including, but not limited to, trucks, cranes, and tractors would be required. The presence of this equipment within the project site during construction would alter views of the area from undeveloped land (with exception of proposed facilities within the existing HGEC) to a construction site. However, the views of construction activity from the surrounding vicinity would be temporary and would not involve any designated scenic vistas as there are no designated

scenic vistas in the project vicinity. Therefore, impacts to a scenic vista are considered less than significant during construction.

Upon project operation, and with implementation of the proposed infrastructure, the overall visual character of the project site would change. However, given that there are no scenic resources or vistas within proximity to the project site, project operation would not have a substantial adverse effect on a scenic vista. Impacts are considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.2-2 Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The project site is not located within a state scenic highway corridor, nor are there any state scenic highways located in proximity to the project site (Caltrans 2018). The nearest road segment considered eligible for a State scenic highway designation is the segment of the Sunset Cliffs Boulevard/State Route 98 west of Ocotillo. The project site is located approximately 29 miles east of Ocotillo; therefore, it would not be visible from the project site. Therefore, no impacts to scenic resources within any state scenic highways would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.2-3 In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The project's facilities are consistent in nature to the landscape's existing visual character. The development of the Dogwood Project will be built within and directly adjacent to ongoing operations at the HGEC. The combined solar facilities would be visible but would add an overall weak contrast to the existing character of the landscape. Views from most of the key KOPs used in the analysis of aesthetic impacts indicate weak to no contrast with the existing setting.

During the construction phase, a crane may be visible to travelers on Dogwood Road or in the vicinity of the project site. This impact would not substantially degrade public views in the area, which already include energy facilities and transmission lines. Moreover, crane use is anticipated to be temporary (less than nine months) and would be removed from the project site after construction of the proposed facilities is complete; resulting in a less than significant impact.

The Imperial County General/Zoning Plan allows for Major Geothermal Projects on the project site and, taking into account the existing power plants, the proposed project would not substantially impact the visual character of the site or its surroundings. Therefore, impacts associated with degrading the existing visual character or quality of the project site are considered less than significant.

A discussion of the potential impacts of the project at KOP 1 through KOP 8 are discussed below:

KOP 1: View from Heber Elementary School. The north side of the Dogwood solar facility and the gen-tie lines would be detectable against the current landscape but contribute an overall weak to moderate level of contrast. From a level elevation, the Dogwood solar facility would appear as a generally dark uniform rectangle in the background of the KOP. Portions of the landscape obstructed by the Dogwood solar facility would be the bottom half of existing transmission lines, and the silhouettes of indistinguishable building structures in the background. The proposed medium voltage distribution line associated with the project would be co-located (attached via trays) with the existing pipeline that runs west before turning north to cross the Beech Drain and Main Canal at the existing above-ground pipeline span. The cable would continue to follow the existing pipeline alignment and connect into the Dogwood OEC. The proposed medium voltage distribution line would generally blend with existing linear features, such as transmission lines, in the project vicinity.

KOP 2: View from Closest Residence to the North. Approximately half of the Dogwood Project's northside and the combined solar facilities would be visible from KOP 2. The project would contribute an overall weak to moderate level of visual contrast against the existing view. The Dogwood Project would generally blend in shape, scale, and color with the existing Heber 2 facility and surrounding features. The combined solar facilities would be the most prominent portion of the project from KOP 2. The combined solar facilities would blend in against the background of dark space vegetative features and surrounding facilities as a dark metallic horizontal bar. The combined solar facilities would not obscure the mountain view. The view of Mount Signal would remain unobscured by the proposed project.

KOP 3: View from Heber Childrens Park. The view of the project site including its associated facilities or transmission lines would remain completely obstructed by existing neighborhood residencies and surrounding vegetation. Therefore, the proposed project would not contrast with the existing landscape of KOP 3.

KOP 4: View from Closest Residence to the South/Southeast. The overall contrast of the project on the surrounding landscape from KOP 4 would be weak. The Dogwood Project would only be partially visible from KOP 4. The visibility of the project area from KOP 4 is partially obstructed by vegetation in the foreground. The size and color of the Dogwood Project would be consistent with the existing facilities and would not deviate from the silhouette line of buildings to the north/northwest. The proposed medium voltage distribution line associated with the project would be co-located (attached via trays) with the existing pipeline that runs west before turning north to cross the Beech Drain and Main Canal at the existing above-ground pipeline span. The cable would continue to follow the existing pipeline alignment and connect into the Dogwood OEC. The proposed medium voltage distribution line would generally blend with existing linear features, such as transmission lines, in the project vicinity.

KOP 4A: View from Closest Residence to the South/Southeast. The proposed solar facilities would present a moderate to strong contrast to the existing landscape. The combined solar facilities would be prominent features and be visually bold against the overall landscape character visible from KOP 4A. The rectangular shape of solar panels would contribute a generally uniform and symmetrical rectangle form across the view of the foreground. Portions of the sparse building and vegetative features in the background of the landscape would be obstructed. The proposed medium voltage distribution line associated with the project would be co-located (attached via trays) with the existing pipeline that runs west before turning north to cross the Beech Drain and Main Canal at the existing above-ground pipeline span. The cable would continue to follow the existing pipeline alignment and connect into the Dogwood OEC. The proposed medium voltage distribution line would generally blend with existing linear features, such as transmission lines, in the project vicinity.

KOP 5: View from Intersection of Dogwood Road and Willoughby Road. The Dogwood Project would present a weak contrast to the existing landscape. The dense vegetative features in front of the Dogwood Project would provide screening so that only the rectangular tops of the facility would be visible. The Dogwood Project would obstruct the current view of the existing Heber 2 facility however it would only increase the relative size of the existing form at the top of the vegetation line. The project would assimilate color, line, and texture to the existing setting. The proposed medium voltage distribution line associated with the project would be co-located (attached via trays) with the existing and proposed pipeline that runs west before turning north to cross the Beech Drain and Main Canal at the existing above-ground pipeline span. The cable would continue to follow the existing pipeline alignment and connect into the Dogwood OEC. The proposed medium voltage distribution line would generally blend with existing linear features, such as transmission lines, in the project vicinity.

KOP 5A: View from Intersection of Dogwood Road and Willoughby Road. The combined solar facilities would result in a moderate to strong contrast with the existing character of the surrounding landscape. The combined solar facilities would add a prominent rectangular in form with vertical features underneath to the foreground of an otherwise flat area. The combined solar facilities would appear dark and metallic against an otherwise green and tan area. The existing transmission lines, sparse buildings and thin, dense, vegetation would mostly be obstructed by the combined solar facilities.

KOP 6: View from Margarito "Tito" Huerta Jr. Park. The project would add a weak level of contrast with the existing character of the surrounding landscape. From this KOP, the Dogwood Project would be situated behind the existing Heber 2 facility and is almost completely obstructed. The tops of the facility would be partially visible in the background. However, they would significantly assimilate with the existing form, color, line, and texture of the existing facility landscape. The proposed medium voltage distribution line associated with the project would be co-located (attached via trays) with the existing and proposed pipeline that runs west before turning north to cross the Beech Drain and Main Canal at the existing above-ground pipeline span. The cable would continue to follow the existing pipeline alignment and connect into the Dogwood OEC. The proposed medium voltage distribution line would generally blend with existing linear features, such as transmission lines, in the project vicinity. The combined solar facilities would not be visible from KOP 6 and therefore would not contribute to the contrast of the landscape.

KOP 7: View from Mountain View Cemetery. The project would have no contrast with the existing characteristic landscape of KOP 7. The view of the project site or any of its associated facilities would be completely obstructed by existing buildings, vegetative features, and transmission lines along the horizon. The project would blend in with the current energy generation activities (i.e., geothermal, solar, production wells, pipelines, etc.) in the immediate vicinity.

KOP 8: View from Las Casitas Park. The project would have no contrast with the existing characteristic landscape of KOP 8. The view of the project site or any of its associated facilities would be completely obstructed by the earthen berm, existing buildings, vegetative features, and transmission lines along the horizon. The project would blend in with the current energy generation activities (i.e., geothermal, solar, production wells, pipelines, etc.) in the immediate vicinity.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.2-4 Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The proposed project would include new sources of nighttime lighting. In addition, this discussion also considers potential glare- and glint-related impacts generated by the proposed solar arrays. This discussion considers each issue under the associated headings below.

NIGHTTIME LIGHTING

Minimal lighting would be required for project operation 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).

If additional lighting should be required for nighttime maintenance, portable lighting equipment would be used. Based on these considerations, and the distance to potential viewers, the proposed project is not anticipated to create a new source of substantial light which would adversely affect nighttime views in the project area, and the impact is considered less than significant.

GLARE AND GLINT

A glint and glare assessment (Appendix C of this EIR) was conducted to analyze the potential glint and glare impacts from the project's solar panels.

The analysis focused on potential glare effects on observation points (OPs) and linear travel routes. An inventory of visual receptors was conducted by reviewing publicly available geographic information system (GIS) data to determine OPs from airport landing and take-off points, residences, travel routes, recreation areas, Heber Elementary School, and the Mountain View Cemetery. Aircraft landing and approach were considered at four airports. Although the project is not located on airport property and therefore is not subject to Federal Aviation Administration jurisdiction under Federal Aviation Regulations Part 77 to protect airspace safety and is located beyond the 2-mile final approach as defined in the Interim Solar Policy, the project applicant has sought to voluntarily apply Federal Aviation Administration ocular hazard standards (78 Federal Register 63276).

Analysis for the project was conducted using the GlareGauge model (also known as Solar Glare Hazard Analysis Tool [SGHAT]) developed by Forge Solar and the U.S. Department of Energy's Sandia National Laboratories to evaluate potential glare.

The OPs and route receptors used in the analysis consistent of 16 residences, three parks (Margarito Huerta Jr. Park, Herber Childrens Park, and Las Casitas Park), Mountain View Cemetery, Herber Elementary School, and a main travel route (Imperial Avenue).

According to the glint and glare assessment (Appendix C of this EIR), the project has the possibility to create low-potential afterimage (green ocular impact) glare at the Holtville Airport East Runway. The OP will have the potential to experience glare up to 290 minutes per year; the glare would occur from the middle of November to the end of January, between the hours of 4:00 p.m. and 5:00 p.m., for approximately 5 minutes per day from 1.4 to 2.0 miles along the approach path.

The project solar arrays may produce temporary glare during daytime views. However, the face of the solar panels sits in a fixed position toward the east that directs glare away from potential receptors (motorists and residents) along Dogwood Road. The relative impact identified from the potentially sensitive KOP locations shows the solar facilities provide a weak overall contrast and impact to the

existing geothermal and solar area. The geothermal facility would not create a source of glare as there are no reflective surfaces and the building color will assimilate to surrounding facilities. Therefore, the project would have a less than significant impact on daytime views of the area.

Mitigation Measure(s)

No mitigation measures are required.

3.2.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

At the end of the project's useful life, all equipment and facilities will be properly decommissioned and dismantled. The project site is relatively flat and primarily characterized by a level elevation. Therefore, no grading or significant landform modifications would be required during decommissioning activities upon site restoration in the future. Although the project site would be visually disrupted in the short-term during decommissioning activities, because extensive grading is not required and these activities would be temporary, the visual character of the project site would not be substantially degraded in the short-term and related impacts would be less than significant.

Residual

Impacts related to potential substantial glare and glint impacts on roadway travelers are less than significant and would not require mitigation measures. Impacts related to substantial alteration of a scenic vista and damage to designated scenic corridor would have no impact, therefore no additional mitigation measures are required. Changes to visual character of the project area would be less than significant and would be transitioned back to their prior (pre-project) conditions following site decommissioning. Based on these conclusions, implementation of the project would not result in residual significant unmitigable impacts on the visual character of the project area or add substantial amounts of light and glare.

3.3 Agricultural Resources

This section provides an overview of existing agricultural resources within the project site and identifies applicable federal, state, and local policies related to the conservation of agricultural lands (Section 3.3.1). This includes a summary of the production outputs, soil resources, and adjacent operations potentially affected by the project. The impact assessment in Section 3.3.3 provides an evaluation of potential adverse effects to agricultural resources based on criteria derived from the CEQA Guidelines in conjunction with actions proposed in Chapter 2, Project Description. Section 3.3.4 provides a discussion of residual impacts, if any.

No forestry resources are present within the project site and, therefore, this section focuses on issues related to agricultural resources.

3.3.1 Existing Conditions

Agriculture has been the single most important economic activity of Imperial County throughout the 1900s and is expected to play a major economic role in the foreseeable future. The gross annual value of agricultural production in the County has hovered around $1 billion for the last several years, making it the County's largest source of income and employment.

Imperial County agriculture is a major producer and supplier of high-quality plant and animal foods and non-food products. In 2022, agriculture contributed a total of $2.6 billion to the county economy. Vegetable and melon crops were the single largest production category by dollar value ($1.1 billion). Livestock represented the second largest category ($616 million) and. Field crops ranked third with $640 million (Imperial County Agricultural Commissioner 2022).

Important Farmland

According to the California Department of Conservation’s (DOC) California Important Farmland Finder and as shown in Figure 3.3-1, portions of the project site contain Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Urban and Build-Up Land (California Department of Conservation 2020). Table 3.3-1 provides an acreage breakdown for the project site.

As shown in Figure 3.3-1, Prime Farmland and Farmland of Statewide Importance on the project site is located in APNs 054-250-017 and 059-020-001. A sliver of Unique Farmland occurs along the Central Main Canal, located on the northern portion of APN 059-020-001. All Urban and Built-Up land is located within the HGEC (APN 054-250-31) and is not considered agricultural lands under the FMMP.

Figure 3.3-1. Important Farmlands Map

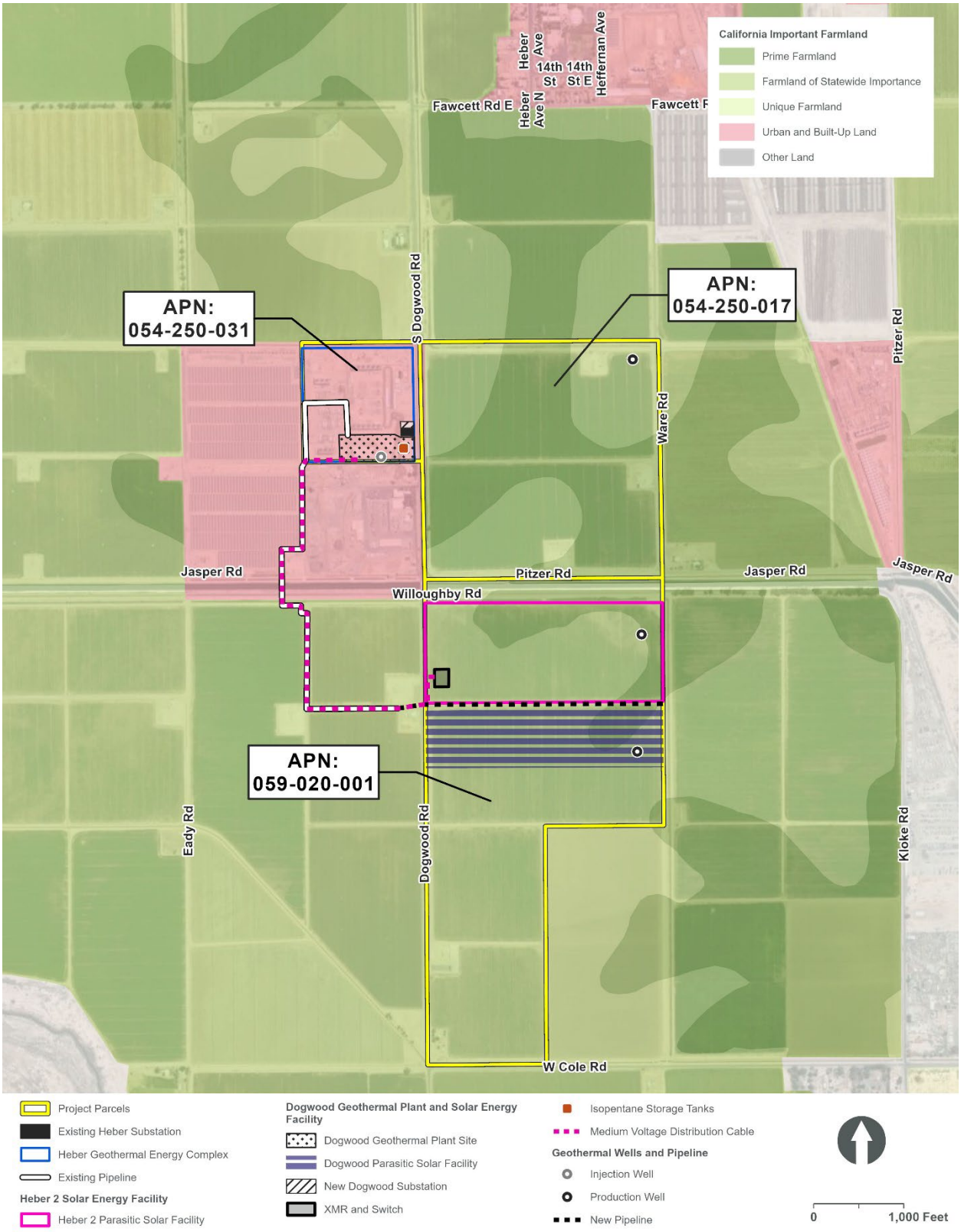

Table 3.3-1. Farmland Mapping and Monitoring Program Designation within the Project Boundary

California Important Farmland Type	Acres
Farmland of Statewide Importance	281.91
Prime Farmland	118.49
Unique Farmland	4.17
*Urban and Built-Up Land	42.04
**Total	**446.61**

* Not considered agricultural lands under the FMMP.
** Total refers to the total farmland acreage and does not include Urban and Built-Up lands.

Williamson Act Contract Land

As of December 31, 2018, all Williamson Act contracts in Imperial County have been terminated. The project site is not located on Williamson Act contracted land.

3.3.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the project.

State

California Land Conservation Act

The Williamson Act (California Land Conservation Act, California Government Code, Section 51200 et seq.) is a statewide mechanism for the preservation of agricultural land and open space land. The Act provides a comprehensive method for local governments to protect farmland and open space by allowing land in agricultural use to be placed under contract (agricultural preserve) between a local government and a landowner.

Under the provisions of the Williamson Act (California Land Conservation Act 1965, Section 51200), landowners contract with the County to maintain agricultural or open space use of their lands in return for reduced property tax assessment. The contract is self-renewing, and the landowner may notify the County at any time of intent to withdraw the land from its preserve status. Withdrawal involves a 10-year period of tax adjustment to full market value before protected open space can be converted to urban uses. Consequently, land under a Williamson Act Contract can be in either a renewal status or a nonrenewable status. Lands with a nonrenewable status indicate the farmer has withdrawn from the Williamson Act Contract and is waiting for a period of tax adjustment for the land to reach its full market value. Nonrenewable and cancellation lands are candidates for potential urbanization within a period of 10 years.

The requirements necessary for cancellation of land conservation contracts are outlined in Government Code Section 51282. The County must document the justification for the cancellation through a set of findings. Unless the land is covered by a farmland security zone contract, the

Williamson Act requires that local agencies make both the Consistency with the Williamson Act and Public Interest findings.

On February 23, 2010, the Imperial County Board of Supervisors voted to not accept any new Williamson Act contracts and not to renew existing contracts because of the elimination of the subvention funding from the state budget. The County reaffirmed this decision in a vote on October 12, 2010, and notices of nonrenewal were sent to landowners with Williamson Act contracts following that vote. The applicable deadlines for challenging the County's actions have expired, and, therefore, all Williamson Act contracts in Imperial County terminated on December 31, 2018.

California Farmland Mapping and Monitoring Program

The California DOC, under the Division of Land Resource Protection, has set up the Farmland Mapping and Monitoring Program (FMMP), a non-regulatory program which monitors the conversion of the state's farmland to and from agricultural use. The map series identifies eight classifications, as defined below, and uses a minimum mapping unit size of 10 acres unless specified.

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

Farmland of Statewide Importance. Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Unique Farmland. Farmland of lesser quality soils than Prime Farmland or Farmland of Statewide Importance, used to produce the state's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

Farmland of Local Importance. Farmland that is of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

Grazing Land. Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.

Urban and Built-up Land. Land occupied by structures with a building density of at least one unit to 1.5 acre, or approximately six structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, prisons, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures.

Water. Defined as perennial water bodies with an extent of at least 40 acres.

Other Land. Land not included in any other mapping category. Common examples include low density rural developments, vegetative and riparian areas not suitable for livestock grazing, confined animal agriculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land. More detailed data on these uses is available in counties containing the Rural Land Use Mapping categories.

Local

Imperial County General Plan Agricultural Element

The Agricultural Element of the County's General Plan serves as the primary policy statement for implementing development policies for agricultural land use in Imperial County. The goals, objectives, implementation programs, and policies found in the Agricultural Element provide direction for new development as well as government actions and programs. Imperial County's Goals and Objectives are intended to serve as long-term principles and policy statements to guide agricultural use decision-making and uphold the community's ideals.

Agriculture has been the single most important economic activity in the County throughout its history. The County recognizes the area as one of the finest agricultural areas in the world because of several environmental and cultural factors including good soils, a year-round growing season, the availability of adequate water transported from the Colorado River, extensive areas committed to agricultural production, a gently sloping topography, and a climate that is well-suited for growing crops and raising livestock. The Agricultural Element in the County General Plan demonstrates the long-term commitment by the County to the full promotion, management, use, and development and protection of agricultural production, while allowing logical, organized growth of urban areas (County of Imperial 2015).

The County's Agricultural Element identifies several Implementation Programs and Policies for the preservation of agricultural resources. The Agricultural Element recognizes that the County can and should take additional steps to provide further protection for agricultural operations and at the same time provide for logical, organized growth of urban areas. The County must be specific and consistent about which lands will be maintained for the production of food and fiber and for support of the County's economic base. The County's strategy and overall framework for maintaining agriculture includes the following policy directed at the preservation of Important Farmland:

The overall economy of the County is expected to be dependent upon the agricultural industry for the foreseeable future. As such, all agricultural land in the County is considered as Important Farmland, as defined by federal and state agencies, and should be reserved for agricultural uses. Agricultural land may be converted to non-agricultural uses only where a clear and immediate need can be demonstrated, such as requirements for urban housing, commercial facilities, or employment opportunities. All existing agricultural land will be preserved for irrigation agriculture, livestock production, aquaculture, and other agriculture-related uses except for non-agricultural uses identified in this General Plan or in previously adopted City General Plans.

The following program is provided in the Agricultural Element:

No agricultural land designated except as provided in Exhibit C [of the Agricultural Element] shall be removed from the Agriculture category except where needed for use by a public agency, for geothermal purposes, where a mapping error may have occurred, or where a clear long-term economic benefit to the County can be demonstrated through the planning and environmental review process. The Board (or Planning Commission) shall be required to prepare and make specific findings and circulate same for 60 days (30 days for parcels considered under Exhibit C of this [Agricultural] element) before granting final approval of any proposal, which removes land from the Agriculture category.

Also, the following policy addresses Development Patterns and Locations on Agricultural Land:

"Leapfrogging" or "checkerboard" patterns of development have intensified recently and result in significant impacts on the efficient and economic production of adjacent agricultural land. It is a policy of the County that leapfrogging will not be allowed in the future. All new non-agricultural development will be confined to areas identified in this plan for such purposes or in Cities' adopted Spheres of Influence, where new development must adjoin existing urban uses. Non-agricultural residential, commercial, or industrial uses will only be permitted if they adjoin at least one side of an existing urban use, and only if they do not significantly impact the ability to economically and conveniently farm adjacent agricultural land.

Agricultural Element Programs that address "leapfrogging" or "checkerboard" development include:

All non-agricultural uses in any land use category shall be analyzed during the subdivision, zoning, and environmental impact review process for their potential impact on the movement of agricultural equipment and products on roads located in the Agriculture category, and for other existing agricultural conditions which might impact the project, such as noise, dust, or odors.

The Planning and Development Services Department shall review all proposed development projects to assure that any new residential or non-agricultural commercial uses located on agriculturally zoned land, except land designated as a Specific Plan Area, be adjoined on at least one entire property line to an area of existing urban uses. Developments that do not meet these criteria should not be approved.

Table 3.3-2 provides a General Plan goal and policy consistency evaluation for the project.

Table 3.3-2. Project Consistency with Applicable General Plan Agricultural Policies

General Plan Policies	Consistency with General Plan	Analysis
Goal 1. All Important Farmland, including the categories of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance, as defined by federal and state agencies, should be reserved for agricultural uses.	Consistent	The project would temporarily convert land designated as Prime Farmland and Farmland of Statewide Importance to non-agricultural uses, however, as part of the project, a reclamation plan when the project is decommissioned at the end of its life spans will be utilized. The reclamation plan includes the removal, recycling, and/or disposal of all project structures on the site, as well as restoration of the site to its pre-project condition. Therefore, the proposed project would not permanently convert Prime Farmland or Farmland of Statewide Importance to non-agricultural uses.
Goal 2. Adopt policies that prohibit "leapfrogging" or "checkerboard" patterns of nonagricultural development in agricultural areas and confine future urbanization to adopted Sphere of Influence area.	Consistent	The project site is designated for agriculture land use in the County General Plan. The project would include development of a geothermal plant and solar facilities and associated infrastructure adjacent to agricultural lands surrounding the project site. Project development would not include a residential component that would induce urbanization adjacent to the project. Furthermore, with the approval of the CUPs, the project would be consistent with the County's Land Use Ordinance. Consistency with the Land Use Ordinance implies consistency with the General Plan land use designation.

Table 3.3-2. Project Consistency with Applicable General Plan Agricultural Policies

General Plan Policies	Consistency with General Plan	Analysis
Objective 2.1. Do not allow the placement of new non-agricultural land uses such that agricultural fields or parcels become isolated or more difficult to economically and conveniently farm.	Consistent	The project would include development of a geothermal plant and solar facilities adjacent to agricultural lands surrounding the project site. Neither construction nor operation of the proposed project would not make it difficult to economically or conveniently farm.
Objective 2.2. Encourage the infilling of development in urban areas as an alternative to expanding urban boundaries.	Consistent	The project involves the construction and operation of solar and geothermal production facilities in a rural area. While the proposed project will introduce development in the area, it does not include residential uses that would, in turn, create a demand for other uses such as commercial, employment centers, and supporting services.
Objective 2.3. Maintain agricultural lands in parcel size configurations that help assure that viable farming units are retained.	Consistent	The project would temporarily convert agricultural land to non-agricultural uses. However, the project would not be subdivided into smaller parcels. A reclamation plan will be prepared for the project site, which when implemented, would return the site to pre-project conditions after the solar and geothermal uses are discontinued.
Objective 2.4. Discourage the parcelization of large holdings.	Consistent	See response to Objective 2.3 above.
Objective 2.6. Discourage the development of new residential or other non-agricultural areas outside of city “sphere of influence” unless designated for non-agricultural use in the County General Plan, or for necessary public facilities.	Consistent	Upon approval of the CUPs, the proposed project would be an allowable use within an applicable agricultural zone, and the existing zoning of the project site would be consistent with the existing General Plan land use designation.
Goal 3. Limit the introduction of conflicting uses into farming areas, including residential development of existing parcels which may create the potential for conflict with continued agricultural use of adjacent property.	Consistent	Upon approval of the CUPs, the proposed project would be an allowable use within an applicable agricultural zone. Additionally, the project does not include the development of housing.
Objective 3.2. Enforce the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031).	Consistent	The Imperial County Right-to-Farm Ordinance would be enforced. Existing nuisance issues such as noise, dust, and odors from existing agricultural use would not impact the project given the general lack of associated sensitive uses (e.g., residences). Likewise, with mitigation measures proposed in other resource sections (e.g., air quality, noise, etc.) project-related activities would not adversely affect adjacent agricultural operations.

Table 3.3-2. Project Consistency with Applicable General Plan Agricultural Policies

General Plan Policies	Consistency with General Plan	Analysis
Objective 3.3. Enforce the provisions of the State nuisance law (California Code Sub-Section 3482).	Consistent	The provisions of the State nuisance law would be incorporated into the project. As discussed below, there is the potential that weeds or other pests may occur within the solar fields if these areas are not properly maintained and managed to control weeds and pests. Mitigation Measure AG-2 requires the project applicant to develop a Pest Management Plan prior to the issuance of a grading permit or building permit (whichever occurs first).

Source: County of Imperial General Plan 2015

CUP = conditional use permit; RE = renewable energy

Imperial County "Right to Farm" Ordinance

Adopted by the County Board of Supervisors on Aug 7th, 1990, as ordinance 1031, the Right to Farm Ordinance enhances and encourages residents' right to farm in Imperial County. Where farmland or agricultural lands exists adjacent to non-farmland or non-agricultural lands complaints are common due to the inherent nature of agricultural activities. The ordinance defines when an agricultural operation is a nuisance and requires mandatory disclosure of agricultural property adjacent to properties for sale. The goal of the ordinance is to promote good neighbor policies and ensure the continued economic viability of the County's agricultural industry. The agriculture industry is one of the most important economic drivers of the County and its continued growth and investment is of great importance.

3.3.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to agricultural resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to agricultural resources are considered significant if any of the following occur:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use
- Conflict with existing zoning for agricultural use, or a Williamson Act contract
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use

Methodology

This analysis evaluates the potential for the project, as described in Chapter 2, Project Description, to adversely impact agricultural resources within the project site based on the applied significance criteria as identified above. The analysis prepared for this CEQA checklist relied on Important Farmland and Williamson Act maps for Imperial County produced by the California DOC's Division of Land Resource Protection. These sources were used to determine the agricultural significance of the land in the project site.

Additionally, potential conflicts with existing agricultural zoning or other changes resulting from the implementation of the project, which could indirectly remove Important Farmland from agricultural production or reduce agricultural productivity were considered. Sources used in this evaluation included, but were not limited to, the Imperial County General Plan, and zoning ordinance.

Impact Analysis

Impact 3.3-1 Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use?

Implementation of the project would result in the temporary conversion of approximately 106.88 acres of land currently under or available for agricultural production to non-agricultural uses, as described below:

- Dogwood Geothermal Energy Project (CUP #23-0020): As shown in Table 3.3-3, approximately 5.31 acres of the Dogwood parasitic solar facility footprint are classified as Prime Farmland and 34.67 acres are classified as Farmland of Statewide Importance.
- Heber 2 Solar Energy Project (CUP #23-0021): As shown in Table 3.3-3, approximately 17.63 acres of the Heber 2 parasitic solar facility footprint are classified as Prime Farmland and 49.27 acres are classified as Farmland of Statewide Importance.

The loss of agricultural land designated as Prime Farmland and Farmland of Statewide Importance, is typically considered a significant impact under CEQA.

Table 3.3-3. Project Impacts on Important Farmland

Project Component	Prime Farmland (acres)	Farmland of Statewide Importance (acres)
Dogwood Parasitic Solar Facility	5.31	34.67
Heber 2 Parasitic Solar Facility	17.63	49.27
Total	**22.94**	**83.94**

The Imperial County General Plan adopted the Renewable Energy and Transmission Element Update as part of the California Energy Commission Renewable Energy Grant Program. The program aims to facilitate future development of renewable energy projects. Under the Renewable Energy and Transmission Element Update, the County Land Use Ordinance, Division 17, includes a renewable energy overlay zone which allows for the operation of renewable energy projects with an approved CUP.

The entire project site falls within the Geothermal Overlay Zone, which allows for the conversion of agricultural land for geothermal energy production with an approved CUP. Despite this, conversion of agricultural land classified as Prime Farmland and Farmland of Statewide Importance is considered a significant impact under CEQA. Implementation of Mitigation Measure AG-1a would reduce the impact associated with the temporary conversion of important farmlands to non-agricultural uses to a level less than significant.

As discussed in Chapter 2, Project Description, the project applicant would be required to restore the project site to preexisting conditions following project operations; therefore, agricultural uses would be possible in the future. Given that the project facilities would be constructed near the existing grade, restoration of the project site, specifically on the solar facilities (APN 059-020-001), to facilitate future cultivated agriculture would generally be feasible. However, implementation of the project would replace existing agricultural uses within the solar facilities during the term of the CUPs and until the site is restored. Additionally, although the project applicant is proposing agriculture as the proposed end use, it is possible that project-related activities (e.g., soil disturbance) and subsequent restoration of the solar fields could result in a net reduction in Prime Farmland and Farmland of Statewide Importance within the solar facilities. These acreage reductions could occur through alterations in soil productivity. As a condition of project approval (CUP condition) a reclamation plan will be prepared for the project site, specifically on the solar facilities (APN 059-020-001). The reclamation plan will provide guidance and performance criteria to ensure that no net reduction in Important Farmland occurs. Implementation of Mitigation Measure AG-1b would reduce long-term impacts to a level less than significant by ensuring compliance with a site Reclamation Plan documenting procedures by which the project site will be returned to its current agricultural conditions.

Mitigation Measure(s)

The following mitigation measures are applicable to the Dogwood Geothermal Energy Project (CUP #23-0020) and Heber 2 Solar Energy Project (CUP #23-0021) only:

AG-1a. Payment of Agricultural and Other Benefit Fees. Prior to the issuance of a grading permit or building permit (whichever is issued first), one of the following options included below shall be implemented:

A. Mitigation for Non-Prime Farmland:

Option 1: *Provide Agricultural Conservation Easement(s).* The Permittee shall procure Agricultural Conservation Easements on a “1 on 1” basis on land of equal size, of equal quality farmland, outside the path of development. The conservation easement shall meet DOC regulations and shall be recorded prior to issuance of any grading or building permits; or

Option 2: *Pay Agricultural In-Lieu Mitigation Fee.* The Permittee shall pay an “Agricultural In-Lieu Mitigation Fee” in the amount of 20 percent of the fair market value per acre for the total acres of the proposed site based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Imperial County Agricultural Commissioner’s office and will be used for such purposes as the acquisition, stewardship, preservation, and enhancement of agricultural lands within Imperial County; or,

Option 3: *Public Benefit Agreement.* The Permittee and County voluntarily enter into an enforceable Public Benefit Agreement or Development Agreement that includes an Agricultural Benefit Fee payment that: 1) is consistent with Board Resolution 2023-#17; and 2) must be held by the County in a restricted account to be used by the County only for such purposes as the stewardship, preservation and enhancement of agricultural lands within Imperial County and to implement the goals and objectives of the Agricultural Benefit program (as amended by the Board of Supervisors on November 7, 2023: Resolution "Amending the Public Benefit Program for use with Solar Power Plants in Imperial County"), as specified in the Development Agreement, including addressing the mitigation of agricultural job loss on the local economy.

B. Mitigation for Prime Farmland:

Option 1: *Provide Agricultural Conservation Easements.* Provide Agricultural Conservation Easement(s). The permittee shall procure Agricultural Conservation Easements on a "2 on 1" basis on land of equal size, of equal quality farmland, outside the path of development. The conservation easement shall meet DOC regulations and shall be recorded prior to issuance of any grading or building permits; or

Option 2: *Agricultural In-Lieu Mitigation Fee.* The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 30 percent of the fair market value per acre for the total acres of the proposed site based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Imperial County Agricultural Commissioner's office and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County; or

Option 3: *Public Benefit Agreement.* The Permittee and County voluntarily enter into an enforceable Public Benefit Agreement or Development Agreement that includes an Agricultural Benefit Fee payment that 1) is consistent with Board Resolution 2023-#17; and 2) must be held by the County in a restricted account to be used by the County only for such purposes as the stewardship, preservation and enhancement of agricultural lands within Imperial County and to implement the goals and objectives of the Agricultural Benefit program (as amended by the Board of Supervisors on November 7, 2023: Resolution "Amending the Public Benefit Program for use with Solar Power Plants in Imperial County", as specified in the Development Agreement, including addressing the mitigation of agricultural job loss on the local economy; the Project and other recipients of the Project's Agricultural Benefit Fee funds; or emphasis on creation of jobs in the agricultural sector of the local economy for the purpose of off-setting jobs displaced by this Project; or

Option 4: *Avoid Prime Farmland.* The Permittee must revise their Conditional Use Permit Application/Site Plan to avoid Prime Farmland.

AG-1b. **Site Reclamation Plan.** The DOC has clarified the goal of a reclamation and decommissioning plan: the land must be restored to land which can be farmed. In addition to Mitigation Measure AG-1a for Prime Farmland and Non-Prime Farmland, the Applicant shall submit to Imperial County, a Reclamation Plan prior to issuance of a grading permit. The Reclamation Plan shall document the procedures by which the

project site will be returned to its current agricultural condition. Permittee shall also provide financial assurance/bonding in the amount equal to a cost estimate prepared by a California-licensed general contractor or civil engineer for implementation of the Reclamation Plan in the even Permittee fails to perform the Reclamation Plan.

Significance after Mitigation

With the implementation of Mitigation Measure AG-1a, potential impacts on valuable farmlands would be minimized through provision of an agricultural conservation easement, payment into the County agricultural fee program, or entering into a public benefit agreement. With implementation of Mitigation Measure AG-1b, potential impacts on valuable farmlands would be minimized by ensuring the project applicants adhere to the terms of a site Reclamation Plan documenting procedures by which the project site will be returned to its current agricultural conditions. These mitigation measures would reduce the impact on Important Farmlands, including Prime Farmland, to a less than significant level.

Impact 3.3-2 Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

Williamson Act. As of December 31, 2018, all Williamson Act contracts in Imperial County have been terminated. The project site is not located on Williamson Act contracted land. Therefore, the proposed project would not conflict with a Williamson Act contract and no impact would occur.

Agricultural Zoning. The project would be constructed on land currently zoned A-2-G-SPA and A-2-G-U. Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone:

n) Oil, gas and geothermal exploration meeting requirements specified in Division 17

s) Solar energy extraction generation provided that is for on-site consumption only

Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

y) Electrical generation plans (less than 50 MW) excluding nuclear or coal fired and meeting requirements in Division 17

z) Electrical substations in an electrical transmission system (500 kv/230 kv/161 kv)

bb) Facilities for the transmission of electrical energy (100-200 kv)

ii) Geothermal test facilities, Intermediate projects, and major exploratory wells, meeting requirements in Division 17

rr) Major Geothermal projects per Division 17

ww) Resource extraction and energy development as per Division 17

aaa) Solar energy electrical generator

Upon approval of a CUPs, the project's uses would be consistent with the Imperial County Land Use Ordinance and thus, is also consistent with the General Plan land use designations of the site. Additionally, operation of the proposed project is not expected to inhibit or adversely affect adjacent agricultural operations through the placement of sensitive land uses or generation of excessive dust or shading. Based on these considerations, impacts are considered to be less than significant.

Mitigation Measure(s)

No mitigation measures required.

Impact 3.3-3 Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

The Agricultural Element of the County's General Plan serves as the primary policy statement for implementing development policies for agricultural land use in Imperial County. The goals, objectives, implementation programs, and policies found in the Agricultural Element provide direction for private development as well as government actions and programs. A summary of the relevant Agricultural goals and objectives and the project's consistency with applicable goals and objectives is summarized in Table 3.3-2. As provided, the project is generally consistent with certain Agricultural Element Goals and Objectives of the County General Plan.

Per County policy, agricultural land may be converted to non-agricultural uses only where a clear and immediate need can be demonstrated, such as requirements for urban housing, commercial facilities, or employment opportunities. Further, no agricultural land designated exempt shall be removed from the agriculture category except where needed for use by a public agency, for geothermal purposes, where a mapping error may have occurred, or where a clear long-term economic benefit to the County can be demonstrated through the planning and environmental review process.

The project would include development of solar facilities adjacent to productive agricultural lands; however, the solar facilities are located in proximity to existing industrial uses such as the HGEC. Development of the project would not contribute to a "leapfrogging" pattern of development. Also, the use of the agricultural land is not considered permanent given that the project applicant will be conditioned to restore the project site back to agricultural use. In this context, the project would be consistent with applicable General Plan policies and is considered less than significant.

The project would not directly impact the movement of agricultural equipment on roads located within the agriculture category and access to existing agriculture-serving roads would not be precluded or hindered by the project. No modifications to roadways are proposed in the project area that would otherwise affect other agricultural operations in the area. Furthermore, existing nuisance issues such as noise, dust, and odors from existing agricultural use would not impact the project given the general lack of associated sensitive uses (e.g., residences). Likewise, with mitigation measures proposed in other resource sections (e.g., air quality, noise, etc.) project-related activities would not adversely affect adjacent agricultural operations. Further, the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031) and the State nuisance law (California Code Sub-Section 3482) would continue to be enforced.

With the implementation of the solar facilities, it is possible that the physical and chemical makeup of the soil materials within the upper soil horizon may change. For example, improper soil stockpiling and management of the stockpiles could result in increased decomposition of soil organic materials, increased leaching of plant available nitrogen, and depletion of soil biota communities (e.g., Rhizobium or Frankia). Any reductions in agricultural productivity could significantly limit the types of crops (deeper rooting crops, orchards, etc.) that may be grown within the project site in the future. However, as a condition of project approval (CUP condition), the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of their lifespan. The reclamation plan includes restoration of the site to pre-project conditions.

Additionally, there is the potential that weeds or other pests may occur within the solar fields if the area is not properly maintained and managed to control weeds and pests. This is considered a significant impact. Implementation of Mitigation Measure AG-2 would reduce this impact to a level less than significant.

Mitigation Measure(s)

1) The following mitigation measures are applicable to the Dogwood Geothermal Energy Project (CUP #23-0020) Heber 2 Solar Energy Project (CUP #23-0021) and Heber Field Company (HFC) Geothermal Wells and Pipeline Project (Heber Field Company, LLC) – (CUP No. 23-0022)

:

AG-2 **Pest Management Plan.** Prior to the issuance of a grading permit or building permit (whichever occurs first), a Pest Management Plan shall be developed by the project applicant and approved by the County of Imperial Agricultural Commissioner. The project applicant shall maintain a Pest Management Plan until reclamation is complete. The plan shall provide the following:

1. Monitoring, preventative, and management strategies for weed and pest control during construction activities at any portion of the project (e.g., transmission line);
2. Control and management of weeds and pests in areas temporarily disturbed during construction where native seed will aid in site revegetation as follows:
    - Monitor for all pests including insects, vertebrates, weeds, and pathogens. Promptly control or eradicate pests when found, or when notified by the Agricultural Commissioner's office that a pest problem is present on the project site. The assistance of a licensed pest control advisor is recommended. All treatments must be performed by a qualified applicator or a licensed pest control business;
    - All treatments must be performed by a qualified applicator or a licensed pest control operator;
    - "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. Effective control methods may include physical/mechanical removal, bio control, cultural control, or chemical treatments;
    - Use of "permanent" soil sterilants to control weeds or other pests is prohibited because this would interfere with reclamation;
    - Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of Food Agriculture and the U.S. Department of Agriculture. Request a sample be taken by the Agricultural Commissioner's Office of a suspected invasive species. Eradication of exotic pests shall be done under the direction of the Agricultural Commissioner's Office and/or California Department of Food and Agriculture;
    - 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 all project employees that handle pest control issues are appropriately trained and certified, all required records are maintained and made available for inspection, and all required 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;
- 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.

3. A long-term strategy for weed and pest control and management during the operation of the proposed project. Such strategies may include, but are not limited to:
    - Use of specific types of herbicides and pesticides on a scheduled basis.
4. Maintenance and management of project site conditions to reduce the potential for a significant increase in pest-related nuisance conditions on surrounding agricultural lands.
5. The project shall reimburse the Agricultural Commissioner's office for the actual cost of investigations, inspections, or other required non-routine responses to the site that are not funded by other sources.

Significance after Mitigation

With the implementation of Mitigation Measures AG-1a, AG-1b and AG-2, the project applicant would be required to adhere to the terms of the comprehensive reclamation plan that would restore the project site to their existing conditions and reintroduce agricultural uses on the site following decommissioning of the project (after their use for solar generation activities) and implement a pest management plan. Compliance with these measures would reduce this impact to a level less than significant.

3.3.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

As required by Mitigation Measure AG-1b, the project applicant shall adhere to the terms of the site reclamation plan that is required to be submitted to Imperial County to return the property to its existing agricultural condition. In any land restoration project, it is necessary to minimize disruption to topsoil

or stockpiled topsoil for later use during restoration following project decommissioning. With the implementation of the solar facilities, it is possible that the physical and chemical makeup of the soil materials within the upper soil horizon may change during construction and associated stockpiling operations. Improper soil stockpiling and management of the stockpiles could result in increased decomposition of soil organic materials, increased leaching of plant-available nitrogen, and depletion of soil biota communities (e.g., Rhizobium or Frankia). Each of these circumstances could have an adverse effect on the future productivity of the restored soils. Any reductions in agricultural productivity could significantly limit the types of crops (e.g., deeper rooting crops, orchards, etc.) that may be grown within the project site in the future. This is considered a significant impact attributable to the project. However, implementation of Mitigation Measures AG-1b and AG-2 would reduce this impact to a level less than significant.

Residual

With mitigation, issues related to the conversion of Important Farmland to non-agricultural use would be mitigated and reduced to a less than significant level. Operation of the project, subject to the approval of CUPs, would generally be consistent with applicable federal, state, regional, and local plans and policies. Following the proposed use (e.g., geothermal and solar facilities), the project would be decommissioned and project site restored to facilitate agricultural cultivation. Based on these circumstances, the project would not result in any residual significant and unmitigable impacts to agricultural resources.

3.4 Air Quality

This section includes an overview of the existing air quality within the project area and identifies applicable local, state, and federal policies related to air quality. The impact assessment provides an evaluation of potential adverse effects on air quality based on criteria derived from the CEQA Guidelines and Imperial County Air Pollution Control District's (ICAPCD) Air Quality Handbook in conjunction with actions proposed in Chapter 2, Project Description, of this EIR. Information contained in this section is summarized from the *Air Quality and Greenhouse Gas Technical Report* prepared by Catalyst Environmental Solutions. This report is included in Appendix D of this EIR.

3.4.1 Existing Conditions

Regional Setting

The proposed project is located in Imperial County within the Salton Sea Air Basin (SSAB). The SSAB consists of all of Imperial County and a portion of Riverside County. Both the ICAPCD and South Coast Air Quality Management District (SCAQMD) have jurisdiction within the SSAB. The ICAPCD has full jurisdiction within all Imperial County and SCAQMD only has jurisdiction within Riverside County.

The climate of Imperial County is governed by the large-scale sinking and warming of air in the semi-permanent high-pressure zone of the eastern Pacific Ocean. The high-pressure ridge blocks out most mid-latitude storms, except in the winter, when it is weakest and located farthest south. The coastal mountains prevent the intrusion of any cool, damp air found in California coastal areas. Because of the barrier and weakened storms, Imperial County experiences clear skies, extremely hot summers, mild winters, and little rainfall. The sun shines, on the average, more in Imperial County than anywhere else in the United States.

The lack of clouds and atmospheric moisture creates strong diurnal and seasonal temperature variations ranging from an average summer maximum of 108 degrees Fahrenheit (° F) down to a winter morning minimum of 38° F. The most pleasant weather occurs from about mid-October to early May when daily highs are in the 70s and 80s with very infrequent cloudiness or rainfall. Imperial County experiences rainfall on an average of only four times per year (>0.10 inches in 24 hours). The local area usually has three days of rain in winter and one thunderstorm day in August. The annual rainfall in this region is less than three inches per year.

Humidity is low throughout the year, ranging from an average of 28 percent in summer to 52 percent in winter. The large daily oscillation of temperature produces a corresponding large variation in the relative humidity. Nocturnal humidity rises to 50 to 60 percent but drops to about 10 percent during the day.

The wind in Imperial County follows two general patterns. Wind statistics indicate prevailing winds are from the west-northwest through southwest; a secondary flow maximum from the southeast is also evident. The prevailing winds from the west and northwest occur seasonally from fall through spring and are known to be from the Los Angeles area. Occasionally, Imperial County experiences periods of extremely high wind speeds. Wind speeds can exceed 31 miles per hour (mph), and this occurs most frequently during the months of April and May. However, speeds of less than 6.8 mph account for more than one-half of the observed wind measurements.

Major Air Pollutants

Criteria Pollutants

Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health with a determined margin of safety. Ozone, coarse particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2) are considered to be local pollutants because they tend to accumulate in the air locally. PM is also considered a local pollutant. Health effects commonly associated with criteria pollutants are summarized in Table 3.4-1.

Table 3.4-1. Criteria Air Pollutants – Summary of Common Sources and Effects

Pollutant	Major Manmade Sources	Human Health and Welfare Effects
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO_2	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O_3	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (N_2O) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
PM_{10} and $PM_{2.5}$	Power plants, steel mills, chemical plants, unpaved roads and parking lots, woodburning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
SO_2	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, and locomotives.	Respiratory irritant. Aggravates lung and heart problems. Can damage crops and natural vegetation. Impairs visibility.

Source: CARB 2023

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals.

Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Additionally, diesel engines emit a complex mixture of air pollutants composed of gaseous and solid material. The solid emissions in diesel exhaust are known as diesel particulate matter (DPM). In 1998, California identified DPM as a TAC based on its potential to cause cancer, premature death, and other health problems (e.g., asthma attacks and other respiratory symptoms). Those most vulnerable are children (whose lungs are still developing) and the elderly (who may have other serious health problems). Overall, diesel engine emissions are responsible for the majority of California's known cancer risk from outdoor air pollutants. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

Attainment Status

The U.S. Environmental Protection Agency (EPA) and CARB designate air basins or portions of air basins and counties as being in "attainment" or "nonattainment" for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. The National Ambient Air Quality Standards (NAAQS) (other than ozone [O_3], PM_{10} and $PM_{2.5}$ and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The NAAQS for O_3, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards (CAAQS) are not to be exceeded during a three-year period.

The attainment status for the portion of the SSAB encompassing the project site is shown in Table 3.4-2. As shown, the Imperial County portion of the SSAB is currently designated as nonattainment for O_3 and PM_{10} under State standards. Under federal standards, the Imperial County portion of the SSAB is in nonattainment for O_3, PM_{10}, and $PM_{2.5}$. The area is currently in attainment or unclassified status for CO, NO_2, and SO_2.

Table 3.4-2. Attainment Status of Criteria Pollutants in the Imperial County Portion of the Salton Sea Air Basin

Pollutant	State Designation	Federal Designation
O_3	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Attainment	Nonattainment
CO	Attainment	Unclassified/attainment
NO_2	Attainment	Unclassified/attainment
SO_2	Attainment	Unclassified/attainment
Sulfates	Attainment	Unclassified

Pollutant	State Designation	Federal Designation
Lead	Attainment	Unclassified/attainment
Hydrogen Sulfide	Unclassified	Unclassified

Source: CARB 2022a

Sensitive Receptors

High concentrations of air pollutants pose health hazards for the general population, but particularly for the young, the elderly, and the sick. Typical health problems attributed to smog include respiratory ailments, eye and throat irritations, headaches, coughing, and chest discomfort. Certain land uses are considered to be more sensitive to the effects of air pollution. Schools, hospitals, residences, and other facilities where people congregate, especially children, the elderly and infirm, are considered particularly sensitive to air pollutants.

There are numerous sensitive receptors in proximity to the project components. Table 3.4-3 summarizes the sensitive receptors in the vicinity of the project site and distance to the nearest project components.

Table 3.4-3. Sensitive Receptors in Proximity to Project Components

Sensitive Receptor	Nearest Project Component	Distance to Nearest Project Component (Feet)
Residence (104 Jasper Rd.)	Heber 2 Solar Facility	540
Residence (600 Dogwood Rd.)	Dogwood Solar Facility	2,900
Residential Area (E. Fawcett Rd.)	Production Well	2,985
Heber Elementary School	Production Well	3,400
Residences (153, 175, 195 E. Cole Blvd.)	Dogwood Solar Facility	3,825

3.4.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the project.

Federal

Clean Air Act

The CAA, passed in 1970 and last amended in 1990, is the primary federal law that governs air quality. The Federal CAA delegates primary responsibility for clean air to the U.S. EPA. The U.S. EPA develops rules and regulations to preserve and improve air quality and delegates specific responsibilities to state and local agencies. Under the act, the U.S. EPA has established the NAAQS for six criteria air pollutants that are pervasive in urban environments and for which state and national health-based ambient air quality standards have been established. Ozone, CO, NO_2, SO_2, Pb, and PM (Including both PM_{10}, and $PM_{2.5}$) are the six criteria air pollutants. Ozone is a secondary pollutant, nitrogen oxides (NO_x) and volatile organic compounds (VOC) are of particular interest as they are precursors to ozone formation. In addition, national standards exist for Pb. The NAAQS standards are

set at levels that protect public health with a margin of safety and are subject to periodic review and revision.

The Federal CAA requires U.S EPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The federal standards are summarized in Table 3.4-4.

State

California Clean Air Act

The California Clean Air Act (CCAA) was adopted by CARB in 1988. The CCAA is responsible for meeting the state requirements of the Federal CAA and for establishing the CAAQS. CARB oversees the functions of local air pollution control districts and air quality management districts, which, in turn, administer air quality activities at the regional and county levels. The CCAA, as amended in 1992, requires all air districts of the state to achieve and maintain the CAAQS by the earliest practical date.

The CCAA requires CARB to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous 3 calendar years. As shown in Table 3.4-4, the CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as nonattainment.

California State Implementation Plan

The CAA mandates that the state submit and implement a SIP for areas not meeting the NAAQS. These plans must include pollution control measures that demonstrate how the standards will be met. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the U.S. EPA for approval and publication in the Federal Register. The Code of Federal Regulations Title 40, Chapter I, Part 52, Subpart F, Section 52.220 lists all of the items which are included in the California SIP.

Toxic Air Contaminants Regulation

TAC sources include industrial processes, dry cleaners, gasoline stations, paint and solvent operations, and fossil fuel combustion sources. The TACs that are relevant to the implementation of the project include DPM and airborne asbestos.

In August 1998, CARB identified DPM emissions from diesel-fueled engines as a TAC. In September 2000, CARB approved a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel fueled engines and vehicles. The goal of the plan is to reduce diesel PM_{10} (inhalable particulate matter) emissions and the associated health risk by 75 percent in 2010 and by 85 percent by 2020. The plan identified 14 measures that target new and existing on-road vehicles (e.g., heavy duty trucks and buses, etc.), off-road equipment (e.g., graders, tractors, forklifts, sweepers, and boats), portable equipment (e.g., pumps, etc.), and stationary engines (e.g., stand-by power generators, etc.).

Table 3.4-4. Ambient Air Quality Standards

Air Pollutant	Averaging Time	California Standard	National Standard
O_3	1-hour 8-hour	0.09 ppm 0.070 ppm	-- 0.070 ppm
PM_{10}	24-hour Mean	50 µg/m^3 20 µg/m^3	150 µg/m^3 --
$PM_{2.5}$	24-hour Mean	-- 12 µg/m^3	35 µg/m^3 9 µg/m^3
CO	1-hour 8-hour	20 ppm 9 ppm	35 ppm 9 ppm
NO_2	1-hour Mean	0.18 ppm 0.030 ppm	100 ppb 0.053 ppm
SO_2	1-hour 24-hour	0.25 ppm 0.04 ppm	75 ppb --
Pb	30-day Rolling 3-month	1.5 µg/m^3	-- 0.15 µg/m^3
Sulfates	24-hour	25 µg/m^3	No federal standard
Hydrogen Sulfide	1-hour	0.03 ppm	
Vinyl Chloride	24-hour	0.01 ppm	
Visibility-reducing particles	8-hour	Extinction coefficient of 0.23 kilometer, visibility of 10 miles or more because of particles when relative humidity is less than 70 percent	

Source: CARB 2016

Notes:

CO – carbon monoxide; mean – annual arithmetic mean; NO_2 – nitrogen dioxide; O_3 – ozone; Pb – lead; $PM_{2.5}$ – particulate matter less than 2.5 microns in diameter; PM_{10} – particulate matter less than 10 microns in diameter; ppb – parts per billion; ppm – parts per million; SO_2 – sulfur dioxide; µg/m^3 – micrograms per cubic meter

Tanner Air Toxics Act & Air Toxics "Hot Spots" Information and Assessment Act

CARB's Statewide comprehensive air toxics program was established in 1983 with AB 1807, the Toxic Air Contaminant Identification and Control Act (Tanner Air Toxics Act of 1983). AB 1807 created California's program to reduce exposure to air toxics and sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an airborne toxics control measure (ATCM) for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions.

CARB also administers the state's mobile source emissions control program and oversees air quality programs established by state statute, such as AB 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment (HRA) and, if specific thresholds are exceeded, required to communicate the results to the public in the form of notices and public meetings. In September 1992, the "Hot Spots" Act was amended by SB 1731, which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

Regional

Imperial County Air Pollution Control District

The ICAPCD is the agency responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards in the district. ICAPCD is responsible for regulating stationary sources of air emissions in Imperial County. Stationary sources that have the potential to emit air pollutants into the ambient air are subject to the Rules and Regulations adopted by ICAPCD. ICAPCD is responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases. Monitoring of ambient air quality in Imperial County began in 1976. Since that time, monitoring has been performed by ICAPCD, CARB, and by private industry. There are six monitoring sites in Imperial County from Niland to Calexico. The ICAPCD has developed the following plans to achieve attainment for air quality ambient standards.

- **2009 Imperial County Plan for PM_{10}.** Imperial Valley is classified as nonattainment for federal and state PM_{10} standards. As a result, ICAPCD was required to develop a PM_{10} Attainment Plan. The final plan was adopted by ICAPCD on August 11, 2009 (ICAPCD 2009).
- **2013 Imperial County Plan for 2006 24-hour $PM_{2.5}$ for Moderate Nonattainment Area.** U.S. EPA designated Imperial County as nonattainment for the 2006 24-hr $PM_{2.5}$ standard, effective December 14, 2009. The 2013 $PM_{2.5}$ SIP demonstrates attainment of the 2006 $PM_{2.5}$ NAAQS "but-for" transport of international emissions from Mexicali, Mexico. The City of Calexico, California shares a border with the City of Mexicali. Effective July 1, 2014, the City of Calexico was designated nonattainment, while the rest of the SSAB was designated attainment (ICAPCD 2014).
- **2017 Imperial County Plan for 2008 8-hour Ozone Standard.** Because of Imperial County's "moderate" nonattainment status for 2008 federal 8-hour O_3 standards, ICAPCD was required to develop an 8-hour Attainment Plan for Ozone (ICAPCD 2017a). The plan includes control measures which are an integral part of how the ICAPCD currently controls the ROG and NO_X

emissions within the O_3 nonattainment areas. The overall strategy includes programs and control measures which represent the implementation of Reasonable Available Control Technology (40 CFR 51.912) and the assurance that stationary sources maintain a net decrease in emissions.

- **2018 Imperial County Plan for PM_{10}.** Imperial Valley is classified as nonattainment for federal and state PM_{10} standards. The 2018 SIP maintained previously adopted fugitive dust control measures (Regulation VIII) that were approved in the Imperial County portion of the California SIP in 2013 (see above) (ICAPCD 2018a).
- **2018 Imperial County Plan for $PM_{2.5}$.** U.S. EPA designated Imperial County as nonattainment for the 2018 24-hr $PM_{2.5}$ standard. The 2018 $PM_{2.5}$ SIP concluded that the majority of the $PM_{2.5}$ emissions resulted from transport in nearby Mexico. Specifically, the SIP demonstrates attainment of the 2006 $PM_{2.5}$ NAAQS "but for" transport of international emissions from Mexicali, Mexico. In accordance with the CCAA, the $PM_{2.5}$ SIP satisfies the attainment demonstration requirement satisfying the provisions of the CCAA (ICAPCD 2018b).

In addition to the above plans, the ICAPCD is working cooperatively with counterparts from Mexico to implement emissions reductions strategies and projects for air quality improvements at the border. The two countries strive to achieve these goals through local input from states, county governments, and citizens. Within the Mexicali and Imperial Valley area, the Air Quality Task Force has been organized to address those issues unique to the border region known as the Mexicali/Imperial air shed. The Air Quality Task Force membership includes representatives from federal, State, and local governments from both sides of the border, as well as representatives from academia, environmental organizations, and the public. This group was created to promote regional efforts to improve the air quality monitoring network, emissions inventories, and air pollution transport modeling development, as well as the creation of programs and strategies to improve air quality.

Imperial County Air Pollution Control District Rules and Regulations

ICAPCD has the authority to adopt and enforce regulations dealing with controls for specific types of sources, emissions or hazardous air pollutants, and New Source Review. The ICAPCD Rules and Regulations are part of the SIP and are separately enforceable by the EPA.

Rule 106 – Abatement. The Board may, after notice and a hearing, issue, or provide for the issuance by the Hearing Board, of an order for abatement whenever the District finds that any person is in violation of the rules and regulations limiting the discharge of air contaminants into the atmosphere.

Rule 107 – Land Use. The purpose of this rule is to provide ICAPCD the duty to review and advise the appropriate planning authorities within the District on all new construction or changes in land use which the Air Pollution Control Officer believes could become a source of air pollution problems.

Rule 201 – Permits Required. The construction, installation, modification, replacement, and operation of any equipment which may emit or control Air Contaminants require ICAPCD permits.

Rule 207 – New and Modified Stationary Source Review. Establishes preconstruction review requirements for new and modified stationary sources to ensure the operations of equipment does not interfere with attainment or maintenance of ambient air quality standards.

Rule 208 – Permit to Operate. The ICAPCD would inspect and evaluate the facility to ensure the facility has been constructed or installed and will operate to comply with the provisions of the Authority to Construct permit and comply with all applicable laws, rules, standards, and guidelines.

Rule 310 – Operational Development Fee. The purpose of this rule is to provide ICAPCD with a sound method for mitigating the emissions produced from the operation of new commercial and residential development projects throughout the County of Imperial and incorporated cities. All project proponents have the option to either provide off-site mitigation, pay the operational development fee, or do a combination of both. This rule will assist ICAPCD in attaining the state and federal ambient air quality standards for PM_{10} and O_3.

Rule 401 – Opacity of Emissions. Sets limits for release or discharge of emissions into the atmosphere, other than uncombined water vapor, that are dark or darker in shade as designated as No.1 on the Ringelmann Chart[1] or obscure an observer's view to a degree equal to or greater than smoke does as compared to No.1 on the Ringelmann Chart, for a period or aggregated period of more than three minutes in any hour.

Rule 403 – General Limitations on the Discharge of Air Contaminants. Rule 403 sets forth limitations on emissions of pollutants, including particulate matter, from individual sources.

Rule 407 – Nuisance. Rule 407 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Rule 801 – Construction and Earthmoving Activities. Rule 801 aims to reduce the amount of PM_{10} entrained in the ambient air as a result of emissions generated from construction and other earthmoving activities by requiring actions to prevent, reduce, or mitigate PM_{10} emissions. This rule applies to any construction and other earthmoving activities, including, but not limited to, land clearing, excavation related to construction, land leveling, grading, cut and fill grading, erection or demolition of any structure, cutting and filling, trenching, loading or unloading of bulk materials, demolishing, drilling, adding to or removing bulk of materials from open storage piles, weed abatement through disking, back filling, travel on-site and travel on access roads to and from the site.

Regulation VIII – Fugitive Dust Rules. Regulation VIII sets forth rules regarding the control of fugitive dust, including fugitive dust from construction activities. The regulation requires implementation of fugitive dust control measures to reduce emissions from earthmoving, unpaved roads, handling of bulk materials, and control of track-out/carry-out dust from active construction sites. Best Available Control Measures to reduce fugitive dust during construction and earthmoving activities include but are not limited to:

- Phasing of work in order to minimize disturbed surface area
- Application of water or chemical stabilizers to disturbed soils
- Construction and maintenance of wind barriers
- Use of a track-out control device or wash down system at access points to paved roads.

Compliance with Regulation VIII is mandatory for all construction sites, regardless of size; however, compliance with Regulation VIII does not constitute mitigation under the reductions attributed to environmental impacts. In addition, compliance for a project includes: (1) the development of a dust control plan for the construction and operational phase; and (2) notification to the Air District is required

[1] The Ringelmann scale is a scale for measuring the apparent density or opacity of smoke.

10 days prior to the commencement of any construction activity. Furthermore, any use of engine(s) and/or generator(s) of 50 horsepower or greater may require a permit through ICAPCD.

Southern California Association of Governments – 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy

The Southern California Association of Governments (SCAG) is the designated metropolitan planning organization for Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial Counties. CEQA requires that regional agencies like SCAG review projects and plans throughout its jurisdiction. SCAG, as the region's "Clearinghouse," collects information on projects of varying size and scope to provide a central point to monitor regional activity. SCAG has the responsibility of reviewing dozens of projects, plans, and programs every month. Projects and plans that are regionally significant must demonstrate to SCAG their consistency with a range of adopted regional plans and policies.

On September 3, 2020, SCAG adopted the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (SCAG 2020). The RTP/SCS or "Connect SoCal" includes a strong commitment to reduce emissions from transportation sources to comply with Senate Bill 375, improve public health, and meet the NAAQS as set forth by the federal CAA. The following SCAG goal is applicable to the project:

- Reduce greenhouse gas emissions and improve air quality.

Imperial County General Plan

The Imperial County General Plan serves as the overall guiding policy for the County. The Conservation and Open Space Element includes objectives for helping the County achieve the goal of improving and maintaining the quality of air in the region. Table 3.4-5 summarizes the project's consistency with the applicable air quality goal and objectives from the Conservation and Open Space Element. While this EIR analyzes the project's consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

Table 3.4-5. Project Consistency with Applicable General Plan Policies

Applicable Policies	Consistency Determination	Analysis
Conservation and Open Space Element		
Protection of Air Quality and Addressing Climate Change Goal 7: The County shall actively seek to improve the quality of air in the region.	Consistent	The proposed project would be required to comply with all applicable ICAPCD rules and requirements during construction and operation to reduce air emissions. Overall, the proposed project would improve air quality and reduce GHG emissions by reducing the amount of emissions that would be generated in association with electricity production from fossil fuel burning facilities. Therefore, the proposed project is consistent with this goal.

Applicable Policies	Consistency Determination	Analysis
Objective 7.1: Ensure that all project and facilities comply with current Federal, State and local requirements for attainment of air quality objectives.	Consistent	The proposed project would comply with current federal and State requirements for attainment for air quality objectives through conformance with all applicable ICAPCD rules and requirements to reduce fugitive dust and emissions. Further, the project would comply with the ICAPCD Air Quality CEQA Handbook's Mandatory Standard Measures (Mitigation Measure AQ-1). Therefore, the proposed project is consistent with this objective.
Objective 7.2: Develop management strategies to mitigate fugitive dust. Cooperate with all federal and state agencies in the effort to attain air quality objectives.	Consistent	The Applicant would cooperate with all federal and State agencies in the effort to attain air quality objectives through compliance with the ICAPCD Air Quality CEQA Handbook's Mandatory Standard Measures (Mitigation Measure AQ-1). Therefore, the proposed project is consistent with this objective.

Source: County of Imperial 2016

3.4.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to air quality are considered significant if any of the following occur:

- Conflict with or obstruct implementation of the applicable air quality plan
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O_3 precursors)
- Expose sensitive receptors to substantial pollutant concentrations
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people

Imperial County Air Pollution Control District

ICAPCD amended the Air Quality Handbook: Guidelines for the Implementation of CEQA on December 12, 2017 (ICAPCD 2017b). ICAPCD established significance thresholds based on the state CEQA thresholds. The handbook was used to determine the proper level of analysis for the proposed project.

OPERATIONS

Air quality analyses should compare all operational emissions of a project, including motor vehicle, area source, and stationary or point sources to the thresholds in Table 3.4-6. Projects can be classified as either Tier 1 or Tier 2 projects, depending on the project's operational emissions. As shown in Table 3.4-6, Tier 1 projects are projects that emit less than 137 pounds per day of nitrogen oxide (NO_x) or reactive organic gases (ROGs); less than 150 pounds per day of PM_{10} or SO_x; or less than 550 pounds per day of CO or $PM_{2.5}$.

Tier 1 projects are not required to develop a Comprehensive Air Quality Analysis Report or an EIR and require the implementation of all feasible mitigation measures listed in Section 7.2 of the ICAPCD's Air Quality Handbook (ICAPCD 2017b). Alternatively, Tier 2 projects are projects that emit 137 pounds per day of NO_x or ROG or greater; 150 pounds per day of PM_{10} or SO_x or greater; or 550 pounds per day of CO or $PM_{2.5}$ or greater. Tier 2 projects are required to develop a Comprehensive Air Quality Analysis Report at a minimum and are required to implement all standard mitigation measures as well as all feasible discretionary mitigation measures listed in Sections 7.2 and 7.3 of the ICAPCD's Air Quality Handbook (ICAPCD 2017b).

Table 3.4-6. Imperial County Air Pollution Control District Significance Thresholds for Operation

Criteria Pollutant	Tier 1 Thresholds	Tier 2 Thresholds
NO_x and ROG	Less than 137 pounds per day	137 pounds per day and greater
PM_{10} and SO_2	Less than 150 pounds per day	150 pounds per day and greater
CO and $PM_{2.5}$	Less than 550 pounds per day	550 pounds per day and greater
Level of Significance	**Less than Significant**	**Significant Impact**

Source: ICAPCD 2017b

CO – carbon monoxide; NO_x – nitrogen oxide; O3 – ozone; Pb – lead; $PM_{2.5}$ – particulate matter less than 2.5 microns in diameter; PM_{10} - particulate matter less than 10 microns in diameter; ROG - reactive organic gas; SOx – sulfur oxide.

CONSTRUCTION

For construction projects, the Air Quality Handbook indicates that the significance threshold for NO_x is 100 pounds per day and for ROG is 75 pounds per day. As discussed in the ICAPCD's Air Quality Handbook, the approach to evaluating construction emissions should be qualitative rather than quantitative. In any case, regardless of the size of the project, the standard mitigation measures for construction equipment and fugitive PM_{10} must be implemented at all construction sites. The implementation of discretionary mitigation measures, as listed in Section 7.1 of the ICAPCD's Air Quality Handbook, apply to those construction sites that are 5 acres or more for non-residential developments or 10 acres or more in size for residential developments. The mitigation measures found in Section 7.1 of the ICAPCD's handbook are intended as a guide of feasible mitigation measures and are not intended to be an all-inclusive comprehensive list of all mitigation measures. Table 3.4-7 presents the construction emission thresholds that are identified by ICAPCD.

Table 3.4-7. Imperial County Air Pollution Control District Significance Thresholds for Construction Activities

Pollutant	Thresholds
PM_{10}	150 pounds per day
ROG	75 pounds per day
NO_x	100 pounds per day
CO	550 pounds per day

Source: ICAPCD 2017b

CO – carbon monoxide; NOx – nitrogen oxide; PM10 - particulate matter less than 10 microns in diameter; ROG - reactive organic gas.

Methodology

Construction of the project was assumed to commence in the first quarter of 2025 and was estimated to take up to 35 months to complete. The project would result in both short-term and long-term emissions of air pollutants associated with construction and operations. Construction emissions would include exhaust from the operation of conventional construction equipment, on-road emissions from employee vehicle trips and haul truck trips, fugitive dust as a result of grading and vehicle travel on paved and unpaved surfaces.

Construction and operational emissions were estimated using the latest version of California Emissions Estimator Model (CalEEMod), version 2022.1. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operation of a variety of land use projects. The model utilizes widely accepted federal and state models for emission estimates and default data from sources such as U.S. EPA AP-42 emission factors, CARB vehicle emission models, and studies from California agencies such as the California Energy Commission (CEC). Default CalEEMod inputs were used for modeling where project-specific details were not readily ascertainable (e.g., fleet mix and trip length).

In addition, the power generating unit will generate power by taking geothermal energy (e.g., heat) to vaporize liquid isopentane, which is the motive fluid that powers the turbines to create electricity. Accordingly, the primary air pollutant from the facility operations is isopentane, which is a VOC. Specifically, isopentane would be the motive fluid used to drive the turbines for the project. Although the motive fluid system is a “closed loop” with no routine emissions into the atmosphere, nearly all of the project’s operational ROG emissions comes from fugitive emissions of isopentane that leaks from pipes, seals, flanges, valves, and other connections and the vapor recovery system. Accordingly, the isopentane emissions due to maintenance, purging, and fugitive leaks are summarized as follows:

- **Maintenance Isopentane Emissions** - Occasionally, isopentane must be evacuated from a portion of an OEC for maintenance or repair. The OECs are divided into zones that can be isolated and evacuated for maintenance while the isopentane remains in the rest of the system. To evacuate the isopentane from a zone for maintenance, the isopentane liquid and vapor are removed using the VRMU (with a 95 percent control efficiency) and held in the storage tanks. Any remaining vapors are purged from the zone using nitrogen and passes through the VRMU. The unit is not opened to the atmosphere until the vapor concentration is less than 20 percent of the lower explosion limit for isopentane. Maintenance isopentane emissions are estimated based on site–specific emission factors derived from previous actual emissions data.
- **Purging Isopentane Emissions** - Over time impurities build up in the motive fluid (MF). These impurities include non-condensable gases (NCG’s) which decrease the operating efficiency of the units. NCGs are purged from the system using the existing VRMU. During the purging, vapors from the OECs pass through a knock-out drum and chiller to separate the condensable gases from the NCGs. The remaining gases are passed through an activated carbon bed to collect hydrocarbons before being vented to the atmosphere. The facility’s current air permit requires the VRMU to achieve 95 percent hydrocarbon capture efficiency.
- **Fugitive Isopentane Emissions** - Fugitive isopentane emissions occur from leaks in seals, flanges, pumps, valves, and other components. It is not feasible to measure fugitive emissions directly, but fugitive emissions leaks can be quantified based on the addition of isopentane to

the system to make up for the lost fluid. ORMAT tracks fluid additions, and the fluid additions that are not attributed to known non-fugitive cause are counted as fugitive emissions.

Per the Heber 2 Authority to Construct (ATC) #2217A-6 issued by the ICAPCD, site specific isopentane maintenance, purging, and fugitive emissions were calculated based on worst-case quarterly emissions from the years 2019 and 2020. Maintenance and fugitive emissions were also adjusted for the decreased complexity of the new units as compared to the existing units associated with the 2019 and 2020 reported emissions (i.e., the number of seals, flanges, pumps, valves, etc. associated with the project equipment is significantly less than the existing equipment). As such, the ICAPCD applies a 50 percent reduction factor to 50 percent emission reduction factor to account for the approximately 50 percent fewer potential sites for leaks and equipment failure. The emissions have been converted into a per 1,000-gallon factor by using the existing system volume. As summarized in Table 3.4-8, the resulting project-specific emission factors are 0.23 lbs/day/1,000 gallons for maintenance, 1.45 X 10^{-5} lbs/day/1,000 gal for purging and 0.60 lbs/day/1,000 gal for fugitive. These emission factors are assumed to be consistent with project operations.

Table 3.4-8. Project-Specific Isopentane Emission Factors

Emission Category	Site-Specific Emissions Factor Based on 2019 and 2020 Emissions (lbs/day/1,000 gallons)	Emissions Reductions Due to Reduced Complexity	Project-Specific Emission Factor (lbs/day/1,000 gallons)
Maintenance	0.45	50%	0.23
Purging	2.9 x10^{-5}	0%	1.45 x10^{-5}
Fugitive	1.20	50%	0.60

Source: ICAPCD ATC #2217A-6

The proposed OEC and ITLU have a combined volume of approximately 82,140 gallons, and the two isopentane storage tanks have a total capacity of 40,000 gallons. Isopentane emissions are related to the size of the system, so emissions were estimated by multiplying the total isopentane volume at the facility (i.e., 122,140 gallons) by the emission factors detailed in Table 3.4-8.

Emissions associated with the auxiliary emergency diesel generator and emergency diesel fire pump are estimated using CalEEMod 2022.1 default emission factors for diesel emergency generators and fire pumps.

The project site will be staffed with 1-2 onsite employees. Accordingly, annual operation and maintenance trips to the site are conservatively assumed to be up to six one-way trips during weekdays and three one-way trips during weekends. Such visits to the site include inspections, equipment servicing, site maintenance, and periodic washing of the photovoltaic modules at the solar plants. A 85 percent paved roads is utilized in the project CalEEMod emissions model to account for fugitive dust generated on paved surfaces throughout Imperial County. Indirect sources of emissions include those associated with energy consumption, water use, wastewater treatment, and solid waste disposal.

Impact Analysis

Impact 3.4-1 Would the project conflict with or obstruct implementation of the applicable air quality plan?

The air quality attainment plan (AQAP) for the SSAB, through the implementation of the air quality management plan (AQMP) (previously AQAP) and SIP for PM_{10}, sets forth a comprehensive program that will lead the SSAB into compliance with all federal and state air quality standards. A consistency determination with the AQMP plays an important role in local agency project review by linking local planning and individual projects to the 2017 Clean Air Plan. The 2017 Clean Air Plan strategy is based on projections from local general plans. Projects that are consistent with the local general plan are considered consistent with the regional air quality plan. In addition, AQMP control measures and related emission reduction estimates are based upon emissions projections for future development scenarios derived from land use, population, and employment characteristics defined in consultation with local governments. Conformance with the AQMP for development projects is determined by demonstrating compliance with local land use plans and/or population projections, meeting the land use designation set forth in the local General Plan, and comparing assumed emissions in the AQMP to proposed emissions.

The proposed project must demonstrate compliance with all ICAPCD applicable rules and regulations, as well as local land use plans and population projections. As the project does not contain a residential component, the project would not result in an increase in the regional population. While contributions to energy supply may induce population growth, the proposed geothermal and solar energy project would not significantly increase employment or growth within the region. Moreover, development of the proposed project would increase the amount of renewable energy and help California meet its RPS.

As shown in Table 3.4-5, the project is consistent with the applicable air quality goal and objectives from the General Plan. The proposed project would be required to comply with all applicable ICAPCD rules and requirements during construction and operation to reduce air emissions. Overall, the proposed project would improve air quality by reducing the amount of emissions that would be generated in association with electricity production from fossil fuel burning facilities.

Furthermore, the thresholds of significance adopted by the air district (ICAPCD), determine compliance with the goals of the attainment plans in the region. As such, emissions below the ICAPCD regional mass daily emissions thresholds presented in Table 3.4-6 and Table 3.4-7 would not conflict with or obstruct implementation of the applicable air quality plans. The following analysis is broken out by a discussion of potential impacts during construction of the project followed by a discussion of potential impacts during operation of the project.

Construction. The proposed project would emit criteria pollutants from the use of combustion sources such as diesel off-road equipment (e.g., tractors, cranes, generators, etc.), and on-road mobile sources associated with construction-related vehicle travel. Impacts to air quality would also occur during project construction as a result of soil disturbance and fugitive dust emissions. Construction emissions vary from day-to-day depending on the number of workers, number, and types of active heavy-duty vehicles and equipment, level of activity, the prevailing meteorological conditions, and the length over which these activities occur.

Project construction is anticipated to occur over an approximate two-year period. Construction is anticipated to begin in late 2024. Project emissions were calculated in accordance with the ICAPCD's Air Quality Handbook (ICAPCD 2017). For the purposes of this analysis, short-term construction emissions were determined utilizing the latest version of the CalEEMod model (version 2022.1) based on the assumptions described in the Methodology section and utilizing CalEEMod defaults for calendar year average equipment emission factors as opposed to tier-specific rates (e.g., Tier 3) (refer to

Appendix D of this EIR for emission model results). The total unmitigated emissions generated within each year of project construction are shown in Table 3.4-9.

Table 3.4-9. Unmitigated Project Construction-Generated Emissions (lbs/day)

Construction Year	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
2025	27.52	246.06	268.98	0.80	2,243.9	231.29
2026	29.55	272.17	307.92	0.84	2,356.6	242.47
ICAPCD Significance Threshold	***75***	***100***	***550***	**--**	***150***	**--**
Exceed Threshold?	No	Yes	No	--	[Yes][1]	--

Source: Appendix D of this EIR

Notes:

[1] Guidance provided in the ICAPCD CEQA Air Quality Handbook (2017) specifies that the approach of the CEQA analyses for construction particulate matter impacts should be qualitative as opposed to quantitative. As such, further analysis of construction-related fugitive particulate matter is provided.

As shown in Table 3.4-9, the proposed project's daily unmitigated construction emissions would exceed the ICAPCD thresholds for NO_X and PM_{10}. Pursuant to ICAPCD, the project 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. Therefore, implementation of Mitigation Measures AQ-1 and AQ-2 would provide additional reduction strategies to ensure that the construction emissions of NOx remain below the applicable thresholds as shown in Table 3.4-10.

Table 3.4-10. Mitigated Project Construction-Generated Emissions (lbs/day)

Construction Year	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
2025	9.90	83.42	466.38	1.12	2,238.7	226.62
2026	10.72	87.08	520.46	1.30	2,351.7	238.04
ICAPCD Significance Threshold	***75***	***100***	***550***	**--**	***150***	**--**
Exceed Threshold?	No	No	No	--	[Yes][1]	--

Source: Appendix D of this EIR

Notes:

[1] Guidance provided in the ICAPCD CEQA Air Quality Handbook (2017) specifies that the approach of the CEQA analyses for construction particulate matter impacts should be qualitative as opposed to quantitative. As such, further analysis of construction-related fugitive particulate matter is provided.

Specifically, Mitigation Measure AQ-2 requires that all off-road construction diesel engines not registered under CARB's Statewide Portable Equipment Registration Program, which have a rating of 50 horsepower or more, meet, at a minimum, the Tier 4 Final California Emission Standards for Off-Road Compression-Ignition Engines as specified in CCR, Title 13, section 2423(b)(1) unless such engine is not available for a particular item of equipment. In the event a Tier 4 Final engine is not available for any off-road engine larger than 100 horsepower, that engine shall be equipped with retrofit controls that would provide NO_X and particulate matter emissions that are equivalent to Tier 4 engine.

Due to the assumption of 85 percent paved roads built into the project CalEEMod model, construction activities are shown to exceed the ICAPCD threshold for PM_{10}. Specifically, CalEEMod results for the maximum daily emissions of PM_{10} attributed to fugitive dust is estimated at 2,349.4 lbs/day whereas the PM_{10} attributed to combustion engine emissions is 2.27 lbs/day (which is below the ICAPCD threshold for PM_{10}).

However, guidance provided in the ICAPCD CEQA Air Quality Handbook (2017) specifies that the approach of the CEQA analyses for construction particulate matter impacts should be qualitative as opposed to quantitative. Further, the ICAPCD recommends the implementation of effective and comprehensive mitigation inclusive of standard mitigation measures for construction equipment and fugitive PM_{10} in accordance with ICAPCD Regulation VIII for the control of fugitive dust as detailed in Mitigation Measure AQ-1. Regulation VIII requires all unpaved roadways, on- and off-site, to be conditioned and maintained with soil stabilizers to reduce dust opacity to no more than 20 percent; all unpaved disturbed surfaces, on- and off-site, to be stabilized with a dust suppressant, watering, or soil stabilizers to reduce opacity to no greater than 20 percent. Compliance with Regulation VIII dust control measures as detailed in Mitigation Measure AQ-1 would further minimize air quality impacts. In addition, the ICAPCD recommends implementation of additional discretionary mitigation measures for fugitive PM_{10} control as applicable. Accordingly, implementation of Mitigation Measure AQ-3 would require additional dust suppression methods (such as water or chemical stabilization) on all unpaved roads associated with construction activities, Mitigation Measure AQ-4 requires development and implementation of a dust suppression management plan prior to any earthmoving activity, and Mitigation Measure AQ-6 limits the speed of all vehicles operating onsite on dirt roads to 15 miles per hour or less. Accordingly, with implementation of Mitigation Measures AQ-1 through AQ-4 and Mitigation Measure AQ-6, the project would not exceed the ICAPCD's thresholds of significance during construction. As described above, conformance with the AQMP for development projects is determined by demonstrating compliance with local land use plans and/or population projections and comparing assumed emissions in the AQMP to proposed emissions. Because the proposed project complies with local land use plans and population projections and would not exceed ICAPCD's regional mass daily emissions thresholds, construction of the proposed project would not conflict with or obstruct implementation of the applicable air quality plan. After implementation of applicable mitigation measures, impacts would be considered less than significant.

Operations. Implementation of the project would result in long-term operational emissions of criteria air pollutants. Specifically, isopentane emissions will occur due to maintenance, purging, and fugitive leaks. Operation of auxiliary engines including the emergency diesel generator and emergency diesel fire pump will also result in emissions of criteria pollutants. Table 3.4-11 summarizes the estimated emissions of isopentane at the facility.

Table 3.4-11. Isopentane Emission Estimate

Emission Category	System Motive Fluid Volume (Gallons)	Project-Specific Emission Factor (lbs/day/1000 gallons)	Isopentane Emissions (lbs/day)
Maintenance	82,140 (OEC/ITLU)	0.23	18.48
Purging	82,140 (OEC/ITLU)	1.45 x 10-5	0.001
Fugitive	122,140 (OEC/ITLU & Tanks)	0.60	49.28
		TOTAL	**67.7**

Source: Appendix D of this EIR
Note that emissions are representative of the maximum daily output (i.e., maximum of summer or winter results)

With the exception of isopentane emissions detailed in Table 3.4-11, all other operational emissions were modeled utilizing CalEEMod 2022.1. Accordingly, long-term combined operational emissions attributable to the project are summarized in Table 3.4-12 and compared to the operational significance thresholds promulgated by the ICAPCD.

Table 3.4-12. Unmitigated Project Operational Emissions (lbs/day)[1]

Emission Source	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Area[2]	38.54	1.98	234.89	0.01	0.42	0.32
Mobile[3]	0.03	0.03	0.28	<0.005	0.49	0.06
Energy[4]	0.00	0.00	0.00	0.00	0.00	0.00
Stationary[5]	0.12	0.34	0.31	<0.005	0.02	0.02
Fugitive Isopentane[6]	67.77	0.00	0.00	0.00	0.00	0.00
TOTAL	**106.46**	**2.35**	**235.47**	**0.02**	**0.93**	**0.39**
Threshold	***137***	***137***	***550***	***150***	***150***	***550***
Exceed Threshold?	No	No	No	No	No	No

Source: Appendix D of this EIR
Notes:
[1] Daily emissions are representative of the maximum daily output (i.e., maximum of summer or winter results).
[2] Area emissions are inclusive of landscape maintenance equipment using CalEEMod default factors.
[3] Mobile emissions are inclusive of daily estimate vehicle miles travels associated with operations (i.e., average of 6 one-way trips per weekday and 3 one-way trips per day on Saturdays and Sundays with an estimated trip length of 10.2 miles.
[4] The project is a renewable energy project and does not require energy from the grid.
[5] Stationary emissions are associated with operation of emergency diesel generator (50 hours/year amortized over 365 days/year) and emergency diesel fire pump (40 hours/year amortized over 365 days/year)
[6] Isopentane emissions are reported as ROG.

Project-generated increases in emissions would be predominately associated with isopentane emissions and emissions related to landscape equipment use for routine maintenance work. As shown in Table 3.4-12, the proposed project's combined operational emissions would not exceed the ICAPCD thresholds for CO, ROG, NO_X, PM_{10}, $PM_{2.5}$, and SO_2. Although no significant air quality impact would occur during operation, the project would be required to comply with Regulation VIII that would further reduce fugitive dust emissions associated with the project. Furthermore, any stationary sources of emissions operated on site will be required to adhere to ICAPCD Rule 207, New and Modified Stationary Source Review and Rule 201 that require permits to construct and operate stationary sources. Although no significant air quality impact would occur during operation, the project applicant is required to submit a Dust Suppression Management Plan for both construction and operation in order to reduce fugitive dust emissions. Implementation of Mitigation Measures AQ-3 through AQ-5 would ensure that a Dust Suppression Management Plan is implemented, thereby ensuring that this potential impact would remain less than significant. To further reduce dust emissions during operation of the project, the project applicant will implement Mitigation Measure AQ-6, which limits the speed of all vehicles operating onsite on dirt roads to 15 miles per hour or less.

As described above, conformance with the AQMP for development projects is determined by demonstrating compliance with local land use plans and/or population projections and comparing assumed emissions in the AQMP to proposed emissions. Because the proposed project complies with local land use plans and population projections and would not exceed ICAPCD's regional mass daily emissions thresholds during construction and operation, the proposed project would not conflict with or obstruct implementation of the applicable air quality plan. This is considered a less than significant impact.

Mitigation Measure(s)

AQ-1 **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. 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.
- 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.

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.
- When commercially available, replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

AQ-2 **Construction Equipment.** All off-road construction diesel engines not registered under CARB's Statewide Portable Equipment Registration Program, which have a rating of 50 horsepower or more, shall meet, at a minimum, the Tier 4 Final California Emission Standards for Off-road Compression-Ignition Engines as specified in CCR, Title 13, section 2423(b)(1) unless such engine is not available for a particular item of equipment. In the event a Tier 4 Final engine is not available for any off-road engine larger than 100 horsepower, that engine shall be equipped with retrofit controls that would provide NO_X and particulate matter emissions that are equivalent to Tier 4 engine. Drill rig engines shall meet a minimum of Tier 4 Interim California Emission Standards. A list of the construction equipment, including all off-road equipment utilized at the project site 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 NO_X analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed the significance thresholds. The Planning and Development Services Department and ICAPCD shall verify implementation of this measure.

AQ-3 **Dust Suppression.** The project applicant shall employ a method of dust suppression (such as water or chemical stabilization) approved by ICAPCD. All unpaved roads associated with construction shall be effectively stabilized of dust emissions using stabilizers/suppressant before the commencement of all construction phases. This will be conducted monthly at a rate of 0.1 gallon/ square yard of chemical dust suppressant. 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 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.

AQ-6 **Speed Limit.** During construction and operation of the proposed project, the applicant shall limit the speed of all vehicles operating onsite on unpaved roads to 15 miles per hour or less.

Mitigation Measure(s)

Although the proposed project would not exceed ICAPCD's significance thresholds, Mitigation Measures AQ-1 through AQ-6 would provide additional reduction strategies to further improve air quality and reductions in criteria pollutants and ensure that this potential impact would remain less than significant impact.

Impact 3.4-2 Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O_3 precursors)?

As shown in Table 3.4-2, the criteria pollutants for which the project area is in State non-attainment under applicable air quality standards are O_3 and PM_{10}. The ICAPCD's application of thresholds of significance for criteria air pollutants is relevant to the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality.

Construction. As discussed above in Impact 3.4-1, the project's daily construction emissions would exceed the ICAPCD thresholds for NO_X and PM_{10}. As discussed above, with implementation of Mitigation Measures AQ-1 through AQ-4 and Mitigation Measure AQ-6, the project's daily mitigated construction emissions would not exceed the ICAPCD thresholds (note that although the CalEEMod results for PM_{10} emissions are shown to exceed the ICAPCD threshold, the ICAPCD recommends analyzing construction particulate matter qualitatively rather than quantitatively). Additionally, pursuant to ICAPCD, the project 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. Implementation of Mitigation Measures AQ-1 and AQ-2 would provide additional reduction strategies to further improve air quality. Therefore, the project's potential to result in a cumulatively considerable net increase of any criteria pollutant during construction is considered less than significant.

Operations. As discussed above in Impact 3.4-1 and summarized in Table 3.4-12, the project's daily operations emissions would not exceed the ICAPCD thresholds. Although no significant air quality impact would occur during operation, the project applicant is required to submit a Dust Suppression Management Plan for both construction and operation in order to reduce fugitive dust emissions. Implementation of Mitigation Measures AQ-3 through AQ-5 would ensure that a Dust Suppression Management Plan is implemented, thereby ensuring that this potential impact would remain less than significant. To further reduce dust emissions during operation of the project, the project applicant will implement Mitigation Measure AQ-6, which limits the speed of all vehicles operating onsite on dirt roads to 15 miles per hour or less. Therefore, the project's potential to result in a cumulatively considerable net increase of any criteria pollutant during operations is considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.4-3 Would the project expose sensitive receptors to substantial pollutant concentrations?

CONSTRUCTION

As summarized in Table 3.4-3, there are numerous sensitive receptors in proximity to the project components. The nearest sensitive land use to the project site is a single-family residence located approximately 540 feet from the proposed Heber 2 solar facility. Construction of the proposed project would result in temporary, short-term project-generated emissions of DPM, ROG, NO_X, CO, and PM_{10} from the exhaust of off-road, heavy-duty diesel equipment and construction-related truck traffic. The portion of the SSAB which encompasses the project site is designated as a nonattainment area for federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for the state standards for O_3 and PM_{10}. Thus, existing O_3 and PM_{10} levels in the SSAB are at unhealthy levels during certain periods. However, as shown in Table 3.4-9, the project would not exceed the ICAPCD significance thresholds for construction emissions. The health effects associated with O_3 are generally associated with reduced lung function. Because the project would not involve construction activities that would result in O_3 precursor emissions (ROG or NO_X) in excess of the ICAPCD thresholds, the project is not anticipated to substantially contribute to regional O_3 concentrations and the associated health impacts.

CO tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. The project would not involve activities that would result in CO emissions in excess of the ICAPCD thresholds. Thus, the project's CO emissions during construction would not contribute to the health effects associated with this pollutant.

Particulate matter (PM_{10} and $PM_{2.5}$) contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. Particulate exhaust emissions from diesel-fueled engines (i.e., DPM) were identified as a TAC by CARB in 1998. For construction-type activity, DPM is the primary TAC of concern. PM_{10} exhaust is considered a surrogate for DPM as all diesel exhaust is considered to be DPM. As with O_3 and NO_X, the project would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed the ICAPCD's thresholds, and thus are not expected to cause any increase in related health effects for these pollutants.

Project construction would not result in a significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants. Impacts would be less than significant.

OPERATIONS

Operation of the proposed project would not result in the development of any substantial sources of air toxics. Stationary sources associated with the project include limited use of an emergency diesel generator and emergency diesel fire pump. Further, operation of the project would not attract additional mobile sources that spend long periods queuing and idling at the site. With respect to isopentane, according to the Clean Air Act Section 112(b), Hazardous Air Pollutants, isopentane is not listed or considered a hazardous air pollutant. As such, onsite combined project emissions would not result in significant concentrations of pollutants at nearby sensitive receptors as the predominant operational emissions associated with the project would be routine maintenance work. Therefore, the project would not be a substantial source of TACs. The project would not result in a high carcinogenic or non-carcinogenic risk during operation.

CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours. CO concentration in the SSAB is designated as an attainment area. Detailed modeling of project-specific CO "hot spots" is not necessary and thus this potential impact is addressed qualitatively. The project is anticipated to result in no more than six daily traffic trips. Thus, the project would not generate traffic volumes at any intersection that would result in a likelihood of the project traffic contributing to CO "hot spots."

Project operations would not result in a significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants. Impacts would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.4-4 Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

CONSTRUCTION

Geothermal fluid can release various non-condensable gases such as H_2S. Hot water, steam, particulate, and/or gases that could emanate from a typical geothermal well during drilling, testing, and cleanout could contain several minerals and other naturally occurring chemicals. However, most of these chemicals are present only in trace amounts and would not pose a health hazard to the surrounding environment. H_2S emissions would be the most important non-condensable gas from a health-risk and odor nuisance standpoint. The potential exists that this gas and other non-condensable gases may be emitted intermittently on a short-term and temporary basis during drilling. During well cleanout and flow testing, geothermal fluids would likely be pumped into large tanks. H_2S may temporarily be released from the geothermal fluid for several hours to up to 30 days during these activities. The local H_2S emissions during these activities could exceed the ICAPCD sulfur compound emission standard (Rule 405) of 0.2 percent by volume (calculated as SO_2 and measured at a point of discharge) and could produce an objectionable "rotten egg" odor in the immediate vicinity of each well. However, these concentrations would not be expected to pose a health hazard and would not reach far beyond the vicinity of the wells under normal conditions. In addition, potential H_2S emissions resulting from these activities would be temporary at each well development site and would occur for a relatively short period of several hours to up to 45 days at each well site.

Construction of the project components would also result in short-term diesel exhaust emissions from on-site heavy-duty equipment and from material deliveries and debris removal, which could result in the creation of objectionable odors. These activities would be temporary or periodic, and spatially dispersed, and any associated odors would dissipate quickly from the sources.

The closest sensitive receptor to the project site is a residence located off Jasper Road, approximately 540 feet from the proposed Heber 2 solar facility and approximately 1,000 feet from the nearest producing well site. Therefore, given the temporary nature of construction activities and the lack of sensitive receptors in the immediate vicinity of project components, odor nuisances that would be associated with project construction activities are expected to be negligible and impacts would be less than significant.

OPERATIONS

According to ICAPCD's Air Quality Handbook, land uses associated with odor complaints include wastewater treatment plants, sanitary landfills, composting stations, feedlots, asphalt plants, painting/coating operations (auto body shops), and rendering plants (ICAPCD 2017). The proposed project does not include any of these types of operations and would not be expected to be a major source of odor impacts. During normal operations, geothermal fluid would be contained within a closed-loop heat exchanger system and reinjected back into the geothermal reservoir. Thus, odors associated with geothermal fluids would not be expected during normal operations. Isopentane has a gasoline-like odor which could be considered objectionable. However, the closest residential sensitive receptors are located more than 3,000 feet from the proposed Dogwood geothermal plant. Any associated odors would dissipate quickly from the sources and is not expected to affect a substantial number of people. As such impacts during operations would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

3.4.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

At the end of the project's useful life, all equipment and facilities will be properly abandoned and dismantled. Similar to construction activities, decommissioning and restoration of the project would generate air emissions. The proposed project's daily unmitigated construction emissions are provided in Table 3.4-9.

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. No significant air quality impacts are anticipated during decommissioning and restoration of the project site. However, 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. Mitigation Measures AQ-1 through AQ-6 would provide additional reduction strategies to further improve air quality. Therefore, a less than significant impact is identified during decommissioning and site restoration of the project site.

Residual

The proposed project would not result in short-term significant air quality impacts during construction. Implementation of Mitigation Measures AQ-1 and AQ-2 would provide additional reduction strategies to further improve air quality. Although no significant air quality impact would occur during operation, the project applicant is required to submit a Dust Suppression Management Plan for both construction and operation in order to reduce fugitive dust emissions. Implementation of Mitigation Measures AQ-3 through AQ-5 would ensure that a Dust Suppression Management Plan is implemented, thereby ensuring that this potential impact would remain less than significant. The project would not result in any residual operational significant and unavoidable impacts with regards to air quality.

3.5 Biological Resources

This section identifies the biological and jurisdictional aquatic resources that may be impacted by the proposed project. The following identifies the existing biological and jurisdictional aquatic resources in the project area, analyzes potential impacts of the proposed project, and recommends mitigation measures to avoid or reduce potential impacts of the proposed project. Information from this section is summarized from the *Biological Resources and Burrowing Owl Survey* and *Preliminary Jurisdictional Report* prepared by Catalyst Environmental Solutions. These reports are included in Appendix E and F of this EIR, respectively.

3.5.1 Existing Conditions

Vegetation Communities and Land Cover

The BSA supports three land cover types: agricultural land, developed/disturbed land, and arrow weed thickets. The vegetation communities and land cover within the BSA is shown in Figure 3.5-1.

Arrow Weed Thicket

Arrow weed (*Pluchea sericea*) is the dominant vegetation on the steep banks of Central Main Canal, Beech Drain, and the Dogwood Canal. Other species such as cattails (*Typha* spp.) and saltcedar (*Tamarisk ramosissima*) are also present but in much smaller numbers. The *Pluchea sericea* Shrubland Alliance (arrow weed thickets) occur around springs, seeps, irrigation ditches, canyon bottoms, stream borders, and seasonally flooded washes. Vegetation is dense in some areas along the canals and very sparse in others. The canals fall within the 500-foot buffer of the project footprint and thus within the BSA.

Agricultural Land

At the time of survey, this land cover type was observed to contain primarily active alfalfa (*Medicago sativa*) cultivation and harvest and associated irrigation canals were present adjacent to and bisecting fields.

Developed/Disturbed Land

Developed/disturbed land in the BSA includes developed areas like roads and existing solar/geothermal facilities. These areas are predominantly devoid of vegetation, but can support ruderal herbaceous scrub, including non-native grasses and other weed species, and planted or landscape trees/shrubs. The proposed Dogwood geothermal plant falls within this land cover type and is nearly devoid of vegetation.

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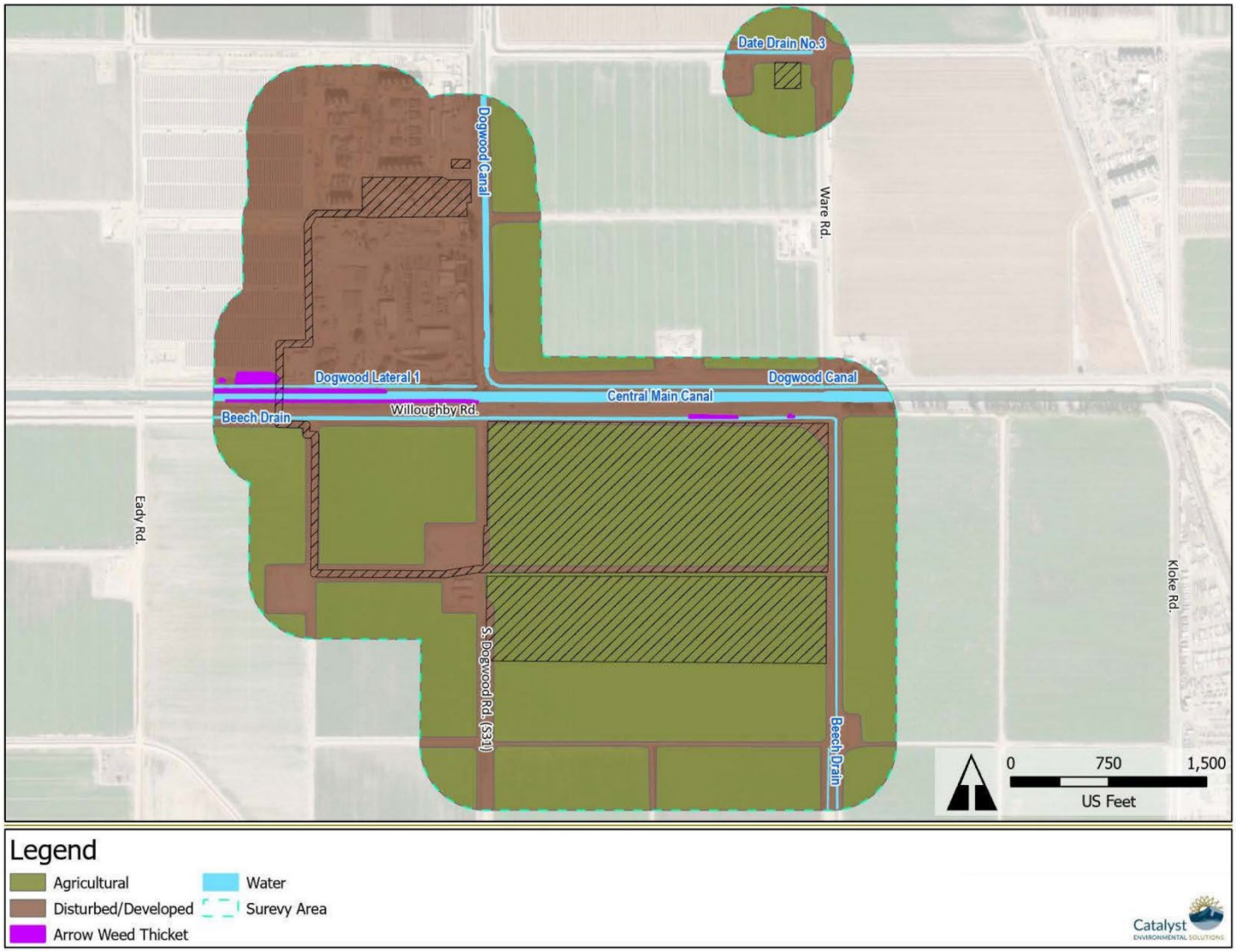
Figure 3.5-1. Land Cover in the BSA



Source: Appendix E of this EIR

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Sensitive Natural Communities

Arrow weed thickets in the BSA are considered a sensitive natural community by CDFW.

Special-Status Species

Literature Review

Prior to reconnaissance level habitat surveys, available data sets and information regarding vegetation, water resources, and recent species occurrences within the vicinity of the project were reviewed. The following sources were reviewed:

- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC)
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB)
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps
- U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) soil profile

Biological Reconnaissance Survey

A pedestrian survey was conducted by Catalyst to photograph and document the general habitat present on the site as well as to record wildlife and vegetation observed during the visit. The project area as well as a 500-foot buffer area were surveyed. When not accessible due to private land, binoculars were used to survey the buffer area. No sampling was included as part of the survey.

The reconnaissance-level survey included:

- Recording all plant and animal species observed within the boundaries of the project site and immediate vicinity;
- Recording signs of animal presence, such as burrows, scat, tracks, vocalizations, etc.;
- Characterizing plant communities present in the project site;
- Photographs of the project site; and
- Recording weather data (time, temperature, cloud cover, wind speed).

Burrowing Owl Surveys

In addition to the biological reconnaissance survey, Catalyst performed Phase I and Phase II surveys for burrowing owls. A Phase I survey assesses the presence of burrowing owl habitat on the project site, including an approximately 500-foot buffer around the project boundary. A Phase II survey is required if burrowing owl habitat occurs on the site and involves walking through suitable habitat over the entire project site and 500-foot buffer. The biologists followed the California Burrowing Owl Consortium (CBOC) Survey Protocol and Mitigation Guidelines (CBOC 1993) except when access to private lands prevented them from walking the buffer areas, in which case binoculars were used to assess habitat.

Catalyst determined that potential burrowing owl habitat was present within the BSA and vicinity due to the presence of sandy banks along drainage canals and burrowing activity of local communities of ground squirrels. Due to the potential habitat, a Phase II survey was conducted.

Plant Species

Based on a review of the USFWS IPaC and the CDFW CNDDB databases, no federally or state listed endangered or threatened plants are within five miles of the project area. However, there are five other special-status plants that have been documented within five miles of the project area. These five plants carry California Rare Plant Ranks (CRPR) of 1B.1-2B.3. Observations range from 1903 to 1963, and none of the species were observed during the reconnaissance-level survey. The following five plant species are considered to have a **low potential** for occurrence due to lack of habitat:

- Abrams' spurge (*Euphorbia abramsiana*).
- California satintail (*Imperata brevifolia*).
- Chaparral sand-verbena (*Abronia villosa* var. *Aurita*).
- Gravel milk-vetch (*Astragalus sabulonum*).
- Hairy stickleaf (*Mentzelia hirsutissima*).

Wildlife Species

Based on a review of the USFWS IPaC and CDFW CNDDB databases there are 15 species federally and/or state threatened or endangered, Species of Special Concern (SSC), or other sensitive species with potential to occur at the project site. Of the 15 species one is listed as federally endangered, one is a USFWS candidate species and nine are listed as SSC to California.

The following two species were **observed** within or directly adjacent to the project site, at the time of the survey:

- Long-billed curlew (*Numenius americanus*). Long-billed curlew is on the CDFW Watch List and listed with a State Rank of S2. Species with this rank are considered imperiled and at very high risk of extirpation in the state due to restricted range, few populations or occurrences, steep declines, server threats, or other factors. Habitats include upland shortgrass prairies and wet meadows which are used for nesting; large coastal estuaries, upland herbaceous area, and croplands are used in winter. The project site is outside of the yearlong range but does occupy the winter range. During the survey, long-billed curlews were observed in the alfalfa fields which are located within the survey buffer area west of the proposed Dogwood parasitic solar energy facilities polygon and east of the existing pipeline area. In addition, the surrounding area is planted with alfalfa and periodically flooded for irrigation.
- Northern harrier (*Circus hudsonius*). Northern harriers are listed by the CDFW as a SSC. Northern harrier habitats include marshes, grasslands, and some croplands (e.g., alfalfa, grain, sugar beets, tomatoes, melons). The project site is outside of the northern harrier breeding range, but the species occurs more broadly during migration and winter. During the survey, one northern harrier was observed circling over the field immediately east of Beech Drain and south of Willoughby Road. This area is within the survey buffer area but outside of the project ground disturbance footprint. Harriers feed on a broad variety of small-to-medium sized rodents and passerines.

One species is considered to have a **moderate potential** occur at the project site:

- Burrowing owl (*Athene cunicularia*). Burrowing owls are listed by the CDFW as a SSC. Burrowing owls start breeding as early as February and extend to August. Burrowing owls have a large breeding population in agricultural areas of the Central and Imperial Valleys

where they have adapted to highly modified habitats including irrigation canals, roads, and agricultural areas. Burrows used by burrowing owls are mostly dug by ground squirrels (*Spermophilus beecheyi*), but they may use fox and badger dens, or other burrows made by small ground dwelling rodents. The project site has potentially suitable burrowing owl habitat in the area for the proposed solar energy facilities, existing pipeline, and near the medium voltage distribution cable. Of the three areas with suitable habitat, only the area for the proposed solar energy facilities contained burrows from ground squirrels that could support burrowing owls (e.g., opening with a diameter greater than 4-inches). In addition, burrowing owls have been mapped 0.7 miles north, 2 miles east, and 3 miles northwest of the project site in 1991, 2007, and 1991, respectively. Therefore, this species has moderate potential to occur at the project site.

The following 13 species are considered to have **no potential** for occurrence in the project area due to lack of suitable habitat, age of last occurrence, and/or species range specifications at the time of this analysis:

- Big free-tailed bat (*Nyctinomops macrotis*)
- Costa's hummingbird (*Calypte costae*)
- Flat-tailed horned lizard (*Phrynosoma mcallii*)
- Gila woodpecker (*Melanerpes uropygialis*)
- Monarch butterfly (*Danaus plexippus*)
- Northern leopard frog (*Lithobates pipiens*)
- Pocketed free-tailed bat (*Nyctinomops femorosaccus*)
- Tricolored Blackbird (*Agelaius tricolor*)
- Western Grebe (*Aechmophorus occident*)
- Western mastiff bat (*Eumops perotis californicus*)
- Western yellow bat (*Lasiurus xanthinus*)
- Yellow warbler (*Setophaga petechia*)
- Yuma Ridgway"s rail (*Rallus obsoletus yumanensis*)

Aquatic Resources

Catalyst prepared a Preliminary Jurisdictional Delineation (PJD) Report (Appendix F of this EIR) summarizing the methods and results of an investigation of potential jurisdictional features occurring on the project site. The purpose of the PJD was to determine the location and extent of waters and/or wetlands subject to potential jurisdictional authority within the jurisdictional survey area (JSA) (includes project footprint plus 500-foot buffer). The project site and surrounding areas are traversed by a network of drains, canals, and other irrigation infrastructure administered by IID, some of which constitute potentially jurisdictional features.

The following jurisdictional features were observed within the JSA: federal non-wetland waters and state waters. All features examined are man-made, constructed entirely within uplands, and used solely for agricultural irrigation. The earthen and concrete-lined head and tail ditches are typically dry and convey water only during periodic and infrequent irrigation events. They do not support riparian

vegetation/habitat. These ditches do not meet the definition of a Relatively Permanent Water (RPW) and would not be considered federally or state jurisdictional. The larger, IID-administered canals (supply) and drains (drainage), however, generally do convey water all year and ultimately flow to the Salton Sea, which is considered a Traditionally Navigable Water, and would likely be considered federally and state jurisdictional. Dogwood Canal, Dogwood Lateral 1, Beech Drain, and Date Drain No. 3 would likely be classified as R4SBCx (Riverine, intermittent streambed, seasonally flooded, excavated) while Central Main Canal is classified R2UBHx (Riverine, lower perennial, unconsolidated bottom, permanently flooded, excavated).

Table 3.5-1 summarizes the jurisdictional features present within the disturbance area and their acreages and Figure 3.5-2 depicts their location within the JSA.

Table 3.5-1. Jurisdictional Waters within Disturbance Area

Feature ID	Ordinary High Water Mark (feet)	Distance (feet)	USACE/RWQCB/CDFW Jurisdictional Waters (acres)
Dogwood Lateral 1	14	57.2	0.005
Beech Drain	40	54	0.01
Central Main Canal	89.5	56.2	0.09
Total		**167.3**	**0.11**

Source: Appendix F of this EIR

Federal Wetlands

According to the PJD, there are no federal wetlands within the JSA.

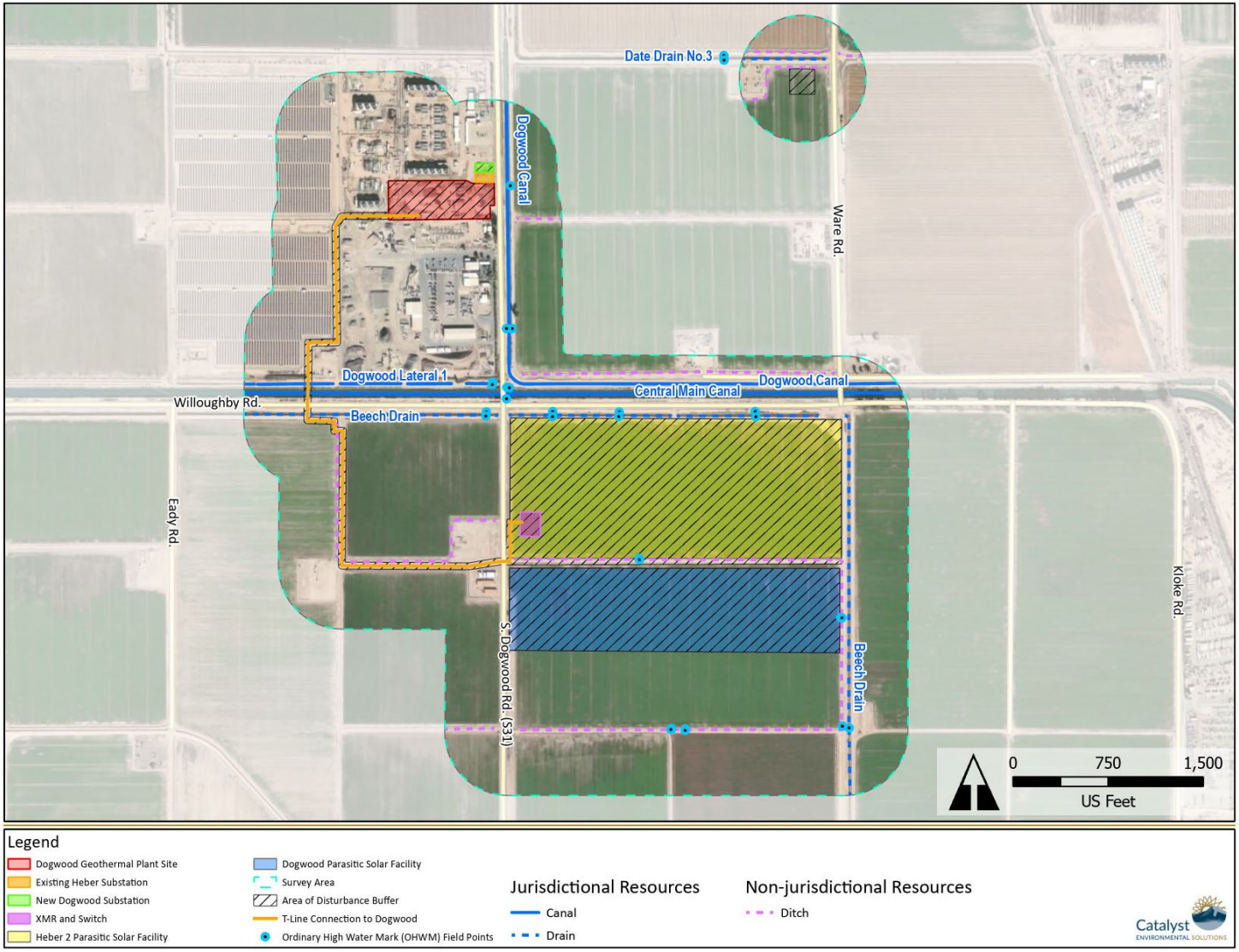
Federal Non-Wetland Waters

According to the PJD, approximately 0.11 acres of the disturbance area meet the definition of “waters of the United States” as outlined in 33 CFR Part 328.

CDFW Waters

According to the PJD, approximately 0.11 acres of the disturbance area also meet the definition of CDFW jurisdictional waters as outlined in Sections 1600-1616 of the CDFW Code.

Figure 3.5-2. Jurisdictional Waters within Jurisdictional Survey Area



Source: Appendix F of this EIR

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Wildlife Movement Corridors

Migratory corridors are linear features that connect large patches of natural open space and provide avenues for the immigration and emigration of animals. Habitat linkages are patches of native habitat that function to join larger patches of habitat. They serve as connections between habitat patches and help reduce the adverse effects of habitat fragmentation. Although individual animals may not move through a habitat linkage, the linkage does represent a potential route for gene flow and long-term dispersal. Habitat linkages may serve as both live-in habitat and avenues of gene flow for small animals such as reptiles and amphibians (Imperial County 2015).

The project site does not contain nor is near any wildlife movement corridors, linkages, or Significant Ecological Areas / FWS Critical Habitat.

Habitat Conservation Plans

The project site is located within the designated boundaries of the Desert Renewable Energy Conservation Plan and the Imperial Irrigation District Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP). However, the project site is not located within or adjacent to an Area of Critical Environmental Concern.

3.5.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the proposed project.

Federal

Bald and Golden Eagle Protection Act of 1940

The Bald Eagle Protection Act of 1940 protects bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this Act. ‘Take’ is defined as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” ‘Disturb’ is defined as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior” (72 *Federal Register* [FR] 31132; 50 CFR 22.3). All activities that may disturb or incidentally take an eagle or its nest as a result of an otherwise legal activity must be permitted by the USFWS under this Act.

Federal Endangered Species Act

The Federal ESA protects federally listed threatened and endangered species and their habitats from unlawful take and ensures that federal actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Under the Federal ESA, “take” is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. USFWS regulations define harm to mean “an act which actually kills or injures wildlife” (50 CFR 17.3).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the kill or transport of native migratory birds, or any part, nest, or egg of any such bird unless allowed by another regulation adopted in accordance with the MBTA. The prohibition applies to birds included in the respective international conventions between the U.S. and Great Britain, the U.S. and Mexico, the U.S. and Japan, and the U.S. and Russia. Disturbances that cause nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the MBTA. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

Section 404 Permit (Clean Water Act)

The purpose of the CWA is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Section 404 of the CWA prohibits the discharge of dredge and fill material into waters of the U.S., including wetlands, without a permit from the USACE. 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 404 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.

Farmland Protection Policy Act

The Farmland Protection Policy Act is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It also stipulates that federal programs be compatible with state, local, and private efforts to protect farmland. The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) is charged with oversight of the Farmland Protection Policy Act.

State

California Endangered Species Act

Provisions of the California ESA protect state-listed threatened and endangered species. CDFW regulates activities that may result in “take” of individuals (“take” means “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”). Habitat degradation or modification is not expressly included in the definition of “take” under the California FGC. Additionally, California FGC contains lists of vertebrate species designated as “fully protected” (California FGC Sections 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], and 5515 [fish]). Such species may not be taken or possessed.

In addition to state-listed species, CDFW has also produced a list of Species of Special Concern to serve as a “watch list.” Species on this list are of limited distribution or the extent of their habitats has been reduced substantially such that threats to their populations may be imminent. Species of Special Concern may receive special attention during environmental review, but they do not have statutory protection.

Birds of prey are protected in California under California FGC. Section 3503.5 states it is “unlawful to take, possess, or destroy any birds of prey (in the order Falconiformes or Strigiformes) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment.

California Fish and Game Code Section 1600 et. seq (as amended)

The California FGC Section 1600 et. seq. requires that a Notification of Lake or Streambed Alteration be submitted to CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant is the Streambed Alteration Agreement (SAA). Often, projects that require an SAA also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the SAA may overlap.

California Fish and Game Code Sections 3503, 3503.5, and 3513

Under Sections 3503, 3503.5, and 3513 of the California FGC, activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking or possessing of any migratory nongame bird as designated by the MBTA, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the MBTA, or the taking of any non-game bird pursuant to FGC Section 3800 are prohibited. Additionally, the state further protects certain species of Fully Protected fish, mammals, amphibians, reptiles, birds, and mammals by prohibiting any take or possession of classified species.

California Fish and Game Code Sections 1900-1913 (Native Plant Protection Act)

California’s Native Plant Protection Act prohibits the taking, possessing, or sale within the state of any plant listed by CDFW as rare, threatened, or endangered. This allows CDFW to salvage listed plant species that would otherwise be destroyed.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, all projects proposing to discharge waste that could affect waters of the State must file a waste discharge report with the appropriate Regional Water Quality Control Board (RWQCB). The project falls under the jurisdiction of the Colorado River RWQCB.

California Environmental Quality Act

Title 14 CCR, Section 15380 requires the identification of endangered, rare, or threatened species or subspecies of animals or plants that may be impacted by a project. If any such species are found, appropriate measures should be identified to avoid, minimize, or mitigate the potential effects of projects.

Local

Imperial County General Plan

The Conservation and Open Space Element of the Imperial County General Plan provides detailed plans and measures for the preservation and management of biological resources. The purpose of this element is to recognize that natural resources must be maintained for their ecological value for the direct benefit to the public and to protect open space for the preservation of natural resources, the managed production of resources, outdoor recreation, and for public health and safety. In addition, the purpose of this element is to promote the protection, maintenance, and use of the County's natural resources with particular emphasis on scarce resources, and to prevent wasteful exploitation, destruction, and neglect of the state's natural resources. Table 3.5-2 analyzes the consistency of the proposed project with specific policies contained in the Imperial County General Plan associated with biological resources.

Table 3.5-2. Project Consistency with General Plan Goals and Policies

General Plan Policies	Consistency with General Plan	Analysis
Conservation and Open Space Element - *Open Space and Recreation Conservation* **Policy No. 2 -** The County shall participate in conducting detailed investigations into the significance, location, extent, and condition of natural resources in the County. **Program:** Notify any agency responsible for protecting plant and wildlife before approving a project which would impact a rare, sensitive, or unique plant or wildlife habitat.	Consistent	A biological assessment has been conducted at the project site to evaluate the proposed project's potential impacts on biological resources. Although special-status wildlife species were observed and have potential to occur within the project's BSA, implementation of Mitigation Measures BIO-1 through BIO-4 would reduce potential impacts on these species to a level that is less than significant. Applicable agencies responsible for protecting plants and wildlife will be notified of the proposed project and provided an opportunity to comment on this EIR prior to the County's consideration of any approvals for the project. As described in Chapter 2, Project Description, implementation of the project would require the approval of CUPs by the County to allow for the construction and operation of the project.
Conservation of Environmental Resources for Future Generations **Goal 1 -** Environmental resources shall be conserved for future generations by minimizing environmental impacts in all land use decisions and educating the public on their value. **Objective 1.6 -** Promote the conservation of ecological sites and preservation of cultural resource sites through scientific investigation and public education.	Consistent	A biological assessment has been conducted at the project site to evaluate the proposed project's potential impacts on biological resources. Although special-status wildlife species were observed and have potential to occur within the project's BSA, implementation of Mitigation Measures BIO-1 through BIO-4 would reduce potential impacts on these species to a level that is less than significant. With implementation of Mitigation Measures BIO-1 through BIO-4, the project would not result in residual significant and unmitigable impacts on biological resources.

Source: County of Imperial 2016
BLM=Bureau of Land Management; CDFW – California Department of Fish and Wildlife; EIR – environmental impact report; USFWS – U.S. Fish and Wildlife Service

3.5.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering the respective project's impacts on biological resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to biological resources are considered significant if any of the following occur:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS
- Have a substantial adverse effect on state or federally-protected wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means
- Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

Impact Analysis

Impact 3.5-1 Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

SPECIAL-STATUS PLANT SPECIES

As previously discussed in Section 3.5.1, the following five special-status plants have been documented within 5-miles of the project area: Chaparral sand-verbena, California satintail, Abrams' spurge, gravel milk-vetch, and hairy stickleaf. These five plants carry CRPR of 1B.1-2B.3 and are considered to have a low potential of occurrence at the project site. These species were not observed during the reconnaissance-level surveys and the most recent documented CNDDB observation was in 1963, thus these species are considered to be extirpated from the area. Therefore, no impacts to these plant species are anticipated to occur with implementation of the proposed project.

SPECIAL-STATUS WILDLIFE SPECIES

As previously discussed in Section 3.5.1, long-billed curlew and northern harrier were observed within or directly adjacent to the project site at the time of the survey. Direct impacts on these species that

could occur include injury, mortality, nest failures, and loss of young. Indirect impacts include loss of nesting and foraging habitat, increase in anthropogenic effects (i.e., noise levels, introduction of invasive/non-native species, increase in human activity, increase in dust). Potential impacts on these species may be considered significant. Implementation of Mitigation Measures BIO-1 through BIO-3 would reduce potential impacts on long-billed curlew and northern harrier to a less than significant level. Mitigation Measure BIO-1 requires a Worker Environmental Awareness Program to be implemented prior to construction for construction crews and contractors working onsite. Mitigation Measure BIO-2 requires the clearing of vegetation to take place outside of the breeding season to protect nesting birds. Mitigation Measure BIO-3 requires biological monitoring during construction to ensure that wildlife and vegetation adjacent to the BSA are not harmed.

Burrowing owls are considered to have a moderate potential to occur within the project site. Direct impacts on these species that could occur include injury, mortality, nest failures, and loss of young. Indirect impacts include loss of nesting and foraging habitat, increase in anthropogenic effects (i.e., noise levels, introduction of invasive/non-native species, increase in human activity, increase in dust). Implementation of Mitigation Measures BIO-1, BIO-3, and BIO-4 would reduce potential impacts on burrowing owl to a less than significant level. Mitigation Measure BIO-1 requires a Worker Environmental Awareness Program to be implemented prior to construction for construction crews and contractors working onsite. Mitigation Measure BIO-3 requires biological monitoring during construction to ensure that wildlife and vegetation adjacent to the BSA are not harmed. Mitigation Measure BIO-4 requires a preconstruction take avoidance survey be conducted for burrowing owls.

Mitigation Measure(s)

BIO-1 **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 on special-status biological resources and the potential penalties for impacts on these resources shall be provided to all construction personnel. At a minimum, the education program shall include 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 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 on 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, which shall be kept on record.

BIO-2 **Preconstruction Nesting Bird Survey:** If construction or other project activities are scheduled to occur during the bird breeding season (typically February 1 through August 31 for raptors and March 15 through August 31 for the majority of migratory bird species), a preconstruction nesting-bird survey shall be conducted by a qualified avian biologist to ensure that active bird nests, including those for the northern harrier, long-billed curlew, and burrowing owl, will not be disturbed or destroyed. In addition, any clearing of vegetation that may occur is required to take place outside of the breeding season. The survey shall be completed no more than 3 days prior to initial ground disturbance. The nesting bird survey shall include the project area and adjacent areas where project activities have the potential to affect active nests, either directly or indirectly, due to construction activity or noise. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist.

BIO-3 **Biological Monitoring:** If preconstruction surveys determine either the presence of special-status species or sensitive biological resources on the project site, a construction monitor may be needed during construction. If determined necessary, construction monitoring shall be conducted by a qualified biologist. The biologist shall be given authority to execute the following functions:

- Establish construction exclusion zones and make recommendations for implementing erosion control measures in temporary impact areas.
- Ensure all construction activities stay within the staked construction zone and do not go beyond the limits of disturbance.
- Minimize trimming/removal of vegetation to within the project impact area.
- Restrict non-essential equipment to the existing roadways and/or disturbed areas to avoid disturbance to existing adjacent native vegetation.

During construction, biological monitors shall inspect and verify field conditions, as needed, to ensure that wildlife and vegetation adjacent to the BSA are not harmed. The biological monitor shall coordinate with the construction supervisor and construction crew and shall have the authority to stop any activity that has the potential to affect special-status species or remove vegetation.

BIO-4 **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 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), a minimum 50-meter buffer shall be established by the biological monitor for low level disturbance, However, the minimum buffer shall be increased depending on the level of construction disturbance (e.g., medium or high).

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.

Significance After Mitigation

The proposed project has the potential to impact special-status wildlife species during construction. However, implementation of Mitigation Measures BIO-1 through BIO-4 would reduce potential impacts to less than significant levels.

Impact 3.5-2 Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?

As shown in Figure 3.5-1, arrow weed thicket occurs within the BSA. Arrow weed thickets are recognized by CDFW as a sensitive natural community. Arrow weed thickets were found along canals and drains below the ordinary high-water mark. The canals fall within the BSA, however, none of the arrow weed thickets that occur within the BSA would be removed or disturbed by project activities. Therefore, the proposed project would not have substantial adverse effects on sensitive natural communities, and this is considered a less than significant impact.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.5-3 Would the project have a substantial adverse effect on state or federally-protected wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means?

Based on the PJD, no state or federally protected wetlands exist within the JSA. The IID irrigation canals and drains meet the requirements for jurisdictional waters, however none of the jurisdictional features are within the project footprint except for the proposed medium voltage distribution cable. The medium voltage distribution cable would cross Dogwood Lateral 1 in addition to S Dogwood Road and be attached via trays to the existing pipeline that runs west before turning north to cross the Beech Drain and Central Main Canal at the existing above-ground pipeline span. The entire span of the medium voltage distribution cable would sit above the canal. Therefore, the proposed project would have no substantial adverse effect on state or federally protected wetlands, and impacts would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.5-4 Would the project interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The proposed project would not interfere with any native resident or migratory wildlife corridors, nor interfere with the movement of any resident or migratory species. The proposed Dogwood geothermal plant will be constructed within the HGEC which is entirely fenced for security purposes, precluding wildlife from using the site as habitat or for migration. The area to be developed for the solar facilities has suitable habitat for burrowing owl, long-billed curlew and norther harrier. Burrowing owls are considered to have a moderate potential to occur within the project site. Long-billed curlews were observed in the alfalfa fields which are located within the survey buffer area west of the proposed Dogwood parasitic solar energy facilities polygon and east of the existing pipeline area. One northern harrier was observed circling over the field immediately east of Beech Drain and south of Willoughby Road. Although this area is within the survey buffer area, it is outside of the project ground disturbance footprint. However, as described under Impact 3.5-1, Mitigation Measures BIO-1 through BIO-4 would reduce impacts to less than significant levels.

Mitigation Measure(s)

No mitigation measures beyond Mitigation Measures BIO-1 through BIO-4 are required.

Impact 3.5-5 Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The proposed project consists of the construction and operation of a geothermal plant, solar energy facilities, and geothermal wells and pipeline. Development of these facilities would be subject to the County's zoning ordinance.

The project parcels are currently zoned as A-2-G-SPA and A-2-G-U. Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone:

n) Oil, gas and geothermal exploration meeting requirements specified in Division 17

s) Solar energy extraction generation provided that is for on-site consumption only

Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

y) Electrical generation plants (less than 50 MW) excluding nuclear or coal fired and meeting requirements in Division 17

z) Electrical substations in an electrical transmission system (500 kv/230 kv/161 kv)

bb) Facilities for the transmission of electrical energy (100-200 kv)

ii) Geothermal test facilities, Intermediate projects, and major exploratory wells, meeting requirements in Division 17

rr) Major Geothermal projects per Division 17

ww) Resource extraction and energy development as per Division 17

aaa) Solar energy electrical generator.

As demonstrated in Table 3.5-2 and discussed further in Section 3.11, Land Use Planning, with approval of the CUPs, the project would be consistent with Imperial County General Plan, and with biological resources policies contained therein. Therefore, implementation of the proposed project would not result in a significant impact associated with the project's potential to conflict with local policies protecting biological resources.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.5-6 Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The project site is located within the designated boundaries of the Desert Renewable Energy Natural Community Conservation Plan & Habitat Conservation Plan (NCCP/HCP). However, the project site is not located near or in the vicinity of an Area of Critical Environmental Concern or FWS Critical Habitat. Implementation of the proposed project would result in no impact associated with the potential to conflict with local conservation plans.

Mitigation Measure(s)

No mitigation measures are required.

3.5.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Project decommissioning activities will require construction vehicles to drive across the project site and access roads. Concrete footings, foundations, and pads would be removed using heavy equipment and recycled at an off-site location. All remaining components would be removed, and all disturbed areas would be reclaimed and recontoured. Similar to project construction, decommissioning activities have the potential to directly impact special-status species. This is a potentially significant impact; however, implementation of Mitigation Measures BIO-1 through BIO-4 at the time of decommissioning would reduce potential impacts to a less than significant level.

Residual

With the implementation of Mitigation Measures BIO-1 through BIO-4, potential impacts on special-status species would be reduced to less than significant level. Therefore, the proposed project would not result in residual significant and unmitigable impacts related to biological resources.

3.6 Cultural Resources

This section discusses cultural resources that may be potentially impacted by the proposed project. The following identifies the existing cultural resources within the project site, analyzes potential impacts of the proposed project, and recommends mitigation measures to avoid or reduce potential impacts of the proposed project.

Information for this section is summarized from the *Cultural Resource Assessment* for the proposed project prepared by PaleoWest, LLC. This report is included in Appendix G of this EIR. The cultural resources inventory included a records search, literature review, and pedestrian survey.

3.6.1 Existing Conditions

Cultural Setting

The Cultural Resource Assessment prepared for the project (Appendix G of this EIR) contains a detailed description of the prehistoric, ethnographic, and historic context of the project region.

Records Search

PaleoWest conducted an in-person records search at the South Coastal Information Center (SCIC), housed at San Diego State University, on February 1, 2023. The inventory effort included the project area along with a corresponding one-mile buffer, collectively termed the records search area. The objective of the SCIC records search was to identify prehistoric and historical cultural resources that have been previously recorded within the records search area during prior investigations.

Previous Cultural Resource Investigations

The data review indicates that no fewer than 35 previous investigations have been conducted and documented within one mile of the project area since 1976. Six of these studies encompassed portions or the entirety of the project area. Many of the prior studies were associated with proposed geothermal developments. None of these previous investigations identified any cultural resources within the current project area. A summary of the prior cultural studies is provided in Appendix G of this EIR.

Cultural Resources Reported within the Study Area

The review of the record search data indicate that six cultural resources have been previously documented within one mile of the project area. All these resources date to the historic period and include the mapped locations of telegraph poles, railroad segments, an irrigation feature, and a pool facility. No prehistoric archaeological resources were identified within the record search area and none of the previously documented resources are located within or immediately to the project area. A summary of the previously recorded resources in the record search area is provided in Appendix G of this EIR.

Native American Outreach

PaleoWest contacted the Native American Heritage Commission (NAHC) for a review of the Sacred Land Files (SLF) on January 19, 2023. The objective of the SLF search was to determine if the NAHC had any knowledge of Native American cultural resources (e.g., traditional use or gathering area, place of religious or sacred activity, etc.) within the immediate vicinity of the project area. The NAHC

responded on February 28, 2023, stating that the SLF search resulted in positive results. The NAHC recommended that the Ewiiaapaayp Band of Kumeyaay Indians and the Torres-Martinez Desert Cahuilla Indians be contacted to request information on known Native American cultural resources in the project vicinity. In addition, the NAHC provided a list of 24 individuals representing 16 Native American tribal groups that may also have knowledge of cultural resources in the project area. Outreach letters that included a map of the project area were sent to the Native American contacts on March 1, 2023, with follow up emails and phone calls conducted on March 15, 2023. A summary of the Native American outreach letters is provided in Appendix G of this EIR.

As of March 23, 2023, the following four comments have been received:

- Ray Teran of the Viejas Band of Kumeyaay Indians ("Viejas") responded via email on March 1, 2023, requesting a project plan and description, specifically as it relates to ground disturbance. PaleoWest responded later that day stating that information on the full extent of ground disturbance was not yet known but that it is anticipated that some ground disturbance will take place in most of the Project area that was shown on the map provided in the outreach letter. Mr. Teran responded via email on March 2, 2023, stating he had reviewed the proposed project and at this time has determined that the project site has cultural significance or ties to Viejas. He further noted that cultural resources have been located within or adjacent to the proposed project and requested that a Kumeyaay Cultural Monitor be on site for ground-disturbing activities. In addition, he requested that the Viejas be informed of any new developments such as inadvertent discovery of cultural artifacts, cremation sites, or human remains.
- On March 2, 2023, Jill McCormick, the Historic Preservation Officer of the Quechan Indian Tribe, responded via email and stated that the tribe does not wish to provide PaleoWest with any comment on the project.
- Rebecca Osuna, Chairperson of the Inaja-Cosmit Band of Indians, stated on March 15, 2023, that the project is outside of the tribe's geographic area and she had no comments at this time.
- Lisa Cumper, Tribal Historic Preservation Officer for the Jamul Indian Village, discussed the proposed project on the phone with PaleoWest staff on March 15, 2023, and noted that the tribe would defer to more local Native American groups.

Field Survey

A cultural resources survey of the project was completed by PaleoWest archaeologists between February 22 and 24, 2023. The survey methods consisted of walking a series of parallel pedestrian transects spaced at 10–15 meter (33–50-feet) intervals across the geothermal plant site and solar energy facilities. A 300-feet- (91-meter-) wide buffer was also surveyed along the proposed gen-tie line and pipeline alignments. In total, 219 acres of land were inventoried during the field effort.

The survey of the project area resulted in the identification of three historic built-environment resources that include segments of the Central Main Canal, Dogwood Canal, and Beech Canal and Drain system. All three resources consist of portions of in-use irrigation-related features that are more than 45 years of age. No prehistoric or historic period archaeological remains were identified in the project area. Descriptions and evaluations of the three historic built-environment resources are provided below.

Central Main Canal

Portions of the proposed medium voltage distribution cable and brine pipeline alignment intersect the Central Main Canal. The Central Main Canal is a major distribution canal and an integral part of the extensive irrigation system that comprises the IID. The construction and operation of the Central Main Canal and its associated laterals can be considered an important event in the early settlement of the Imperial Valley. The canal system that was built in the early twentieth century significantly increased the agricultural productivity of the area between the Alamo River and New River. Because the Central Main Canal can be directly associated with historical events that have made a significant contribution to the broad patterns of our history, it is recommended eligible under Criterion 1. The Central Main Canal was funded and constructed by the IID and cannot be attributed to a specific individual. Because it cannot be associated with the lives of persons important in our past, it does not meet CRHR Criterion 2. The Central Main Canal and its associated laterals and drains are simple in design and construction and utilitarian in nature, and their construction does not represent any innovative design or building technique. Therefore, the resource does not exhibit any distinctive characteristics or engineering merits that would suggest it is significant under Criterion 3. Finally, the Central Main Canal does not have the potential to yield any information important to the study of twentieth century channel construction and is thus not eligible under Criterion 4.

The alignment of the Central Main Canal has not changed significantly since its construction in the early part of the twentieth century and therefore, the resource retains integrity of location. There have been some minor alterations to the canal over the years, such as the replacement of bridges and the installation of brine pipelines. However, the earthen construction that characterizes the canal has not been substantially modified. Therefore, it retains integrity of design, workmanship, and materials. Although agricultural fields are still prevalent in the area, the construction and operation of industrial and energy facilities in the immediate vicinity of the Central Main Canal has resulted in the loss of integrity of setting, feeling, and association. Despite this loss, the character-defining aspects of the segment of the Central Main Canal within the project area retain sufficient integrity to convey the resource's significance.

Based on these findings, the Central Main Canal is recommended as eligible for inclusion in the CRHR under Criterion 1.

Dogwood Canal

Portions of the proposed medium voltage distribution cable and brine pipeline alignment intersect a lateral of the Dogwood Canal, an approximately 12.8-mile-long irrigation channel that branches off the Central Main Canal near Highway 111.

The Dogwood Canal is a part of the IID's CM canal system, which was initially constructed in the early twentieth century. The construction and operation of the Dogwood Canal and its associated laterals can be considered an important event in the early settlement of the Imperial Valley. The canal systems that were built at this time significantly increased the agricultural productivity of the area between the New River and Alamo River. Because the Dogwood Canal can be directly associated with historical events that have made a significant contribution to the broad patterns of our history, it is recommended eligible under Criterion 1. The Dogwood Canal was funded and constructed by the IID and cannot be attributed to a specific individual. Because it cannot be associated with the lives of persons important in our past, it does not meet CRHR Criterion 2. The Dogwood Canal and its associated laterals are simple in design and construction and utilitarian in nature, and their construction does not represent any innovative design or building technique. Therefore, the resource does not exhibit any distinctive

characteristics or engineering merits that would suggest it is significant under Criterion 3. Finally, the Dogwood Canal does not have the potential to yield any information important to the study of twentieth century channel construction and is therefore not eligible under Criterion 4.

The alignment of the Dogwood Canal has not changed since its construction in the early part of the twentieth century and as such, the resource retains integrity of location. Although agricultural fields are still prevalent in the area, the construction and operation of industrial and energy facilities in the immediate vicinity of the canal has resulted in the loss of the resource's integrity of setting, feeling, and association. The resource has also experienced extensive alterations including lining portions of the canal with concrete and the replacement of gates and hardware. As a result of these alterations, the structure lacks integrity of design, workmanship, and materials. Due to the loss of integrity, the character-defining aspects of the Dogwood Canal do not retain sufficient integrity to convey its significance under Criterion 1.

Based on these findings, the Dogwood Canal is not recommended as eligible for inclusion in the CRHR.

Beech Canal and Drain

A portion of the proposed solar facilities site, medium voltage distribution cable, and brine pipeline alignment intersect the lateral distribution system associated with the Beech Canal and Drain.

The Beech Canal and Drain are part of the IID's Central Main canal system, which was initially constructed in the early twentieth century. The construction and operation of the canal and its associated laterals and drainage systems can be considered an important event in the early settlement of the Imperial Valley. The canal systems that were built at this time significantly increased the agricultural productivity of the area between the New River and Alamo River. Because the Beech Canal and Drain can be directly associated with historical events that have made a significant contribution to the broad patterns of our history, it is recommended eligible under Criterion 1. The Beech Canal and Drain was funded and constructed by the IID and cannot be attributed to a specific individual. Because it cannot be associated with the lives of persons important in our past, it does not meet CRHR Criterion 2. The Beech Canal and Drain and its associated laterals and drainage systems are simple in design and construction and utilitarian in nature, and their construction does not represent any innovative design or building technique. Therefore, the resource does not exhibit any distinctive characteristics or engineering merits that would suggest it is significant under Criterion 3. Finally, the Beech Canal and Drain does not have the potential to yield any information important to the study of twentieth century channel construction and is therefore not eligible under Criterion 4.

The alignment of the Beech Canal and Drain has not changed since its construction in the early part of the twentieth century and as such, the resource retains integrity of location. Although agricultural fields are still prevalent in the area, the construction and operation of industrial and energy facilities in the immediate vicinity of the Beech Canal and Drain has resulted in the loss of the resource's integrity of setting, feeling, and association. The resource has experienced extensive alterations including the lining of the canal and associated laterals with concrete and the replacement of gates and hardware. As a result of these alterations, the structure lacks integrity of design, workmanship, and materials. Due to the loss of integrity, the character-defining aspects of the Beech Canal and Drain do not retain sufficient integrity to convey its significance under Criterion 1.

Based on these findings, the Beech Canal and Drain is not recommended as eligible for inclusion in the CRHR.

3.6.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the project.

Federal

National Historic Preservation Act

Federal regulations (36 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." Section 106 of the National Historic Preservation Act (NHPA) (Public Law 89-665; 80 Stat 915; USC 470, as amended) requires a federal agency with jurisdiction over a project to take into account the effect of the project on properties included in or eligible for the (NRHP, and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. 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.

State

California Office of Historic Preservation

The California Office of Historic Preservation (OHP) administers state and federal historic preservation programs and provides technical assistance to federal, state, and local government agencies, organizations, and the general public with regard to historic preservation programs designed to identify, evaluate, register, and protect California's historic resources.

Section 15064.5 of the CEQA Guidelines also requires that Native American concerns and the concerns of other interested persons and corporate entities, including but not limited to museums, historical commissions, associations, and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains (HSC Section 7050.5, PRC Sections 5097.94 et seq.).

CEQA Guidelines: Historical Resources Definition

CEQA Guidelines Section 15064.5(a) defines a historical resource as:

(1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR (PRC Section 5024.1; Title 14 CCR, Section 4850 et seq.).

(2) A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

(3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency’s

determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (PRC Section 5024.1; Title 14 CCR, Section 4852) including the following:

(A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Is associated with the lives of persons important to our past;

(C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(D) Has yielded, or may be likely to yield, information important in prehistory or history.

(4) The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code Sections 5020.1(j) or 5024.1.

CEQA Guidelines: Archaeological Resources

Section 15064.5(c) of CEQA Guidelines provides specific guidance on the treatment of archaeological resources as noted below.

(1) When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subdivision (a).

(2) If a lead agency determines that the archaeological site is an historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.

(3) If an archaeological site does not meet the criteria defined in subdivision (a), but does meet the definition of a unique archeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of Section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c–f) do not apply to surveys and site evaluation activities intended to determine whether the project location contains unique archaeological resources.

(4) If an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

CEQA Guidelines: Human Remains

Section 15064.5 of CEQA Guidelines provides specific guidance on the treatment of human remains pursuant to PRC § 5097.98, which provides specific guidance on the disposition of Native American burials (human remains), and fall within the jurisdiction of the NAHC:

(d) When an initial study identifies the existence of, or the probable likelihood, of Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the NAHC as provided in Public Resources Code Section 5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the NAHC. Action implementing such an agreement is exempt from:

(1) The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (HSC Section 7050.5).

(2) The requirements of CEQA and the Coastal Act.

(e) In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:

(1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

(A) The coroner or the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and

(B) If the coroner determines the remains to be Native American:

1. The coroner shall contact the NAHC within 24 hours.

2. The NAHC shall identify the person or persons it believes to be the most likely descended from the deceased Native American.

3. The mostly descendent may make recommendations to the landowner of the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code section 5097.98, or

(2) Where the following conclusions occur the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

(A) The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.

(B) The descendant fails to make a recommendation; or

(C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

(f) As part of the objectives, criteria, and procedures required by Section 21082 of the Public Resources Code, a lead agency should make provisions for historical or unique archaeological resources accidentally discovered during construction. These provisions should include an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should

be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place."

California Health and Safety Code, Section 7050.5

California HSC 7050.5 makes it a misdemeanor to disturb or remove human remains found outside a cemetery. This code also requires a project owner to halt construction if human remains are discovered and to contact the County Coroner.

Local

Imperial County General Plan

The Imperial County General Plan provides goals, objectives, and policies for the identification and protection of significant cultural resources. The Conservation and Open Space Element of the General Plan includes goals, objectives, and policies for the protection of cultural resources and scientific sites that emphasize identification, documentation, and protection of cultural resources. While Section 3.9, Land Use Planning, of this EIR analyzes the project's consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors and Planning Commission ultimately make a determination as to the project's consistency with the General Plan. Goals and Objectives applicable to the proposed project are summarized in Table 3.6-1.

Table 3.6-1. Project Consistency with Applicable General Plan Goals and Objectives

General Plan Policies	Consistency with General Plan	Analysis
Conservation and Open Space Element - *Open Space and Recreation Conservation* Goal 1 - Environmental resources shall be conserved for future generations by minimizing environmental impacts in all land use decisions and educating the public on their value. Objective 1.4 - Ensure the conservation and management of the County's natural and cultural resources.	Consistent	A cultural assessment was prepared for the project area. The proposed project has the potential to encounter undocumented archaeological resources and human remains. With implementation of Mitigation Measure CUL-1, potential impacts to previously unrecorded cultural resources would be reduced to a level less than significant. Mitigation Measure CUL-2 would ensure that the potential impact on previously unknown human remains does not rise to the level of significance pursuant to CEQA.
Objective 3.1 - Protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.	Consistent	

Source: County of Imperial 1993
Notes:
CUL=cultural; WEAP= Worker Environmental Awareness Program

3.6.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to cultural resources are considered significant if any of the following occur:

- Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5
- Disturb any human remains, including those interred outside of dedicated cemeteries

Methodology

This analysis evaluates the potential for the project, as described in Chapter 2, Project Description to interact with cultural resources in the project area. Based on the extent of these interactions, this analysis considers whether these conditions would result in an exceedance of one or more of the applied significance criteria as identified above.

As previously mentioned, a *Cultural Resource Assessment* was prepared for the proposed project and (Appendix G of this EIR). The report provides the results of the SCIC records search and field survey which have been completed for the project area pursuant to CEQA.

The information from the cultural report was reviewed and summarized to present the existing conditions and to identify potential environmental impacts, based on the significance criteria presented in this section. Impacts associated with cultural resources that could result from project construction and operational activities were evaluated qualitatively based on site conditions; expected construction practices; materials, locations, and duration of project construction and related activities.

Impact Analysis

Impact 3.6-1 Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Pursuant to *CEQA Guidelines* Section 15064.5 (b), substantial adverse change in the significance of a historical resource would include physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource is materially impaired. This can occur when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR, NRHP, a local register, or historic resources.
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its identification in an historical resources survey meeting the requirements of PRC Section 5024.1(g), unless the public agency establishes by a preponderance of the evidence that the resource is not historically or culturally significant.

Based on the current design, the only project components that intersect the Central Main Canal are the medium voltage distribution cable and geothermal pipeline corridors. The geothermal fluid/brine

generated by the project will be transported across the Central Main Canal through the existing pipeline network and no additional pipelines will be installed in the vicinity of the Central Main Canal. The proposed medium voltage distribution cable would cross S Dogwood Road and be attached via trays to the existing pipeline that runs west before turning north to cross the Beech Drain and Central Main Canal at the existing above-ground pipeline span. The cable would continue to follow the existing pipeline alignment and connect into the new Dogwood OEC. No new footings or foundations are required for the cable trays. Based on this analysis, the proposed project will not directly impact the essential physical characteristics of the historical resource and the aspects of integrity (i.e., location, design, workmanship, and materials) that contribute to its significance.

Indirect impacts are also not expected to result in an adverse change in the significance of the Central Main Canal. The recorded segment of the Central Main Canal has been impacted by prior development of industrial and solar facilities which have altered the surrounding vicinity and geographic terrain and caused a loss of integrity of setting, feeling, and association. Because the Central Main Canal has already lost these aspects of integrity, any indirect visual intrusions introduced by the Project will not result in a substantial change in the significance of the resource. It is anticipated other indirect impacts, such as noise and vibration effects, would be temporary in nature and limited to the construction phase.

Given these findings, the proposed project will not result in any adverse change to the significance of the Central Main Canal as a historical resource under CEQA and impacts would be considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.6-2 Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

No archaeological resources were identified in the record search or field investigation and the absence of known archaeological resources within one mile of the project suggests that this area is characterized by a low sensitivity for archaeological remains. However, there is a potential, albeit minimal, to encounter unanticipated cultural resources or human remains during ground-disturbing activities. This potential impact is considered significant. However, implementation of Mitigation Measure CUL-1 would reduce the potential impact associated with the inadvertent discovery of archaeological resources to a less than significant level.

Mitigation Measure(s)

CUL-1 **Evaluate Significance of Find (Unknown Archaeological Resources).** 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 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 3.6-3 Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

The project site is not located on a known cemetery and no human remains are anticipated to be disturbed during project construction. However, during construction, grading, excavation, and trenching would be required. Although the potential for encountering subsurface human remains within the project site is low, there remains a possibility that human remains are present beneath the ground surface and such remains could be exposed during construction. The potential to encounter human remains is considered a potentially significant impact. Mitigation Measure CUL-2 would ensure that the potential impact on previously unknown human remains does not rise to the level of significance pursuant to CEQA. Therefore, with implementation of Mitigation Measure CUL-2, impacts would be reduced to a less than significant level.

Mitigation Measure(s)

CUL-2 **Human Remains.** If subsurface deposits believed to be human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist who meets the Secretary of the Interior's Standards for prehistoric and historic archaeology and is familiar with the resources of the region, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the find includes human remains, or remains that are potentially human, the professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Imperial County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented.
- If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC may mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 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 reinternment

document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the Imperial County Planning and Development Services Department, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

3.6.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

At the end of the project's useful life, all equipment and facilities will be properly abandoned and dismantled. No impact is anticipated from restoration activities as the ground disturbance and associated impacts on cultural resources will have occurred during the construction phase of the proposed project.

Residual

With implementation of Mitigation Measure CUL-1, potential impacts to previously unrecorded cultural resources would be reduced to a level less than significant. Mitigation Measure CUL-2 would ensure that the potential impact on previously unknown human remains does not rise to the level of significance pursuant to CEQA. No unmitigable impacts on cultural resources would occur with implementation of the proposed project.

3.7 Energy

This section includes an overview of the existing energy sources within the project area and identifies applicable local, state, and federal policies related to energy. The impact assessment provides an evaluation of potential adverse effects on energy based on criteria derived from the CEQA Guidelines in conjunction with actions proposed in Chapter 2, Project Description.

3.7.1 Existing Conditions

Energy capacity, or electrical power, is generally measured in watts, while energy use is measured in watt-hours (Wh). For example, if a light bulb has a capacity rating of 100 Watts (W), the energy required to keep the bulb on for 1 hour would be 100 Wh. If ten 100 W bulbs were on for 1 hour, the energy required would be 1,000 Wh or 1 kilowatt-hour (kWh). On a utility scale, a generator's capacity is typically rated in megawatts, which is one million watts, while energy usage is measured in megawatt-hours (MWh) or gigawatt-hours (GWh), which is one billion watt-hours.

Electrical services in the project area are provided by the IID. IID operations are divided between a water division responsible for distribution and collection of water, and a power division responsible for generation and distribution of electrical power. Power is generated from various sources, including fossil fuel, hydroelectric, nuclear, biomass/biowaste, wind, and geothermal plants, and is fed into the electrical grid system serving Imperial County. The majority of the electricity at the project site is generated by the HGEC. Natural gas service in the area is provided by the Southern California Gas Company.

Transportation dominates California's energy consumption profile. Overall, the transportation sector accounts for 34 percent of state end-use energy consumption (United States Energy Information Administration 2023). According to California Air Resources Board's (CARB's) EMFAC2021 Web Database, Imperial County's on-road transportation sources consumed approximately 432 million gallons of gasoline and 163 million gallons of diesel fuel in 2022 (CARB 2023b).

3.7.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the project.

Federal

Energy Policy Act of 2005

The Energy Policy Act (EPAct) of 2005 includes several electricity-related provisions for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas. The Renewable Fuel Standard (RFS) program was created under the EPAct of 2005 and established the first renewable fuel volume mandate in the United States. The program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders. As required under EPAct, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act (EISA) (Public Law 110-140) was signed into law by President George W. Bush on December 19, 2007. The Act's goal is to achieve energy security in the

United States by increasing renewable fuel production, improving energy efficiency and performance, protecting consumers, improving vehicle fuel economy, and promoting research on greenhouse gas (GHG) capture and storage. Under the EISA, the updated RFS program (RFS2) was expanded in several key ways:

- EISA expanded the RFS program to include diesel, in addition to gasoline.
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- EISA established new categories of renewable fuel, and set separate volume requirements for each one.
- EISA required the U.S. Environmental Protection Agency (EPA) to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

RFS2 lays the foundation for achieving significant reductions of GHG emissions from the use of renewable fuels, for reducing imported petroleum, and encouraging the development and expansion of the nation's renewable fuels sector.

State

Renewable Energy: California Renewables Portfolio Standard Program

Established in 2002 under Senate Bill (SB) 1078, accelerated in 2006 under SB 107, expanded in 2011 under SB 2 and further expanded in 2015 under SB 350, California's Renewables Portfolios Standard (RPS) is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020. On September 12, 2002, then-Governor Gray Davis signed SB 1078. SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

In November 2008, then-Governor Arnold Schwarzenegger signed Executive Order (EO) S-14-08, which expands the state's RPS to 33 percent renewable power by 2020. In September 2009, former Governor Schwarzenegger continued California's commitment to the RPS by signing EO S-21-09, which directs the California Air Resources Board (CARB) under its Assembly Bill (AB) 32 authority to enact regulations to help the state meet its RPS goal of 33 percent renewable energy by 2020.

The 33 percent by 2020 goal was codified in April 2011 with SB X1-2, which was signed by Governor Edmund G. Brown, Jr. This RPS preempts the CARB 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. These entities must adopt the new RPS goals of 20 percent of retail sales from renewables by the end of 2013 and 25 percent by the end of 2016, with the 33 percent requirement being met by the end of 2020.

The Clean Energy and Pollution Reduction Act of 2015, SB 350 (Chapter 547, Statutes of 2015) was approved by Governor Brown on October 7, 2015. SB 350 does the following: (1) increases the standards of the California RPS program by requiring that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030; (2) requires the State Energy Resources Conservation and Development

Commission to establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030; (3) provides for the evolution of the Independent System Operator into a regional organization; and (4) requires the state to reimburse local agencies and school districts for certain costs mandated by the state through procedures established by statutory provisions. Among other objectives, the legislature intends to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation (SB-350 Clean Energy and Pollution Reduction Act 2015).

Title 24 Energy Efficiency Standards

California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6 of the California Code of Regulations) ("Title 24 Standards") were established in 1978 in response to a legislative mandate to reduce California's energy consumption to ensure that building construction and system design and installation achieve energy efficiency and preserve outdoor and indoor environmental quality. The standards are updated periodically (typically every three years) to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Standards went into effect on January 1, 2020, and improve upon the 2016 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2019 update to the Energy Efficiency Standards for Residential and Nonresidential Buildings focuses on several key areas to improve the energy efficiency of new constructed buildings and additions and alterations to existing buildings. The major efficiency improvements to the nonresidential Standards include alignment with the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1-2017 national standards. The 2019 Standards also include changes made throughout all of its sections to improve the clarity, consistency, and readability of the regulatory language. Furthermore, the 2019 update requires that enforcement agencies determine compliance with CCR, Title 24, Part 6 before issuing building permits for any construction.

Part 11 of the Title 24 Building Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. The purpose of the CALGreen Code is to "improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality." The CALGreen Code establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. As previously mentioned, the 2019 update to the CALGreen Code went into effect on January 1, 2020. The 2019 CALGreen Code improves upon the previously applicable 2016 CALGreen Code by updating standards for bicycle parking, electric vehicle charging, and water efficiency and conservation.

California Assembly Bill No. 1493 (AB 1493, Pavley)

The transportation sector accounts for more than half of California's carbon dioxide (CO_2) emissions in California. AB 1493 (commonly referred to as Pavley regulations), enacted on July 22, 2002, required CARB to set GHG emission standards for new passenger vehicles, light-duty trucks, and other vehicles whose primary use is noncommercial personal transportation manufactured in and after 2009.

CARB's Climate Change Scoping Plan

CARB's Climate Change Scoping Plan, which functions as a roadmap to achieve the California GHG reductions required by AB 32 and SB 32 through subsequently enacted regulations, is discussed in detail in Section 3.9, Greenhouse Gas Emissions. In December 2022, CARB approved the final version of California's 2022 Climate Change Scoping Plan (2022 Scoping Plan Update), which outlines the proposed framework of action for achieving California's new AB 1279 2045 GHG target: a 85 percent reduction in GHG emissions by 2045 relative to 1990 levels. The 2022 Scoping Plan Update focuses on strategies for reducing California's dependency on petroleum to provide customers with clean energy options that address climate change and support clean sector jobs. SB 350 and other regulations are expected to decarbonize the electricity sector over time.

CARB Heavy-Duty On-Road and Off-Road Vehicle Regulations

In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to Limit Diesel-Fueled Commercial Motor Vehicle Idling in order to reduce public exposure to diesel particulate matter (DPM) emissions (Title 13 CCR Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given location. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling.

In addition to limiting exhaust from idling trucks, CARB also promulgated emissions standards for off-road diesel construction equipment greater than 25 horsepower (hp) such as loaders, backhoes, and forklifts, as well as many other self-propelled off-road diesel vehicles. The In-Use Off-road Diesel-Fueled Fleets regulation adopted by CARB on July 26, 2007, encourages the retirement, replacement, or repower of older engines with newer emissions-controlled models (13 CCR Section 2449). The compliance schedule requires full implementation by 2023 in all equipment for large and medium fleets and by 2028 for small fleets. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation has shown an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines.

Local

Imperial County General Plan, Renewable Energy and Transmission Element

The Renewable Energy and Transmission Element of the Imperial County General Plan (2015) contains the latest knowledge about local geothermal resources, current development technology, and County, State, and Federal policy regarding the exploration, development, and transmission of geothermal energy. The guidelines included in the Element address aspects of the Renewable Energy Program related to the state's Renewables Portfolio Standard (RPS).

3.7.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to energy are considered significant if any of the following occur:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency

Methodology

Impact Analysis

Impact 3.7-1 Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction of operation?

Construction

Construction of the project would require the use of fuels (primarily gasoline and diesel) for the operation of construction equipment and vehicles to perform a variety of activities, including excavation, hauling, well installation, and vehicle travel (including on-site and commuter trips). In addition to direct construction-related energy consumption, indirect energy use would be required to make the materials and components used for project construction. This includes energy used for extraction of raw materials, manufacturing, and transportation associated with manufacturing. Table 3.7-1 provides an estimate of construction fuel consumption for the project based on information provided by the CalEEMod air quality computer model (Appendix D of this EIR).

Table 3.7-1. Estimated Construction Fuel Consumption

Construction Phase	Equipment	Qty	Engine Hp	No. Days Used	No. Hours Operated Per Day	Total Hours	Total Fuel Consumption (gallons)
Site Preparation (Plant Site and Solar Fields) (2 Months)	Heavy Duty Trucks	3	402	30	5	150	2,750
	Excavator	1	97	30	8	240	354
	Roller	2	200	30	8	240	1,459
	Light-Duty Truck	8	350	30	4	120	5,107
Project Construction (16 Months)	Aerial Man Lifts	8	63	160	6	960	6,000
	Excavator	1	97	40	8	320	472
	Crane	2	231	160	6	960	5,145
	Forklift	1	89	40	8	320	228
	Forklift	6	89	245	8	1,960	8,373

Construction Phase	Equipment	Qty	Engine Hp	No. Days Used	No. Hours Operated Per Day	Total Hours	Total Fuel Consumption (gallons)
	Generator Set	1	84	320	8	2,560	6,365
	Grader	1	187	30	8	240	736
	Heavy Duty Trucks	2	402	90	8	720	8,799
	Rubber Tired Loader	1	203	30	8	240	702
	Backhoe	1	97	30	8	240	345
	Welders	15	46	245	6	1,470	18,257
	Light Duty Truck	1	350	40	4	160	851
	Light Duty Truck	15	350	245	4	980	78,204
Well Drilling and Pipe Interconnection (12 Months)	Light tower	2	27	90	12	1,080	1,726
	Drill Rig	1	500	180	24	4,320	43,200
	Rig Mud Pump	1	500	180	24	4,320	63,936
	Rig Generator	1	415	180	24	4,320	53,067
	Heavy Duty Trucks (Mob/Demob)	8	450	24	8	192	10,506
	Crane	2	231	24	5	120	643
	Backhoe	1	97	24	6	144	207
	Forklift	1	89	24	6	144	103
	Vacuum Truck	1	385	24	10	240	1,404
	Concrete Truck	1	428	3	4	12	78
	Concrete Pumper	1	100	3	4	12	36
	Light Duty Truck	4	350	24	4	96	2,043
Substation Development and Interconnection (4 Months)	Crane	1	231	80	8	640	1,715
	Drill/Bore Rig	1	221	80	8	640	4,187
	Aerial Lift	2	63	80	8	640	1,000
	Heavy Duty Trucks (Delivery)	2	402	20	4	80	978
	Backhoe	1	97	14	8	112	161
	Forklift	1	89	80	8	640	456

Construction Phase	Equipment	Qty	Engine Hp	No. Days Used	No. Hours Operated Per Day	Total Hours	Total Fuel Consumption (gallons)
	Ditch Digger	1	13	20	8	160	42
	Generator Set	2	84	80	8	640	3,183
	Light Duty Truck	5	350	80	4	320	8,512
Testing (1 Month)	Generator	1	671	30	24	720	14,300
	Light Tower (27 hp)	2	27	30	12	360	575
	Light Tower (9 hp)	2	9	30	12	360	192
	Pump (115 hp)	1	115	30	24	720	2,451
	Pump (415 hp)	1	415	30	24	720	8,844
	Light Duty Truck	1	350	30	4	120	638
Total:							**368,328**

Source: Appendix D of this EIR

Project construction would occur over five phases, with the drilling phase utilizing the most construction equipment. As shown in Table 3.7-1, the construction of the project would result in total consumption of approximately 368,328 gallons of fuel. In addition to direct construction energy consumption, indirect energy use would be required to make the materials and components used in construction. This includes energy used for extraction of raw materials, manufacturing, and transportation associated with manufacturing.

The total diesel and gasoline fuel sales in Imperial County was estimated by the California Energy Commission to be 27 million gallons in 2021 (California Energy Commission 2022). Accordingly, the estimated 368,328 gallons of diesel fuel required for project activities would represent approximately 1.4 percent of total diesel and gasoline fuel sales in Imperial County. Fuel energy consumed during Project construction would be temporary and would not represent a substantial demand on energy resources. In addition, energy conservation would occur during Project construction through compliance with the CARB anti-idling and emissions regulations, which require that equipment not used for more than five minutes be turned off. Compliance with these regulations would result in less fuel combustion and energy consumption and thus minimize the Project's construction-related energy use. Project construction equipment would also be required to comply with EPA and CARB engine emission standards. These emission standards require highly efficient combustion systems to maximize fuel efficiency and reduce unnecessary fuel consumption.

In addition, the project includes several energy- and fuel-efficient design features that would help minimize inefficient or wasteful use of energy and increase conservation during construction. For example, the project grading plan is designed to balance all earthwork on site, which would avoid truck trips that would have been required to haul-in fill materials to the site and haul-off of materials to be exported off-site. Most construction equipment needed for the project is already onsite, further avoiding truck trips associated with mobilization and demobilization. This would reduce fuel use, while also reducing temporary increases in noise and exhaust emissions. The project grading plan and on-site construction equipment would also minimize impacts to the surrounding transportation network that

would result from truck traffic associated with soil import/export and mobilization/demobilization. Implementation of the energy conservation control measures in Mitigation Measure ENG-1 would further reduce fuel consumption and energy use and ensure remain less than significant.

Operation

Electricity required during operations would be greatly offset by the electricity produced by the geothermal and solar facilities. Specifically, operation of renewable energy facilities would offset greenhouse gas emissions by replacing energy generated by fossil fuel power plants. The project would generate up to 47 MW of renewable energy, of which 25 MW net of energy would be added to the power grid, and 22 MW would be in the form of parasitic renewable energy for the plant operations. This renewable energy would be used in place of electricity generated by fossil fuel sources. Based on these considerations, the project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources and impacts would be less than significant.

Mitigation Measure(s)

ENG-1 **Energy Conservation Control Measures.** The project applicant shall implement all the following applicable energy conservation control measures during construction of the project:

- Idling times on all diesel-fueled commercial vehicles over 10,000 pounds shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure 13 CCR §2485). Clear signage to this effect shall be provided for construction workers at all access points.
- Idling times on all diesel-fueled off-road vehicles over 25 horsepower shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes and fleet operators must develop a written policy as required by 13 CCR §2449 (“CARB Off-Road Diesel Regulations”).
- All construction equipment shall be maintained and properly tuned in accordance with the manufacturer’s specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Portable equipment shall be powered by electricity if available. If electricity is not available, propane or natural gas shall be used if feasible. Diesel engines shall only be used if electricity is not available, and it is not feasible to use propane or natural gas.

Impact 3.7-2 Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Construction

Construction equipment would comply with federal, state, and regional requirements where applicable. With respect to truck fleet operations the USEPA and the National Highway Traffic Safety Administration (NHTSA) have adopted fuel efficiency standards for medium- and heavy-duty trucks. The Phase 1 heavy-duty truck standards apply to vehicles from model years 2014 through 2018 and will result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending

on the vehicle type. The USEPA and NHTSA also adopted the Phase 2 heavy-duty truck standards, which covered model years 2021 through 2027 and required the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type. The energy modeling for trucks does not take into account specific fuel reduction from these regulations, since they would apply to fleets as they incorporate newer trucks meeting the regulatory standard; However, these regulations would have an overall beneficial effect on reducing fuel consumption from trucks overtime as older trucks are replaced with newer models that meet the standards.

In addition, construction equipment and trucks are required to comply with CARB's regulations regarding heavy duty truck idling limits of five minutes at a location and the phase in of off-road emission standards that result in an increase in energy savings in the form of reduced fuel consumption for more fuel-efficient engines. While these regulations are intended to reduce criteria pollutant emissions, compliance with the anti-idling and emissions regulations would also result in the efficient use of construction-related energy. Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency during construction. Short-term impacts would be less than significant.

Operation

The Climate Change Scoping Plan outlined the main strategies California will implement to achieve California's new AB 1279 2045 GHG target: an 85 percent reduction in GHG emissions by 2045 relative to 1990 levels. One such strategy is to reduce GHG emissions produced during electricity generation. Overall, because the main objectives of the project are to assist the state in meeting its obligations under California's RPS Program and assist California in meeting the GHG emissions reduction goal 85 percent below 1990 levels in 2045, the project would be consistent with the applicable recommended actions of CARB's 22022 Climate Change Scoping Plan, as well as applicable federal, state and local policies. Specifically, the project would assist the State and regulated utility providers to generate a greater portion of energy from renewable sources consistent with the RPS. Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency during operations and long-term impacts would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

3.7.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

At the end of the project's useful life, all equipment and facilities will be properly abandoned and dismantled. Similar to construction activities, decommissioning and restoration would result in short-term energy consumption. Decommissioning and restoration activities would be temporary and would not represent a substantial demand on energy resources. Similar to construction, energy conservation during decommissioning activities would occur through compliance with CARB anti-idling and emissions regulations, which require that equipment not used for more than five minutes be turned off. Compliance with these regulations would result in less fuel combustion and energy consumption and thus minimize energy use. Impacts would be less than significant.

Residual

The construction and operation of the proposed project would result in a less than significant impact related to energy. No mitigation is required and no residual unmitigated impacts would occur with implementation of the project.

3.8 Geology and Soils

This section provides an evaluation of the project in relation to existing geologic and soils conditions within the project site. The geotechnical information provided herein was gathered from available online resources and summarized from the *Geotechnical Site Assessment* prepared by Catalyst Environmental Solutions (Appendix H of this EIR).

3.8.1 Existing Conditions

Regional Geology

The project site is located in Imperial County which is underlain by three geomorphic provinces: the Peninsular Ranges; the Colorado Desert; and the Mojave Desert. The Colorado Desert geomorphic province spans the majority of central Imperial County, including the project site, and is dominated by the Salton Sea and the Imperial Valley; the province is composed of a low-lying barren desert basin situated between alluvium-covered, active branches of the San Andreas Fault (Appendix H of this EIR).

The project site is situated within the Salton Trough, which is a structural depression resulting from large scale, regional faulting. The trough represents the northward extension of the Gulf of California and is bounded by the San Andreas Fault and Chocolate Mountains to the northeast and by the Peninsular Range and the faults of the San Jacinto Fault Zone to the southwest. The Imperial Valley is underlain by lacustrine deposits consisting of interbedded lenticular and tabular silt, sand, and clay (Appendix H of this EIR). The Late Pleistocene to Holocene Lake deposits are estimated at less than 100 feet thick and derived from periodic flooding of the Colorado River which intermittently formed a fresh water lake, Lake Cahuilla. Older deposits consist of Miocene to Pleistocene non-marine and marine sediments deposited during intrusions of the Gulf of California. Basement rock consisting of Mesozoic granite and Paleozoic metamorphic rocks are estimated to exist at depths between 15,000 to 20,000 feet below the surface (Appendix H of this EIR). The primary seismic hazard at the project site is the potential for strong ground shaking.

Local Geology and Surface Conditions

The project site consists of surficial dry, very stiff lean silty clays to a depth of 4 to 5 feet below ground surface (bgs), stiff clays from approximately 6 to 40 feet bgs, and silty clay to clayey silt from 40 to 50 feet bgs, the maximum depth of exploration. Soils at the project site are classified as Site Class D, which is characterized by a stiff soil profile (Appendix H of this EIR). The USDA Natural Resources Conservation Service (NRCS) has mapped the following soils at the project site:

- Holtville silty clay, wet
- Imperial silty clay, wet
- Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes

Groundwater

The project site is located within the Imperial Valley Groundwater Basin which is bounded on the east by the Sand Hills, on the west by the impermeable rocks of the Fish Creek and Coyote Mountains, the California-Mexico border to the south, and the Salton Sea (the discharge point for groundwater in the

basin) to the north. Groundwater was encountered at approximately 8 to 10 feet bgs at the project site (Appendix H of this EIR).

Faulting and Seismicity

The Imperial Valley is a seismically active area that is traversed by numerous mapped faults including the Brawley Fault Zone, San Jacinto Fault Zone (contains the Coyote Creek Fault, the Elmore Ranch Fault, and the Wienert Fault), the Elsinore Fault (contains the Laguna Salada Fault), the Imperial Fault, the San Andreas Fault Zone, and the Superstitions Hills Fault (Appendix H of this EIR).

Several active and potentially active faults are situated in the vicinity of the project site as shown in Figure 3 of the *Geotechnical Site Assessment* (Appendix H of this EIR). Active faults are defined by the California Geological Survey as faults that have ruptured during Holocene time (within the last approximately 11,000 years). Potentially active faults are those that have ruptured during the last 1.8 million years (Quaternary time), but with no direct evidence of a movement within Holocene time. The Imperial Fault Zone is the nearest active fault zone to the project site and is located approximately 9.4 miles to the southwest (Appendix H of this EIR).

Several significant earthquakes have occurred in the vicinity of the project site with corresponding surface fault ruptures and liquefaction events. Four earthquakes greater than magnitude 5 were recorded near Heber between 1915 and 1979. A magnitude 7.2 earthquake, the El Mayor-Cucapah earthquake, occurred throughout southern Imperial valley in 2010 (Appendix H of this EIR).

The project site is not located within a currently mapped Alquist-Priolo Special Studies Fault Zone. Surface fault rupture is considered to be unlikely at the project site due to the well-delineated fault lines through the Imperial Valley; however, because of the high tectonic activity and deep alluvium of the region, a potential exists for a surface rupture on undiscovered or new faults that may underlie the site (Appendix H of this EIR).

Ground Shaking

Ground shaking can occur during an earthquake, and its intensity is related to the proximity of the area to the fault, the focal depth, soil types, the location of the epicenter, and the size (magnitude) of the earthquake. Soils formed from alluvial deposits are more prone to ground shaking than dense materials such as bedrock. The project site is considered likely to be subjected to moderate to strong ground motion from earthquakes in the region (Appendix H of this EIR).

Expansive Soil

The native surface clays exhibit moderate swell potential. The clay is expansive when wet and can shrink with moisture loss (drying). Soils on-site are prone to expansion and shrinkage; development of building foundations, concrete flatwork, and asphaltic concrete pavements should include provisions for mitigating potential swelling forces and reduction in soil strength which can occur from saturation of the soil (Appendix H of this EIR).

Corrosive Soil

Native soil on-site has moderate to very severe levels of chloride ion concentrations. Chloride ions can cause corrosion of reinforced steel, anchor bolts, and other buried metallic conduits. Resistivity determinations on the soil indicate very severe potential for metal loss because of electrochemical corrosion processes (Appendix H of this EIR).

Liquefaction

Liquefaction occurs when loosely packed, saturated soil or sediment at or near the ground surface loses its strength, which can lead to excessive settlement, ground rupture, lateral spreading, or failure of shallow bearing foundations.

Liquefaction zones have not been mapped in the project area; however, the Colorado River Delta region of southern Imperial County (including Heber) is a seismically active area. Due to the cohesive nature of the subsurface soils, liquefaction is not anticipated at the project site (Appendix H of this EIR).

Lateral Spreading

Lateral spreading typically occurs as a form of horizontal displacement of relatively flat-lying alluvial material toward an open or “free” face such as an open body of water, channel, or excavation. This movement is generally due to failure along a weak plane, and may often be associated with liquefaction. As cracks develop within the weakened material, blocks of soil displace laterally toward the open face. Cracking and lateral movement may gradually propagate away from the face as blocks continue to break free.

Due to the low potential for liquefaction and the fact that the project site is not located near free faces or bodies of water, the potential for lateral spreading is considered low.

Subsidence

The project site is not located within a mapped area of known land subsidence (Appendix H of this EIR). Due to the depth of groundwater and the fact that the site is not located in a mapped subsidence area, the potential for subsidence is considered low (Appendix H of this EIR). However, a study published in collaboration with the California Energy Commission in 2019 found surface deformation at the Heber Geothermal Field (HGF) connected to geothermal production and injection. The HGF is the area containing and surrounding the HGEC. Subsidence was occurring at the HGF up to -45 mm/year (-1.77 in/year). Furthermore, it was reported that an increase in injection resulted in ground uplift in the northwestern portion of the HGF, however over time this uplift transitioned to subsidence with an increase in geothermal production (Eneva et al 2019).

Landslides

The project site is relatively flat, and the hazard of landslides is unlikely due to the planar topography of the site and the region. Furthermore, no ancient landslides are identified on geologic maps of the region (Appendix H of this EIR).

Paleontological Resources

Paleontological resources (fossils) are the remains of prehistoric plant and animal life. Fossil remains, such as bones teeth, shell, and wood, are found in geologic deposits (rock formations) within which they were originally buried. Many paleontological fossil sites are recorded in Imperial County and have been discovered during construction activities. Paleontological resources are typically impacted when earthwork activities, such as mass excavation cut into geological deposits (formations) with buried fossils.

The project site is in the Salton Basin near the shoreline of ancient Lake Cahuilla. The lake covered much of the Imperial Valley and created an extensive lacustrine environment. Lake Cahuilla

experienced several fill recession episodes before it finally dried up about 300 years ago. In 1905, the Colorado River overflowed into the Salton Basin creating the present-day Salton Sea. As previously mentioned above, the project site is generally underlain by deposits from periodic flooding of the Colorado River and Lake Cahuilla (Appendix H of this EIR). Sediments from this formation have yielded fossilized remains of continental vertebrates, invertebrates, and plants at numerous previously recorded fossil sites in the Imperial Valley. Therefore, the project site is considered paleontologically sensitive.

3.8.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the project.

Federal

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act was enacted in 1977 to "reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program." To accomplish this, the Act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by NEHRP, which refined the description of agency responsibilities, program goals, and objectives.

NEHRP's mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results. The NEHRP designates the Federal Emergency Management Agency as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities. Programs under NEHRP help inform and guide planning and building code requirements such as emergency evacuation responsibilities and seismic code standards such as those to which the project would be required to adhere.

State

Alquist-Priolo Special Studies Earthquake Hazards Act (APEHA)

The APEHA was passed into law following the destructive February 9, 1971, San Fernando earthquake. The APEHA provides a mechanism for reducing losses from surface fault rupture on a statewide basis. The intent of the APEHA is to ensure public safety by prohibiting the siting of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep. The state geologist (Chief of the California Division of Mines and Geology) is required to identify "earthquake fault zones" along known active faults in California. Counties and cities must withhold development permits for human occupancy projects within these zones unless geologic studies demonstrate that there would be no issues associated with the development of projects.

California Building Code

The California Building Standards Commission is responsible for coordinating, managing, adopting, and approving building codes in California. CCR Title 24 is reserved for state regulations that govern

the design and construction of buildings, associated facilities, and equipment, known as building standards. The California Building Code (CBC) is based on the Federal Uniform Building Code used widely throughout the country (generally adopted on a state-by-state or district-by-district basis). The California Health and Safety Code (HSC) Section and 18980 HSC Section 18902 give CCR Title 24 the name of California Building Standards Code. The updates to the 2019 California Building Standards Code were published on January 1, 2021, with an effective date of July 1, 2021.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act aims to reduce the threat of seismic hazard to public health and safety by identifying and mitigating seismic hazards. Through the Act, the California Department of Conservation, Division of Mines and Geology, is directed to delineate seismic hazard zones. State, county, and city agencies are directed to utilize such maps in land use and permitting processes. The Act also requires geotechnical investigations particular to the site be conducted before permitting occurs on sites within seismic hazard zones.

Local

Imperial County Land Use Ordinance

Title 9 Division 15 (Geological Hazards) of the County Land Use Ordinance has established procedures and standards for development within earthquake fault zones. Per County regulations, construction of buildings intended for human occupancy are prohibited across the trace of an active fault. An exception exists when such buildings located near the fault or within a designated Special Studies Zone are demonstrated through a geotechnical analysis and report not to expose a person to undue hazard created by the construction.

Imperial County General Plan

The County of Imperial General Plan, Seismic and Public Safety Element identifies potential natural and human-induced hazards and provides policy to avoid or minimize the risk associated with hazards. The Seismic and Public Safety Element identifies ‘lifelines and critical facilities’ whose disruption could endanger the public safety. Lifelines are defined as networks of services that extend over a wide area and are vital to the public welfare, and can be classified into four categories: energy, water, transportation, and communications. The IID has a formal Disaster Readiness Standard Operating Procedure for the Water Department, Power Department, and the entire District staff for response to earthquakes and other emergencies.

Table 3.8-1 analyzes the consistency of the project with specific policies contained in the County of Imperial General Plan associated with geology, soils, and seismicity. While this EIR analyzes the project’s consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

Table 3.8-1. Project Consistency with Applicable General Plan Policies

General Plan Policies	Consistency with General Plan	Analysis
Seismic and Public Safety Element		
Goal 1. Include public health and safety considerations in land use planning.	Consistent	Division 15 of the County Land Use Ordinance has established procedures and standards for development within earthquake fault zones. Per County regulations, construction of buildings intended for human occupancy which are located across the trace of an active fault are prohibited. An exception exists when such buildings located near the fault or within a designated Special Studies Zone are demonstrated through a geotechnical analysis and report not to expose a person to undue hazard created by the construction. Since the project site is located in a seismically active area, the project is required to be designed in accordance with the CBC. It should be noted that, the project would be remotely operated and would not require any habitable structures on site. In considering these factors in conjunction with mitigation requirements outlined in the impact analysis, the risks associated with seismic hazards would be minimized. A preliminary geotechnical study has been prepared for the proposed project. The preliminary geotechnical study has been referenced in this environmental document. Additionally, a design-level geotechnical investigation will be conducted to evaluate the potential for site specific hazards associated with seismic activity.
Objective 1.1. Ensure that data on geological hazards is incorporated into the land use review process, and future development process.		
Objective 1.3. Regulate development adjacent to or near all mineral deposits and geothermal operations.		
Objective 1.4. Require, where possessing the authority, that avoidable seismic risks be avoided; and that measures, commensurate with risks, be taken to reduce injury, loss of life, destruction of property, and disruption of service.		
Objective 1.7. Require developers to provide information related to geologic and seismic hazards when siting a proposed project.		
Goal 2: Minimize potential hazards to public health, safety, and welfare and prevent the loss of life and damage to health and property resulting from both natural and human-related phenomena.		
Objective 2.2. Reduce risk and damage due to seismic hazards by appropriate regulation.		
Objective 2.5 Minimize injury, loss of life, and damage to property by implementing all state codes where applicable.		
Objective 2.8 Prevent and reduce death, injuries, property damage, and economic and social dislocation resulting from natural hazards including flooding, land subsidence, earthquakes, other geologic phenomena, levee or dam failure, urban and wildland fires and building collapse by appropriate planning and emergency measures.		

Source: County of Imperial 1997

3.8.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to geologic and soil conditions, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix H of this EIR, project impacts related to geology and soils are considered significant if any of the following occur:

- Directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent AP Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault; (Refer to Division of Mines and Geology Special Publication 42)
    - Strong seismic ground shaking
    - Seismic related ground failure, including liquefaction
    - Landslides
- Result in substantial soil erosion or the loss of topsoil
- Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature

Methodology

This analysis evaluates the potential for the project, as described in Chapter 2, Project Description, to interact with local geologic and soil conditions, as well as paleontological resources on the project site. A *Geotechnical Site Assessment* prepared by Catalyst Environmental Solutions (Appendix H of this EIR) was prepared for the project. The information obtained from this report was reviewed and summarized to present the existing geologic and soil conditions on the project site. This analysis considers whether these conditions would result in an exceedance of one or more of the applied significance criteria as identified above.

Impact Analysis

Impact 3.8-1 Would the project directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving:

Rupture of a known earthquake fault, as delineated on the most recent AP Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault; (Refer to Division of Mines and Geology Special Publication 42)?

As described in Section 3.8.1 above, the Imperial Valley is a seismically active region, as is much of southern California. According to the California Geologic Survey (CGS), the project site is not located within or near an Alquist-Priolo Special Studies Earthquake Hazards Act Zone (Appendix H of this EIR). Fault lines through the Imperial Valley are well-delineated and the closest known fault is the Imperial Fault located 6.7 miles east of the project site. In addition, the project would not construct any buildings designed for human occupancy. As such, the probability for surface fault rupture within the project site during construction or operations is considered low and the project would not increase or exacerbate existing hazards related to fault rupture. The proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving rupture of a major fault as delineated on the most recent Alquist-Priolo Fault Zoning map. This impact would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.8-2 Would the project directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving:

Strong seismic ground shaking?

The Imperial Fault Zone is the nearest active fault zone to the project site and is located approximately 6.7 miles to the east. In the event of an earthquake along this fault or another regional fault, seismic hazards related to ground motion could occur in susceptible areas within the project site. The intensity of such an event would depend on the causative fault and the distance to the epicenter, the moment magnitude, and the duration of shaking.

Even with the integration of building standards that are designed to resist the effects of strong ground motion, ground shaking within the project site could cause some structural damage to the facility structures or, at least, cause unsecured objects to fall. During a stronger seismic event, ground shaking could result in structural damage or collapse of electrical distribution facilities. Given the potentially hazardous nature of the project facilities, the potential impact of ground motion during an earthquake is considered a significant impact, as proposed structures, such as the substation, and isopentane tanks could be damaged. However, the proposed project would be constructed in accordance with the applicable geotechnical and seismic design standards as well as the site-specific design recommendations in the final geotechnical report per Mitigation Measure GEO-1; and upon operation, the proposed project would not result in any significant changes related to the risk of seismic hazards on the project site when compared to existing conditions, nor would project operation increase or exacerbate the potential for strong seismic ground shaking to occur. Upon implementation of Mitigation Measure GEO-1, impacts would be reduced to a level less than significant.

Mitigation Measure(s)

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 applicants. 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.

Significance after Mitigation

With implementation of Mitigation Measure GEO-1, potential impacts associated with strong seismic ground shaking would be reduced to a level less than significant with the implementation of recommendations made by a licensed geotechnical engineer in compliance with the CBC prepared as part of a formal geotechnical investigation.

Impact 3.8-3 Would the project directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving:

Seismic related ground failure, including liquefaction?

Liquefaction occurs in areas where loosely packed, saturated soil or sediment at or near the ground surface loses its strength, which can lead to excessive settlement, ground rupture, lateral spreading, or failure of shallow bearing foundations. No liquefaction areas have been mapped in the region, however, the El Mayor-Cucapah earthquake (magnitude 7.2) that occurred throughout southern Imperial valley in 2010 caused widespread liquefaction near the towns of Calexico (immediately southeast of Heber) and El Centro (immediately north of Heber) (Appendix H of this EIR). Despite this, liquefaction is not anticipated at the project site due to the cohesive nature of the site subsurface soils and risk of injury at the project site associated with seismic-related ground failure, including liquefaction is considered low. Thus, impacts to seismic-related ground failure, including liquefaction attributed to the project are considered less than significant.

Mitigation Measure(s)

No mitigation measures required.

Impact 3.8-4 Would the project directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving:

Landslides?

The project site topography is relatively flat, and no ancient landslides have been mapped in the area. Development of the proposed project would not directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving landslides. Based on project site conditions, the potential for a landslide to occur on-site is considered negligible and no impact would occur.

Mitigation Measure(s)

No mitigation measures required.

Impact 3.8-5 Would the project result in substantial soil erosion or the loss of topsoil?

Construction activities such as site grading would involve large areas of soil to be exposed to erosive forces. Construction activities will involve grubbing and grading of the project site to establish access roads and pads for electrical equipment, trenching for underground electrical collection lines and pipelines, the installation of geothermal and solar equipment, and security fencing which could result in increased erosion and sedimentation to surface waters. Therefore, construction could produce sediment-laden stormwater runoff (nonpoint source pollution), a major contributor to the degradation of water quality. If precautions are not taken to contain contaminants, construction-related erosion impacts are considered a significant impact.

As provided in Mitigation Measure GEO-1, during final engineering for the project, a design-level geotechnical study would identify appropriate measures for the project related to soil erosion. In addition, as part of Mitigation Measure HYD-1 provided in Section 3.11 Hydrology/Water Quality, potential impacts from erosion during construction activities would be reduced to a level less than significant with the preparation of a SWPPP for sediment and erosion control and implementation of BMPs to reduce erosion from the construction site.

The project is not expected to result in substantial soil erosion or the loss of topsoil over the long term. The project applicant would be required to implement on-site erosion control measures in accordance with County standards, which require the preparation, review, and approval of a grading plan by the County Engineer. Therefore, with implementation of Mitigation Measure GEO-1 and Mitigation Measure HYD-1 identified in Section 3.11 Hydrology/Water Quality, impacts from construction-related erosion would be reduced to a level less than significant.

Mitigation Measure(s)

The following mitigation measures would be required:

GEO-1 **Prepare Geotechnical Report(s) as Part of Final Engineering for the Project and Implement Required Measures** (as described above)**.**

HYD-1 **Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration.** (See Section 3.11, Hydrology and Water Quality).

Significance after Mitigation

With implementation of Mitigation Measures GEO-1 and HYD-1 (as described in Section 3.11, Hydrology and Water Quality), potential impacts from erosion during construction activities would be reduced to a level less than significant with the preparation of a SWPPP and implementation of BMPs to reduce erosion from the construction site.

Impact 3.8-6 Would the project be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Based on the site conditions and gentle to relatively flat topography across the majority of the project site, lateral spreading is considered low. In addition, no liquefaction or landslide areas have been mapped near or within the project site. Baseline conditions at the project site do not show signs of geologic units or soil that are unstable and could potentially result in on-or off-site landslide, lateral spreading, liquefaction, or collapse. The project site is not located within a mapped area of known land subsidence (Appendix H of this EIR). However, as described previously, Eneva et al. (2019) has documented land subsidence at the project site attributed to existing geothermal activity within the HGF. Land subsidence up to 1.7 inches/year is occurring on-site with some subsidence and uplift off-site. This potential impact associated with subsidence is considered a significant impact. Implementation of Mitigation Measure GEO-1, which requires the preparation of a design-level geotechnical report, would reduce the potential impacts associated with subsidence to a level less than significant.

Mitigation Measure(s)

GEO-1 Prepare Geotechnical Report(s) as Part of Final Engineering for the Project and Implement Required Measures.

Significance after Mitigation

With implementation of Mitigation Measure GEO-1, potential impacts associated with subsidence would be reduced to a level less than significant with the implementation of recommendations made by a licensed geotechnical engineer in compliance with the CBC prepared as part of a formal geotechnical investigation.

Impact 3.8-7 Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

As discussed in Section 3.8.1 above, on-site soils are classified as Site Class D, which are characterized by a stiff soil profile with stiff clays as deep as 40 feet bgs. However, surface clays exhibit moderate swell potential, expanding when wet, shrinking when dry (Appendix H of this EIR). To accommodate the sites moderate swell potential, the development of the OEC foundation, concrete flatwork, and asphaltic concrete pavements shall include provisions for mitigating potential swelling forces and reduction in soil strength caused by soil saturation (Appendix H of this EIR). Likewise, the native soil has moderate to very severe levels of chloride ion concentration which can cause corrosion of reinforcing steel, anchor bolts and other buried metallic conduits. Preventative measures for the corrosion of steel can be achieved by using steel pipes coated with epoxy corrosion inhibitors,

asphaltic and epoxy coatings, or by encapsulating portions of pipe lying above groundwater with a minimum of three inches of densely consolidated concrete (Appendix H of this EIR).

Despite the project site's moderate swell potential and corrosive soils, project construction and operation would not result in substantial direct or indirect risks to life or property because of adherence to County building standards and CBC requirements for building on expansive soils. Moreover, Mitigation Measure GEO-1 would identify any potential hazards for building at the project site with recommended engineering practices that would reduce potential project impacts to a level less than significant.

Mitigation Measure(s)

GEO-1 Prepare Geotechnical Report(s) as Part of Final Engineering for the Project and Implement Required Measures.

Significance after Mitigation

With implementation of Mitigation Measure GEO-1, potential impacts associated with expansive soils and corrosive soils would be reduced to a level less than significant with the implementation of recommendations made by a licensed geotechnical engineer in compliance with the CBC prepared as part of a formal geotechnical investigation.

Impact 3.8-8 Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The proposed project does not include any septic tanks or wastewater disposal systems. Therefore, the project would have no impact on the project site soil and its capacity to adequately support the use of septic tanks or alternative wastewater disposal systems. No impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.8-9 Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The project site is in the Salton Basin near the shoreline of ancient Lake Cahuilla. The lake covered much of the Imperial Valley and created an extensive lacustrine environment. Lake Cahuilla experienced several fill recession episodes before it finally dried up about 300 years ago. In 1905, the Colorado River overflowed into the Salton Basin creating the present-day Salton Sea. As previously noted, the project site is generally underlain by deposits from periodic flooding of the Colorado River and Lake Cahuilla (Appendix H of this EIR). Sediments from this formation have yielded fossilized remains of continental vertebrates, invertebrates, and plants at numerous previously recorded fossil sites in the Imperial Valley. Therefore, the project site is considered paleontologically sensitive.

Although unlikely, project construction has the potential to unearth and/or potentially destroy previously undiscovered paleontological resources. This potential impact is considered a significant impact. However, implementation of Mitigation Measure GEO-2 would reduce the potential impact on paleontological resources to a level less than significant.

Mitigation Measure(s)

GEO-2 **Paleontological Resources.** 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.

Significance after Mitigation

Implementation of Mitigation Measure GEO-2 would reduce the potential impact on paleontological resources to a level less than significant. 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.

3.8.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

At the end of the project's useful life, all equipment and facilities will be properly abandoned and dismantled. The geothermal production well and injection wells will be abandoned in conformance with the well abandonment requirements of the DOGGR. CalGEM requirements will be prepared and implemented. The abandonment plan would describe the proposed approach to facility abandonment, equipment removal, disposal, and site restoration. All above-ground equipment will be dismantled and removed from the entire site. The surface of the site would be restored to conform to approximate pre-Project land uses (e.g., agriculture or open space).

No impacts are anticipated during the decommissioning and restoration, all ground disturbance would have occurred during the construction phase of the project.

Residual

With implementation of Mitigation Measure GEO-1, impacts related to strong seismic ground shaking, subsidence, expansive soils, and corrosive soils would be reduced to a level less than significant. With implementation of Mitigation Measure GEO-1 and Mitigation Measure HYD-1 in Section 3.10 Hydrology/Water Quality, potential impacts from erosion during construction activities would be reduced to a level less than significant. Implementation of Mitigation Measure GEO-2 would reduce the potential impact on paleontological resources to a level less than significant. The project would not result in residual significant and unmitigable impacts related to geology and soil resources.

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3.9 Greenhouse Gas Emissions

This section includes an overview of existing greenhouse gas (GHG) emissions within the project area and identifies applicable federal, state, and local policies related to global climate change. The impact assessment provides an evaluation of potential adverse effects with regards to GHG emissions based on criteria derived from the CEQA Guidelines in conjunction with actions proposed in Chapter 2, Project Description. Information contained in this section is summarized from the *Air Quality and Greenhouse Gas Technical Report* prepared by Catalyst Environmental Solutions. This report is included in Appendix D of this EIR.

3.9.1 Existing Conditions

Greenhouse Gases

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to GHGs, particularly those generated from the production and use of fossil fuels.

GHGs refer to atmospheric gases that absorb solar radiation and subsequently emit radiation in the thermal infrared region of the energy spectrum, trapping heat in the Earth's atmosphere. These gases include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and water vapor, among others. While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy.

The dominant GHG emitted is CO_2, mostly from fossil fuel combustion. GHGs differ in how much heat each can trap in the atmosphere (i.e., global warming potential [GWP]). When accounting for GHGs, all types of GHG emissions are expressed in terms of carbon dioxide equivalent (CO_2e) and are typically quantified in metric tons (MT) or million metric tons. The GWP of a GHG is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is expressed relative to CO_2 over a specified time period. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2. State law defines GHGs as any of the following compounds CO_2, CH_4, N_2O, hydrofluorocarbons (HFC), perfluorocarbons (PFC) and sulfur hexafluoride (SF_6) (California HSC Section 38505(g)).

CO_2 is a colorless, odorless gas consisting of molecules made up of two oxygen atoms and one carbon atom. CO_2 is produced when an organic carbon compound, such as wood, or fossilized organic matter, such as coal, oil, or natural gas, is burned in the presence of oxygen. CO_2 is removed from the atmosphere by CO_2 "sinks", such as absorption by seawater and photosynthesis by ocean dwelling plankton and land plants, including forests and grasslands; however, seawater is also a source of CO_2 to the atmosphere, along with land plants, animals, and soils, when CO_2 is released during respiration. Whereas the natural production and absorption of CO_2 is achieved through the terrestrial biosphere and the ocean, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood.

CH_4 is a colorless, odorless non-toxic gas consisting of molecules made up of four hydrogen atoms and one carbon atom. CH_4 is combustible, and it is the main constituent of natural gas-a fossil fuel. CH_4 is released when organic matter decomposes in low oxygen environments. Natural sources include wetlands, swamps and marshes, termites, and oceans. Human sources include the mining of fossil fuels and transportation of natural gas, digestive processes in ruminant animals, such as cattle, rice paddies and the buried waste in landfills. Over the last 50 years, human activities, such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH_4. Other anthropogenic sources include fossil-fuel combustion and biomass burning.

N_2O is a colorless, non-flammable gas with a sweetish odor, commonly known as "laughing gas", and sometimes used as an anesthetic. N_2O is naturally produced in the oceans and in rainforests. Man-made sources of N_2O include the use of fertilizers in agriculture, nylon and nitric acid production, cars with catalytic converters and the burning of organic matter. Concentrations of N_2O also began to rise at the beginning of the industrial revolution.

Chlorofluorocarbons (CFC) are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically un-reactive in the troposphere (the level of air at the Earth's surface). CFCs have no natural source but were first synthesized in 1928. It was used for refrigerants, aerosol propellants, and cleaning solvents. Because of the discovery that they are able to destroy stratospheric ozone (O_3), an ongoing global effort to halt their production was undertaken and has been extremely successful, so much so that levels of the major CFCs are now remaining steady or declining; however, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

HFCs are synthesized chemicals that are used as a substitute for CFCs. Out of all of the GHGs; HFCs are one of three groups with the highest GWP. HFCs are synthesized for applications, such as automobile air conditioners and refrigerants.

PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

SF_6 is an extremely potent GHG. SF_6 is very persistent, with an atmospheric lifetime of more than 1,000 years. Thus, a relatively small amount of SF_6 can have a significant long-term impact on global climate change. SF_6 is human-made, and the primary user of SF_6 is the electric power industry. Because of its inertness and dielectric properties, it is the industry's preferred gas for electrical insulation, current interruption, and arc quenching (to prevent fires) in the transmission and distribution of electricity. SF_6 is used extensively in high voltage circuit breakers and switchgear, and in the magnesium metal casting industry.

Statewide Greenhouse Gas Emissions Inventory

In 2021, CARB released the California GHG inventory covering calendar year 2019 emissions. In 2019, California emitted 418.2 million gross metric tons of CO_2e including from imported electricity. The current inventory covers the years 2000 to 2019 and is summarized in Table 3.9-1. Data sources used to calculate this GHG inventory include California and Federal agencies, international organizations, and industry associations. The calculation methodologies are consistent with guidance from the IPCC. The 2000 emissions level is the sum total of sources from all sectors and categories in the inventory. The inventory is divided into seven broad sectors and categories in the inventory.

These sectors include agriculture, commercial and residential, electric power, industrial, transportation, recycling and waste, and high GWP gases.

As shown in Table 3.9-1, combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2019, accounting for approximately 39.7 percent of total GHG emissions in the state (CARB 2021).

Table 3.9-1. California Greenhouse Gas Emissions Inventory 2000 to 2019

Sector	Total 2000 Emissions ($MMTCO_2e$)	Total 2018 Emissions ($MMTCO_2e$)
Agriculture	30.97	31.8
Commercial and Residential	43.95	43.8
Electric Power	104.75	58.8
Industrial	96.18	88.2
Transportation	178.40	166.1
Recycling and Waste	7.67	8.9
High GWP Gases	6.28	20.6

Source: CARB 2021
Notes:
GWP=global warming potential; $MMTCO_2e$=million metric tons of CO_2 equivalent

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California.

The California Natural Resources Agency's Fourth Climate Change Assessment (Fourth Assessment) produced updated climate projections that provide state-of-the-art understanding of different possible climate futures for California. The science is highly certain that California (and the world) will continue to warm and experience greater impacts from climate change in the future. While the IPCC and the National Climate Assessment have released descriptions of scientific consensus on climate change for the world and the U.S., respectively, the Fourth Assessment summarizes the current understanding of climate impacts and adaptation options in California (California Natural Resources Agency 2018). Projected changes in California include:

- **Temperatures:** If GHG emissions continue at current rates then California will experience average daily high temperatures that are warmer than the historical average by:
  - 2.7 Fahrenheit (°F) from 2006 to 2039
  - 5.8°F from 2040 to 2069
  - 8.8°F from 2070 to 2100
- **Wildfire:** One Fourth Assessment model suggests large wildfires (greater than 25,000 acres) could become 50 percent more frequent by the end of century if emissions are not reduced. The model produces more years with extremely high areas burned, even compared to the historically destructive wildfires of 2017 and 2018. By the end of the century, California could

experience wildfires that burn up to a maximum of 178 percent more acres per year than current averages.

- **Sea-Level Rise:** If emissions continue at current rates, the Fourth Assessment model results indicate that total sea-level rise by 2100 is expected to be 54 inches, almost twice the rise that would occur if GHG emissions are lowered to reduce risk.
- **Snowpack:** By 2050, the average water supply from snowpack is projected to decline to 2/3 from historical levels. If emissions reductions do not occur, water from snowpack could fall to less than 1/3 of historical levels by 2100.
- **Agriculture:** Agricultural production could face climate-related water shortages of up to 16 percent in certain regions. Regardless of whether California receives more or less annual precipitation in the future, the state will be dryer because hotter conditions will increase the loss of soil moisture (California Natural Resources Agency 2018).

3.9.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the project.

Federal

At the federal level, there is currently no overarching law related to climate change or the reduction of GHGs. The U.S. EPA is developing regulations under the CAA to be adopted in the near future, pursuant to the U.S. EPA's authority under the CAA. Foremost amongst recent developments have been the settlement agreements between the U.S. EPA, several states, and nongovernmental organizations to address GHG emissions from electric generating units and refineries; the U.S. Supreme Court's decision in Massachusetts v. EPA; and U.S. EPA's "Endangerment Finding," "Cause or Contribute Finding," and "Mandatory Reporting Rule." On September 20, 2013, the U.S. EPA issued a proposal to limit carbon pollution from new power plants. The U.S. EPA is proposing to set separate standards for natural gas-fired turbines and coal-fired units.

Although periodically debated in Congress, no federal legislation concerning GHG limitations has yet been adopted. In Coalition for Responsible Regulation, Inc., et al. v. EPA, the United States Court of Appeals upheld the U.S. EPA's authority to regulate GHG emissions under CAA. Furthermore, under the authority of the CAA, the EPA is beginning to regulate GHG emissions starting with large stationary sources. In 2010, the U.S. EPA set GHG thresholds to define when permits under the New Source Review Prevention of Significant Deterioration standard and Title V Operating Permit programs are required for new and existing industrial facilities. In 2012, U.S. EPA proposed a carbon pollution standard for new power plants.

Corporate Average Fuel Standards

Established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and U.S. EPA jointly administer the CAFE standards. The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.

Fuel efficiency standards for medium-and heavy-duty trucks have been jointly developed by U.S. EPA and NHTSA. The Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018, and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type (U.S. EPA 2011). In 2012, the U.S. EPA and NHTSA also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type (U.S. EPA 2016).

State

Executive Order S-3-05

Executive Order (EO) S-3-05, signed by previous Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the state. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

Executive Order S-01-07

This order, signed by Governor Schwarzenegger, sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. CARB re-adopted the LCFS regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 GHG reduction goals.

Assembly Bill 31 – California Global Warming Solutions Act

In 2006, the California legislature passed Assembly Bill (AB) 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which outlines measures to meet the 2020 GHG reduction goals. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by the end of 2020.

The Scoping Plan is required by AB 32 to be updated at least every five years. The latest update, the 2017 Scoping Plan Update, addresses the 2030 target established by Senate Bill (SB) 32 as discussed below and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include increasing the use of renewable energy in the state, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566,

which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by Executive Order (EO) B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

Senate Bill 100 of 2018

On September 10, 2018, Governor Brown signed SB 100, establishing that 100 percent of all electricity in California must be obtained from renewable and zero-carbon energy resources by December 31, 2045. SB 100 also creates new standards for the Renewable Portfolio Standard (RPS) goals established by SB 350 in 2015. Specifically, the bill increases required energy from renewable sources for both investor-owned utilities and publicly-owned utilities from 50 percent to 60 percent by 2030. Incrementally, these energy providers must also have a renewable energy supply of 33 percent by 2020, 44 percent by 2024, and 52 percent by 2027. California must procure 100 percent of its energy from carbon free energy sources by the end of 2045.

Renewable Portfolio Standard

The RPS promotes diversification of the state's electricity supply and decreased reliance on fossil fuel energy sources. Originally adopted in 2002 with a goal to achieve a 20 percent renewable energy mix by 2020 (referred to as the "initial RPS"), the goals have been accelerated and increased by EOs S-14-08, S-21-09, SB 350, and SB 100.

The RPS is included in CARB's Scoping Plan list of GHG reduction measures to reduce energy sector emissions. It is designed to accelerate the transformation of the electricity sector through such means as investment in the energy transmission infrastructure and systems to allow integration of large quantities of intermittent wind and solar generation. Increased use of renewables would decrease California's reliance on fossil fuels, thus reducing emissions of GHGs from the electricity sector.

Senate Bill 350

The RPS program was further accelerated in 2015 with SB 350 which mandated a 50 percent RPS by 2030. SB 350 includes interim annual RPS targets with three-year compliance periods and requires 65 percent of RPS procurement to be derived from long-term contracts of 10 or more years.

Climate Change Scoping Plan

The Scoping Plan released by CARB in 2008 outlined the state's strategy to achieve the AB 32 goals. This Scoping Plan, developed by CARB in coordination with the Climate Action Team, proposed a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health. It was adopted by CARB at its meeting in December 2008. According to the Scoping Plan, the 2020 target of 427 million $MTCO_2e$ requires the reduction of 169 million $MTCO_2e$, or approximately 28.3 percent, from the state's projected 2020 BAU emissions level of 596 million $MTCO_2e$.

However, in August 2011, the Scoping Plan was re-approved by the Board and includes the Final Supplement to the Scoping Plan Functional Equivalent Document. This document includes expanded analysis of project alternatives as well as updates the 2020 emission projections in light of the current economic forecasts. Considering the updated 2020 BAU estimate of 507 million $MTCO_2e$, only a 16

percent reduction below the estimated new BAU levels would be necessary to return to 1990 levels by 2020. The 2011 Scoping Plan expands the list of nine Early Action Measures into a list of 39 Recommended Actions.

In May 2014, CARB developed; in collaboration with the Climate Action Team, the First Update to California's Climate Change Scoping Plan (Update), which shows that California is on track to meet the near-term 2020 GHG limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32. In accordance with the United Nations Framework Convention on Climate Change, CARB is beginning to transition to the use of the AR4's 100-year GWPs in its climate change programs. CARB has recalculated the 1990 GHG emissions level with the AR4 GWPs to be 431 million $MTCO_2e$; therefore, the 2020 GHG emissions limit established in response to AB 32 is now slightly higher than the 427 million MTCO2e in the initial Scoping Plan.

In December 2017, CARB's Climate Change Scoping Plan was guided by the EO B-30-15 GHG reduction target of 40 percent below 1990 levels by 2030. The 2017 Scoping Plan builds upon the framework established by the initial Scoping Plan and the First Update, while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities (CARB 2017).

CARB adopted the latest update to the Climate Change Scoping Plan in November 2022. The 2022 Scoping Plan for Achieving Carbon Neutrality lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. The Plan includes policies to require direct GHG reductions at some of the State's largest stationary sources and mobile sources. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and-Trade Program, which constrains and reduces emissions at covered sources (CARB 2022b).

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 GHG reduction strategies for these sectors involve statutory mandates affecting vehicle or fuel manufacture, public transit, and public utilities. The reduction strategies employed by CARB are designed to reduce emissions from existing sources as well as future sources.

Senate Bill 97

SB 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directs Office of Planning and Research (OPR) to develop draft CEQA Guidelines "for the mitigation of GHG emissions or the effects of GHG emissions" by July 1, 2009, and directs the Resources Agency to certify and adopt the CEQA Guidelines by January 1, 2010.

On December 30, 2009, the Natural Resources Agency adopted amendments to the CEQA Guidelines in the CCR. The amendments went into effect on March 18, 2010, and are summarized below:

- Climate action plans and other GHG reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the GHG emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. In addition, consideration of several qualitative factors may be used

in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. The Guidelines do not set or dictate specific thresholds of significance.

- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of GHG emissions in Appendix G of the CEQA Guidelines.
- The Guidelines are clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."
- The Guidelines promote the advantages of analyzing GHG impacts on an institutional, programmatic level, and, therefore, approve tiering of environmental analyses and highlights some benefits of such an approach.
- EIRs must specifically consider a project's energy use and energy efficiency potential, pursuant to Appendix F of the CEQA Guidelines.

Senate Bill 375 – Regional Emissions Targets

SB 375 requires that regions within the state which have a metropolitan planning organization (MPO) must adopt a sustainable communities' strategy as part of their RTPs. The strategy must be designed to achieve certain goals for the reduction of GHG emissions. The bill finds that "it will be necessary to achieve significant additional GHG reductions from changed land use patterns and improved transportation. Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 provides that new CEQA provisions be enacted to encourage developers to submit applications and local governments to make land use decisions that will help the state achieve its goals under AB 32," and that "current planning models and analytical techniques used for making transportation infrastructure decisions and for air quality planning should be able to assess the effects of policy choices, such as residential development patterns, expanded transit service and accessibility, the walkability of communities, and the use of economic incentives and disincentives."

Regional

Southern California Association of Governments – 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy

The SCAG is the designated MPO for Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial Counties. CEQA requires that regional agencies like SCAG review projects and plans throughout its jurisdiction. SCAG, as the region's "Clearinghouse," collects information on projects of varying size and scope to provide a central point to monitor regional activity. SCAG has the responsibility of reviewing dozens of projects, plans, and programs every month. Projects and plans that are regionally significant must demonstrate to SCAG their consistency with a range of adopted regional plans and policies.

In September 2020, SCAG adopted the 2020-2045 RTP/SCS. The RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with SB 375, improve public

health, and meet the NAAQS as set forth by the federal CAA (see Section 3.3, Air Quality, of this EIR). The following SCAG goal is applicable to the project:

- Reduce greenhouse gas emissions and improve air quality

As a solar generation facility, the proposed project would improve air quality by reducing the use of fossil fuels in energy production.

Local

County of Imperial

Pursuant to the requirements of SB 97, the Resources Agency adopted amendments to the CEQA Guidelines to provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and climate change impacts. Formal CEQA thresholds for lead agencies must always be established through a public hearing process. Imperial County has not established formal quantitative or qualitative thresholds through a public rulemaking process, but CEQA permits the lead agency to establish a project-specific threshold of significance if backed by substantial evidence, until such time as a formal threshold is approved.

3.9.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to GHG emissions are considered significant if any of the following occur:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs

As discussed in Section 15064.4 of the CEQA Guidelines, the determination of the significance of GHG emissions calls for a careful judgment by the lead agency consistent with the provisions in Section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

1. Quantify greenhouse gas emissions resulting from a project; and/or
2. Rely on a qualitative analysis or performance based standards.

A lead agency should consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment:

1. The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and

3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

South Coast Air Quality Management District's Interim Thresholds

The ICAPCD has not adopted a GHG significance threshold. As previously described, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). Thus, in the absence of any GHG emissions significance thresholds, the projected emissions are compared to the SCAQMD Interim Threshold of 10,000 metric tons of CO_2e annually.

While significance thresholds used in the South Coast Air Basin are not binding on the ICAPCD or County of Imperial (and some elements of SCAQMD's thresholds may not be relevant to the project), they are instructive as a comparative metric of the project's potential combined GHG impact. This threshold is also appropriate as the SCAQMD GHG thresholds were formulated based on similar geography and climate patterns as found in Imperial County and are also employed for use in CEQA GHG analyses in the Riverside County portion of the SSAB, the same air basin that encompasses the proposed project. Therefore, the 10,000-metric ton of CO_2e threshold is appropriate for this analysis.

Methodology

The project-related direct and indirect emissions of GHGs were estimated using the similar methods for quantification of criteria air pollutants, as described in Section 3.4, Air Quality. Emissions were estimated using existing conditions, project construction and operations information, as well as a combination of emission factors from various sources. Where GHG emission quantification was required, combined project emissions were modeled using the CalEEMod, version 2022.1. CalEEMod is a statewide land use emissions computer model designed to quantify potential GHG emissions associated with both construction and operations from a variety of land use projects (Appendix D of this EIR).

Impact Analysis

Impact 3.9-1 Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction and operation of the project would result in a relatively small amount of GHG emissions. The proposed project would generate GHG emissions during construction and routine operational activities.

Construction. During construction, GHG emissions would be generated from the operation of off-road equipment, haul-truck trips, and on-road worker vehicle trips. Table 3.9-2 shows the proposed project's construction-related GHG emissions. As previously described above, in the absence of an established threshold from the ICAPCD, construction emissions were compared to SCAQMD's significance threshold of 10,000 metric tons of CO_2e per year. As shown in Table 3.9-2, construction emissions would result in a maximum of 17,592 metric tons of CO_2e/year.

Table 3.9-2. Estimated Project Construction GHG Emissions

Construction Year	GHG (MTCO2e/year)
2025	17,592
2026	7,606.1
Total	**25,198**

Source: Appendix D of this EIR

Consistent with SCAQMD's recommendations, project construction GHG emissions from all phases of construction activities were amortized over the expected life of the project, which is considered to be 30 years for a solar energy generation facility. Table 3.9-3 shows the total GHG emissions for project construction amortized over a 30-year timeframe would result in 839.93 metric tons of CO_2e per year. Therefore, the construction emissions are less than the SCAQMD's screening threshold of 10,000 metric tons of CO_2e per year. This impact would be less than significant.

Operation. The proposed project would be staffed by 1-2 personnel. Annual operation and maintenance trips to the project site would be negligible, adding up to six trips per day to the existing operations at the plant. Additional sources of GHG emissions associated with operations include those related to landscape equipment use for routine maintenance work, water use, and operation of auxiliary stationary equipment (i.e., emergency diesel generator and emergency diesel fire pump).

As shown in Table 3.9-3, operational emissions would contribute approximately 97 metric tons of CO_2e per year and would be less than the SCAQMD's screening threshold of 10,000 metric tons of CO_2e per year. The total annual GHG emissions for the proposed project are estimated to be 940.89 metric tons of CO_2e per year.

Table 3.9-3. Proposed Project Amortized Annual GHG Emissions

Emission Source	GHG ($MTCO_2e$/year)
Construction (amortized over 30-year life of project)	839.93
Operations (i.e., mobile, area, water)	97
Leaking SF_6	3.96
Total	**940.89**

Source: Appendix D of this EIR

The proposed substation includes new circuit breakers that would potentially be insulated with SF_6. As shown in Table 3.9-3, the project would leak SF_6, contributing approximately 3.96 metric tons of CO_2e per year. It is assumed that up to three circuit breakers will be insulated with SF_6 with an estimated 25 pounds of SF_6 gas per circuit breaker resulting in a total of 75 pounds of SF_6 gas required at the site. Consistent with the IEC standard for new equipment leakage, a 0.5 percent per year leakage rate is assumed (U.S. EPA 2016). Accordingly, an estimated 0.375 pounds (or 3.96 metric tons of CO_2e per year) of SF_6 would be released annually. Regarding management of project-related emissions leaking SF_6, the project would be required to comply with CARB Regulation for Reducing

Sulfur Hexafluoride Emissions from Gas Insulated Switchgear (Title 16, Sections 95350-95359 of the California Code of Regulations). Compliance with this regulatory measure would ensure consistency with intent of Scoping Plan Measure H-6, High Global Warming Potential Gas Reductions from Stationary Sources. Inventories of SF_6 that would be associated with the project would be documented and annually reported to U.S. EPA and CARB. Therefore, with compliance to the regulations mentioned above, implementation of the proposed project would result in a less than significant impact associated with the generation of GHG emissions.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.9-2 Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Project-generated GHG emissions would not exceed either the SCAQMD significance thresholds, which were prepared with the purpose of complying with statewide GHG-reduction efforts. While the project would emit some GHG emissions during construction and a very small amount during operations, the contribution of renewable resource energy production to meet the goals of the Renewable Portfolio Standard (Scoping Plan Measure E-3) would result in a net cumulative reduction of GHG emissions, a key environmental benefit. Scoping Plan Measure E-3, Renewable Portfolio Standard, of the Climate Change Scoping Plan requires that all investor-owned utility companies generate 60 percent of their energy demand from renewable sources by the year 2030. Therefore, the short-term minor generation of GHG emissions during construction, which is necessary to create new, low-GHG emitting power-generating facilities, as well as the negligible amount generated during ongoing maintenance operations, would be more than offset by GHG emission reductions associated with solar-generated energy during operation.

Increasing clean, renewable energy is one of the measures identified under the Scoping Plan to reduce statewide GHG emissions. The proposed project would increase output from geothermal resources, a source of low-carbon baseload that replaces fossil fuel use and reduces GHG emissions from power generation.

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 GHGs.

Mitigation Measure(s)

No mitigation measures are required.

3.9.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Similar to construction activities, decommissioning and restoration would result in GHG emissions below allowable thresholds. Construction activities during decommissioning and restoration would adhere to Mitigation Measures AQ-1 through AQ-6 outlined in Section 3.4, Air Quality of this EIR, further reducing GHG emissions. Therefore, the impact is considered less than significant.

Residual

The proposed project's combined GHG emissions would result in a less than significant impact. Project operation would generally be consistent with statewide GHG emission goals and policies including SB 32. Project consistency with applicable plans, policies, and regulations adopted to reduce GHG emissions would ensure that the project would not result in any residual significant and unavoidable impacts with regards to global climate change.

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3.10 Hazards and Hazardous Materials

Information contained in this section is summarized from publicly available information including the Department of Toxic Substances (DTSC) EnviroStor and State Water Resources Control Board's (SWRCB) GeoTracker). A *Hazard Assessment* was conducted for the project to evaluate the potential risk of release associated with the proposed isopentane tanks. This assessment is included in Appendix I of this EIR.

3.10.1 Existing Conditions

A hazardous material is defined as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. The term "hazardous materials" refers to both hazardous substances and hazardous wastes. Under federal and state laws, any material, including waste, may be considered hazardous if it is specifically listed by statute as such or if it is toxic, ignitable, corrosive, or reactive. The potential for an accident is increased in regions near roadways that are frequently used for transporting hazardous material and in regions with agricultural or industrial facilities that use, store, handle, or dispose of hazardous material. Hazardous material incidents are one of the most common technological threats to public health and the environment. Incidents may occur as the result of natural disasters, human error, and/or accidents (Imperial County 2015).

Records Review

EnviroStor

DTSC maintains EnviroStor, a data management system for tracking cleanup, permitting, enforcement and investigation efforts at hazardous waste facilities and sites with known contamination or sites where there may be reasons to investigate further. A desktop review was completed on February 2, 2024, for the project site. No hazards facilities and sites were identified to on the project site or within one mile of the project site (DTSC 2024).

GeoTracker

Geotracker GIS data from the SWRCB was used to review regulatory data about underground fuel tanks, fuel pipelines, and public drinking water supplies. Site information from the Spills, Leaks, Investigations, and Cleanups Program is also included in GeoTracker. A desktop review was completed on February 2, 2024, for the project site. No reported cases were found on the project site or within one mile of the project site (SWRCB 2024).

Hazardous Materials on Project Site

The proposed Dogwood geothermal power plant would be located within the existing fenceline of the Heber 2 Geothermal Energy Complex (HGEC), operated by the Second Imperial Geothermal Company, a subsidiary of ORMAT which includes the Heber 2, Heber South, and Goulds 2 geothermal energy facilities located at 855 Dogwood Road, Heber, CA (APN 054-250-31). There are currently five 10,000-gallon isopentane vessels within the HGEC. Isopentane is a watery colorless liquid with a gasoline-like odor. It is considered to be extremely flammable and has the potential to explode when

heating (International Labour Organization 2014). There are no other isopentane tanks or OECs within the ignition zone identified for the proposed isopentane tank.

Wildfire Risk

The project site is located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan, the potential for a major fire in the unincorporated areas of the County is generally low (County of Imperial 1997). The project site is not located in areas considered wildlands, as the vast majority of the surrounding area is cultivated farmlands. According to the Fire Hazard Severity Zone Viewer provided by the California Department of Forestry and Fire Protection, the project area 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 2023).

Airports

The nearest airport to the project site is the Calexico International Airport, located approximately two miles southeast of the project site. According to Figure 3B of the Imperial County Airport Land Use Compatibility Plan (ALUCP), no portion of the project site is located within the Calexico International Airport's land use compatibility zones (ALUC 1996).

3.10.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the project.

Federal

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Over 5 years, $1.6 billion was collected and the tax went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. The Comprehensive Environmental Response, Compensation, and Liability Act established prohibitions and requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified.

Emergency Planning Community Right-to-know Act of 1986 (42 United States Code 11011 et seq.)

The Emergency Planning Community Right-to-Know Act was included under the Superfund Amendments and Reauthorization Act (SARA) law and is commonly referred to as SARA Title III. Emergency Planning Community Right-to-Know was passed in response to concerns regarding the environmental and safety hazards posed by the storage and handling of toxic chemicals. These concerns were triggered by the disaster in Bhopal, India, in which more than 2,000 people suffered death or serious injury from the accidental release of methyl isocyanate. To reduce the likelihood of such a disaster in the U.S., Congress imposed requirements on both states and regulated facilities.

Emergency Planning Community Right-to-Know establishes requirements for federal, state, and local governments, Indian Tribes, and industry regarding emergency planning and "Community Right-to-Know" reporting on hazardous and toxic chemicals. SARA Title III requires states and local emergency planning groups to develop community emergency response plans for protection from a list of Extremely Hazardous Substances (40 CFR 355). The Emergency Planning Community Right-to-Know provisions help increase the public's knowledge and access to information on chemicals at individual facilities, their uses, and releases into the environment. In California, SARA Title III is implemented through the California Accidental Release Prevention.

Federal Insecticide, Fungicide, and Rodenticide Act

The objective of Federal Insecticide, Fungicide, and Rodenticide Act is to provide federal control of pesticide distribution, sale, and use. All pesticides used in the U.S. must be registered (licensed) by the EPA. Registration assures that pesticides would be properly labeled and that, if used in accordance with specifications, they would not cause unreasonable harm to the environment. Use of each registered pesticide must be consistent with use directions contained on the label or labeling.

Federal Water Pollution Control Act (Clean Water Act)

The objective of the Federal Water Pollution Control Act, commonly referred to as the CWA, is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. The oil SPCC Program of the CWA specifically seeks to prevent oil discharges from reaching waters of the U.S. or adjoining shorelines. Further, farms are subject to the SPCC rule if they:

- Store, transfer, use, or consume oil or oil products
- Could reasonably be expected to discharge oil to waters of the U.S. or adjoining shorelines. Farms that meet these criteria are subject to the SPCC rule if they meet at least one of the following capacity thresholds:
    - Aboveground oil storage capacity greater than 1,320 gallons
    - Completely buried oil storage capacity greater than 42,000 gallons

However, the following are exemptions to the SPCC rule:

- Completely buried storage tanks subject to all the technical requirements of the underground storage tank regulations
- Containers with a storage capacity less than 55 gallons of oil
- Wastewater treatment facilities
- Permanently closed containers
- Motive power containers (e.g., automotive or truck fuel tanks)

Hazardous Materials Transport Act – Code of Federal Regulations

The Hazardous Materials Transportation Act was published in 1975. Its primary objective is to provide adequate protection against the risks to life and property inherent in the transportation of hazardous material in commerce by improving the regulatory and enforcement authority of the Secretary of

Transportation. A hazardous material, as defined by the Secretary of Transportation is, any “particular quantity or form” of a material that “may pose an unreasonable risk to health and safety or property.”

Occupational Safety and Health Administration

Occupational Safety and Health Administration’s (OSHA) mission is to ensure the safety and health of America's workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. OSHA standards are listed in 29 CFR Part 1910.

The OHSA Process Safety Management of Highly Hazardous Chemicals (29 CFR Part 110.119) is intended to prevent or minimize the consequences of a catastrophic release of toxic, reactive, flammable, or explosive highly hazardous chemicals by regulating their use, storage, manufacturing, and handling. The standard intends to accomplish its goal by requiring a comprehensive management program integrating technologies, procedures, and management practices.

Resource Conservation and Recovery Act

The goal of the Resource Conservation and Recovery Act, a federal statute passed in 1976, is the protection of human health and the environment, the reduction of waste, the conservation of energy and natural resources, and the elimination of the generation of hazardous waste as expeditiously as possible. The Hazardous and Solid Waste Amendments of 1984 significantly expanded the scope of RCRA by adding new corrective action requirements, land disposal restrictions, and technical requirements. The corresponding regulations in 40 CFR 260-299 provide the general framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste.

State

California Department of Conservation, Division of Oil, Gas, and Geothermal Resources

The Division of Oil, Gas, and Geothermal Resources was formed in 1915 to address the needs of the state, local governments, and industry by regulating statewide oil and gas activities with uniform laws and regulations. The Division supervises the drilling, operation, maintenance, and plugging and abandonment of onshore and offshore oil, gas, and geothermal wells, preventing damage to: (1) life, health, property, and natural resources; (2) underground and surface waters suitable for irrigation or domestic use; and (3) oil, gas, and geothermal reservoirs. The Division’s programs include: well permitting and testing; safety inspections; oversight of production and injection projects; environmental lease inspections; idle-well testing; inspecting oilfield tanks, pipelines, and sumps; hazardous and orphan well plugging and abandonment contracts; and subsidence monitoring.

California Department of Toxic Substances Control

DTSC regulates hazardous waste, cleans-up existing contamination, and looks for ways to reduce the hazardous waste produced in California. Approximately 1,000 scientists, engineers, and specialized support staff are responsible for ensuring that companies and individuals handle, transport, store, treat, dispose of, and clean-up hazardous wastes appropriately. Through these measures, DTSC contributes to greater safety for all Californians, and less hazardous waste reaches the environment.

On January 1, 2003, the Registered Environmental Assessor program joined DTSC. The program certifies environmental experts and specialists as being qualified to perform a number of environmental

assessment activities. Those activities include private site management, Phase I ESAs, risk assessment, and more.

California Division of Occupational Safety and Health

The California Division of Occupational Safety and Health protects workers and the public from safety hazards through its programs and provides consultative assistance to employers. California Division of Occupational Safety and Health issues permits, provides employee training workshops, conducts inspections of facilities, investigates health and safety complaints, and develops and enforces employer health and safety policies and procedures.

California Environmental Protection Agency

California Environmental Protection Agency and the SWRCB establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable state and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act
- Air Toxics Hot Spots and Emissions Inventory Law
- Underground Storage of Hazardous Substances Act
- Porter-Cologne Water Quality Control Act

Within Cal-EPA, DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law.

California Emergency Response Plan

California has developed an Emergency Response Plan to coordinate emergency services provided by federal, state, and local government and private agencies. Response to hazardous materials incidents is one part of this plan. The plan is managed by the State Office of Emergency Services (OES), which coordinates the responses of other agencies including Cal-EPA, the California Highway Patrol, CDFW, RWQCB, Imperial County Sheriff's Department, ICFD, and the City of Imperial Police Department.

Local

Imperial County General Plan

The Seismic and Public Safety Element identifies goals and policies that will minimize the risks associated with natural and human-made hazards, and specify the land use planning procedures that should be implemented to avoid hazardous situations. The purpose of the Seismic and Public Safety Element is to reduce the loss of life, injury, and property damage that might result from disaster or accident. In addition, the Element specifies land use planning procedures that should be implemented to avoid hazardous situations. The policies listed in the Seismic and Public Safety Element are not applicable to the proposed project, as they address human occupancy development.

Imperial County Public Health Department

DTSC was appointed the Certified Unified Program Agency (CUPA) for Imperial County in January 2005. The Unified Program is the consolidation of 6 state environmental programs into one program under the authority of a CUPA. The CUPA inspects businesses or facilities that handle or store hazardous materials, generate hazardous waste, own or operate ASTs or USTs, and comply with the California Accidental Release Prevention Program. The CUPA Program is instrumental in accomplishing this goal through education, community and industry outreach, inspections and enforcement.

County of Imperial Office of Emergency Services

As part of the ICFD, the County OES is mandated by the California Emergency Services Act (Chapter 7, Division 1, Title 2 of Government Code) to serve as the liaison between the State and all the local government in the County. The OES provides centralized emergency management during major disasters, and coordinates emergency operations between various local jurisdictions within the County. The OES has developed several plans, consistent with federal and state policy guidance, to provide the County and participating local jurisdictions and agencies a framework for conducting emergency planning, response, and recovery operations, and handling of hazardous substances.

Imperial County Airport Land Use Compatibility Plan

The Imperial County 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.

3.10.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project-related impacts related to hazards and hazardous materials, the methodology employed for the evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to hazards and hazardous materials are considered significant if any of the following occur:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment

- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires

Methodology

This analysis evaluates the potential for the project, as described in Chapter 2, Project Description to result in significant impacts related to hazards and hazardous materials on or within the 1-mile buffer zone of the project site. This analysis considers whether these conditions would result in an exceedance of one or more of the applied significance criteria as identified above.

Information from Envirostor and GeoTracker were reviewed to present the existing conditions, in addition to identifying potential environmental impacts, based on the significance criteria presented above. Impacts associated with hazards and hazardous materials that could result from project construction and operational activities were evaluated qualitatively based on site conditions; expected construction practices; materials, locations, duration of project construction, and related activities. The conceptual site plan for the project was also used to evaluate potential impacts.

Impact Analysis

Impact 3.10-1 Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Although considered minimal, it is anticipated that the proposed project will use the following materials during construction, operation, and long-term maintenance: insulating oil (used for electrical equipment), lubricating oil (used for maintenance vehicles), various solvents/detergents (equipment cleaning), and gasoline (used for maintenance vehicles). These materials have the potential to be released into the environment as a result of natural hazard (i.e., earthquake) related events, or because of human error. However, all materials contained on project site will be stored in appropriate containers (not to exceed a 55-gallon drum) protected from environmental conditions, including rain, wind, and direct heat and physical hazards such as vehicle traffic and sources of heat and impact. In addition, if the on-site storage of hazardous materials necessitate, at any time during construction and/or operations and long-term maintenance, quantities in excess of 55-gallons, a hazardous material management program (HMMP) would be required. The HMMP developed for the projects will include, at a minimum, procedures for:

- Hazardous materials handling, use and storage
- Emergency response
- Spill control and prevention
- Employee training
- Record keeping and reporting

Spill response plans would be developed prior to project construction and operation or prior to the storage on-site of an excess of 55 gallons of hazardous materials, and personnel would be made aware of the procedures for spill cleanup and the procedures to report a spill. Spill cleanup materials and equipment appropriate to the type and quantity of chemicals and petroleum products expected would be located onsite and personnel shall be made aware of their location.

The small quantities of chemicals to be stored at the project site during construction include equipment and facilities maintenance chemicals. These materials would be stored in their appropriate containers in an enclosed and secured location, such as portable outdoor hazardous materials storage cabinets equipped with secondary containment to prevent contact with rainwater. The portable chemical storage cabinets may be moved to different locations around the project site as construction activity locations shift. The chemical storage area would not be located immediately adjacent to any drainage. Disposal of excess materials and wastes would be performed in accordance with local, state, and federal regulations. Additionally, hazardous material storage and management will be conducted in accordance with requirements set forth by the ICFD, Imperial County Office of Emergency Services, DTSC, and CUPA for storage and handling of hazardous materials. Further, construction activities would occur according to OSHA regulatory requirements.

Hazard Assessment – Isopentane Storage/Use

The OEC units for the proposed Dogwood geothermal plant require the installation of two 20,000-gallon isopentane vessels for storage of motive fluid used in geothermal energy production. Isopentane is a regulated substance by the USEPA. The HGEC is classified as Prevention Program 3 and is regulated by USEPA's Risk Management Program for Chemical Accidental Release Prevention (40 CFR 68 .20-68.42) because isopentane is stored on site in excess of 10,000 lbs. Isopentane would be delivered to the project site by a licensed commercial transport company, in accordance with US DOT regulations for the transport of dangerous goods.

A Hazard Assessment (HA) was prepared to assess the potential effects and risks of the additional isopentane storage/use by the proposed Dogwood geothermal plant (Appendix I of this EIR). The HA was conducted to fulfill the Hazard Assessment Offsite Consequence Analysis (OCA) requirements of the following regulations:

- 40 CFR §68.65 – Environmental Protection Agency (EPA) “Risk Management Plan (RMP)”
- 19 CCR 2750.1 to 2750.9 – California Code of Regulation “California Accidental Release Prevention (CalARP) Program”

The HA analyzed the isopentane storage/use by identifying the worst-case scenario and endpoints of concern (as defined by EPA RMP and 40 CFR 68.22) including the following:

1. Explosion (an overpressure of 1 pound per square inch [psi])
2. Radiant heat/Exposure Time (a radiant heat of 5 kW/m^2 for 40 seconds)
3. Lower Flammability Limit (as provided by NFPA)

The Areal Locations of Hazardous Atmospheres (ALOHA) modeling software was used to determine the distance to the endpoint for the worst-case release scenario analysis. Please refer to the Appendix I for a detailed discussion of the modeling assumptions. The vulnerability zone resulting from this analysis was then reviewed. A vulnerability zone is defined as a circle whose center is the point of

release and its radius is the length of the endpoint, which is predicted by the dispersion model (e.g., ALOHA).

Using the criteria mentioned above, the HA assessed the worst-case scenario of a catastrophic failure of one of the two new 20,000-gallon isopentane tanks. The storage vessel is capable of storing a maximum of 18,000 gallons of isopentane, taking into account administrative controls. According to the Chevron Philips Chemical Company safety data sheet, the density of isopentane is 5.14 lbs./gal, which yields a total mass of 92,520 pounds of isopentane held in the storage vessel. The worst-case scenario considers the catastrophic failure of the 20,000-gallon isopentane storage vessel, which would result in a release of the entire contents of the vessel, into the secondary containment area. As modeled in the HA, the worst-case scenario event would have an impact up to 0.068 miles, or 357 feet (Table 3.10-1). There are zero residents and zero housing units within 357 feet.

Table 3.10-1. Worst-Case Scenario Results Summary

Worst-Case Release Scenario	Regulated Substance	Endpoint	Endpoint Distance
20,000 gallon	Isopentane	Overpressure of 1 pound per square inch	119 yards/ 357 feet/ 0.068 miles

Source: Appendix I of this EIR

The HA model contains built in mitigation assumptions. Specifically, once a release has occurred, mitigation systems (structures, equipment, or activities) that help minimize the transport of material to the atmosphere would be activated. Mitigation systems can be characterized as passive or active systems:

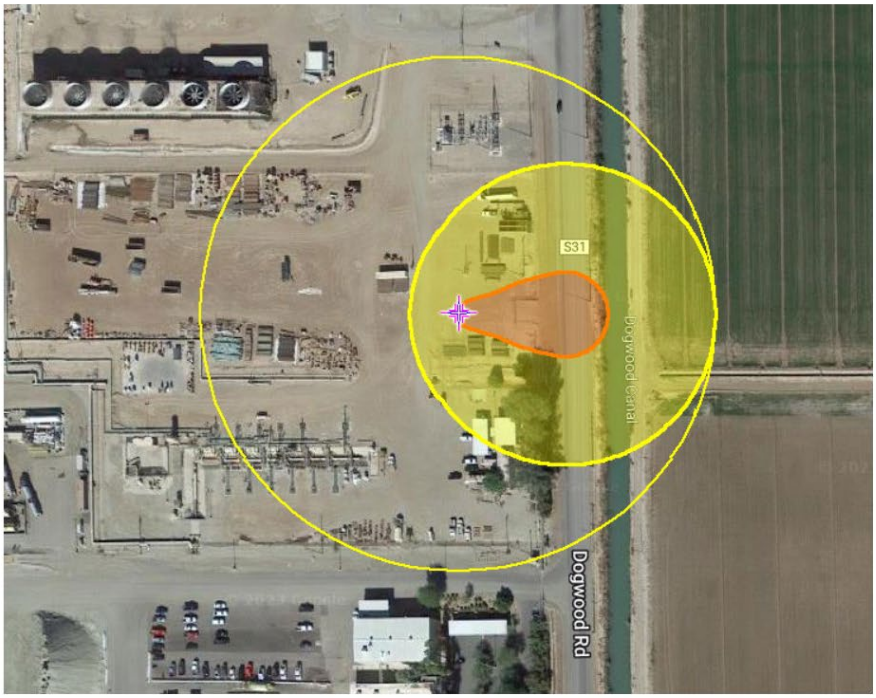
- ***Passive mitigation*** systems do not require activation, an energy source, or movement of components to perform their intended function.

- ***Active mitigation*** systems do require activation, an energy source, and/or movement of components to perform their intended function.

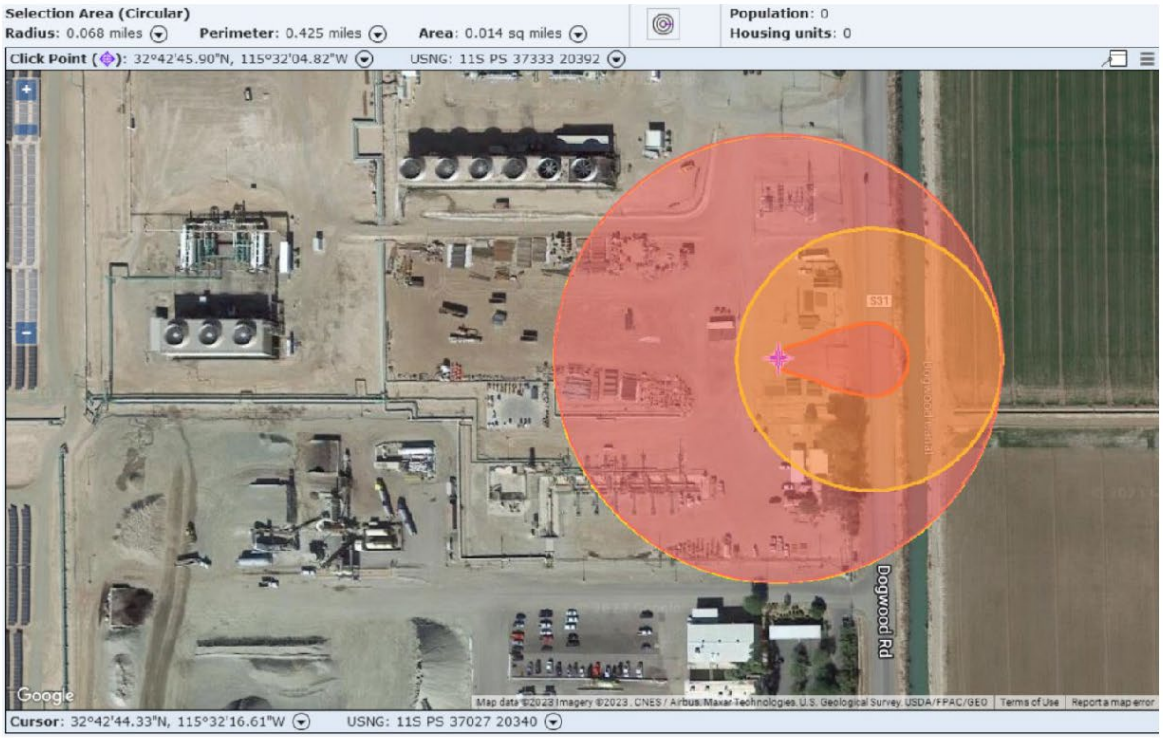
For the worst-case release scenario, the secondary containment area built with concrete around the isopentane vessel was considered as a passive mitigation system in the offsite consequence analysis. The dimensions of the containment area determine the surface area of the pool of isopentane that will lead to the worst-case scenario of the vapor cloud explosion. There are no other isopentane or OECs within the ignition zone associated with the proposed isopentane tank; therefore, the would be no associated cascading ignition events.

The closest potentially affected public receptors during a worst-case scenario are the residences approximately 3,500 feet to the northeast of the isopentane tanks. However, the proposed location of the proposed isopentane storage tanks is 125 feet from S. Dogwood Road. As shown in Figure 3.10-1, if a member of the public were driving along S. Dogwood Road at the time of the worst-case scenario they could suffer injury. In addition, fire rescue crews could also suffer injury responding to an isopentane leak or explosion; therefore, there is a potentially significant impact to the public through the use of isopentane. Implementation of Mitigation Measure HAZ-1 would reduce potential hazards to the public attributed to the storage, transport, and use of isopentane motive fluid to levels less than significant.

Figure 3.10-1. Worst-Case Modeling



WCS MARPLOT 5.1.1 Map for Isopentane Storage Vessel



Receptors Within the Threat Zone

Source: Appendix I of this EIR

Mitigation Measure(s)

HAZ-1 **Isopentane Management Measures.** A certified fire protection engineer survey and analysis of current and proposed fire suppression and detection equipment will be performed to evaluate the current systems performance and coverage of protection prior to construction. This analysis will evaluate proposed fire suppression and detection equipment in conjunction with existing equipment and be reviewed and approved by the Imperial County Fire Department and OES prior to building permits approval. The following measures will be required for the project:

1. All isopentane storage tanks will be protected by approved automatic fire suppression equipment. All automatic fire suppression will be installed and maintained to the current adapted fire code and regulation.
2. An approved automatic fire detection system will be installed as per the California Fire Code. All fire detection systems will be installed and maintained to the current adapted fire code and regulations.
3. Fire department access roads and gates will be in accordance with the current adapted fire code and the facility will maintain a Knox Box for access on site.
4. Applicants will provide product containment areas(s) for both product and water run-off in case of fire applications and retained for removal.
5. Each tank will be equipped with an automated water suppression system.
6. Each tank will be equipped with two flame detectors and one gas detector (for a total of 4 flame detectors and 2 gas detectors for the two tanks).
    a. In the case of an isopentane leak, the gas detector(s) will detect it immediately and send a notification to the operator at the control room (manned 24/7) to mobilize fixing the leak.
    b. In case of a fire, the flame detector(s) will detect it and immediately start the automatic fire suppression system.
    c. In case of a fire, there will also be a horn and strobe system that will turn on automatically to alert the plant employees.
7. Concrete containment areas will be constructed for the isopentane tanks.
8. Isopentane vessels will rarely be filled to 90 percent capacity.
9. Isopentane safety-control measures will be established.
10. A blast wall will be built between the two proposed isopentane vessels.
11. Diking and impoundment of the proposed isopentane tanks shall be installed to minimize the magnitude and extent of a tank failure.

Significance after Mitigation

Implementation of Mitigation Measure HAZ-1 would require a certified fire protection engineer survey and analysis of current and proposed fire suppression and detection equipment to be performed to evaluate the current systems performance and coverage of protection prior to construction. This would ensure that the proposed isopentane tanks are designed to be equipped with fire suppression systems.

Implementation of Mitigation Measure HAZ-1 would reduce potential hazards to the public attributed to the storage, transport, and use of isopentane motive fluid to levels less than significant.

Impact 3.10-2 ***Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?***

As discussed under Impact 3.10-1, a HA for the worst-case scenario leak/release of isopentane was conducted. Despite the closest residents being outside the radius of concern (399 feet) from the simulated explosion, there is still a potentially significant hazard to members of the public (Figure 3.10-2). This would occur if a member of the public was using S. Dogwood Rd adjacent to the isopentane tank at the time of the worst-case scenario explosion. In addition, there is a potentially significant hazard created for first responders responding to the potential explosion. Hazards include fire, exposure to vapors, and potential burns. However, through the implementation of Mitigation Measure HAZ-1, the potentially significant hazard to the public through reasonably foreseeable upset and accident conditions involving the release of isopentane would be reduced to a less than significant level.

In addition, a review of information from EnviroStor and GeoTracker reveals the project site is not listed as a hazardous materials site and there are no active sites that require cleanup, such as LUST Sites, Department of Defense Sites, and Cleanup Program Sites within one mile of the project site. No significant hazard to the public is anticipated attributable to past hazardous materials or active cleanups sites.

Mitigation Measure(s)

No additional mitigation measures beyond Mitigation Measure HAZ-1 are required.

Impact 3.10-3 ***Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?***

The project site is not located within one-quarter mile of an existing school. The closest school is Heber Elementary School, located approximately 0.60 miles to the north of the project site. Therefore, the project would have no impact on emitting or handling hazardous or acutely hazardous materials substances or waste within one-quarter mile of an existing or proposed school.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.10-4 ***Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?***

As discussed under Impact 3.10-2, the project site is not listed as a hazardous materials site on EnviroStor and GeoTracker. Therefore, implementation of the project would result in no impact related to the project site being located on a listed hazardous materials site pursuant to Government Code Section 65962.5.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.10-5 ***For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?***

The nearest airport to the project site is the Calexico International Airport, located approximately two miles southeast of the project site. According to Figure 3B of the Imperial County Airport Land Use Compatibility Plan (ALUCP), no portion of the project site is located within the Calexico International Airport's land use compatibility zones (ALUC 1996). Therefore, implementation of the proposed project would not result in a safety hazard or excessive noise for people residing or working in the project area. No impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.10-6 ***Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?***

Imperial County Office of Emergency Services has provided three plans addressing evacuation and evacuation responsibilities for County Fire, Police, and the OES among other topics related to emergency preparedness. The three plans (IC Emergency Operations Plan; Multi-Jurisdiction Hazard Mitigation Plan; and Hazardous Materials Area Plan) do not identify specific evacuation routes.

The project applicants would coordinate any construction activities and use of oversized loads or movement of construction/decommissioning equipment with Imperial County Department of Public Works (ICDPW) and/or California Department of Transportation (Caltrans) and the El Centro Highway Patrol office. Further, the project applicants shall coordinate with DPW for any requested dedication of rights-of-way needed for S. Dogwood Road for the consideration of existing and any future road needs. Lastly, the project applicants shall file for an encroachment permit for any work or proposed work in the affected County or Caltrans road rights-of-way and for any and all new, altered or unauthorized existing driveway(s) to access the lot or lots and for any proposed road crossings. Thus, the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, the project would result in a less than significant impact associated with the possible impediment to emergency response plans or emergency evacuation plans.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.10-7 ***Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?***

The project site is located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan, the potential for a major fire in the unincorporated areas of the County is generally low (County of Imperial 1997). The project site is not located in areas

considered wildlands, as the vast majority of the surrounding area is cultivated farmlands. According to the Fire Hazard Severity Zone Viewer provided by the California Department of Forestry and Fire Protection, the project area 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 2023). Therefore, there would be no impact associated with risk involving wildland fires.

Mitigation Measure(s)

No mitigation measures are required.

3.10.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

During decommissioning and restoration of the project site, the applicants or its successor in interest would be responsible for the removal, recycling, and/or disposal of all solar arrays, inverters, transformers and other structures on the project site. The project applicants anticipate using the best available recycling measures at the time of decommissioning.

Solar panels are considered an RCRA-regulated waste. Solar panels used for the proposed solar facilities may contain materials such as cadmium, lead, or selenium. Thus, solar panels would be required to be disposed of at facilities permitted to accept such material (Class I; hazardous wastes). Clean Harbors Waste north of the project site is permitted to dispose of Class 1 waste materials and would be utilized to prevent any impact associated with their disposal.

Decommissioning/restoration activities would not result in a potential impact associated with wildfires (the project site is not susceptible to wildfires) or impediment to an emergency plan.

Residual

Implementation of Mitigation Measure HAZ-1 would reduce potential hazards to the public attributed to the storage, transport, and use of isopentane motive fluid to levels less than significant. Adherence to federal, state and local regulations will ensure that impacts related to the transportation of hazardous materials and potential fires would be reduced to levels less than significant. Based on these circumstances, the proposed project would not result in residual significant and unmitigable impacts related to hazards and hazardous materials.

3.11 Hydrology/Water Quality

This section provides a description of existing water resources within the project area and pertinent local, state, and federal plans and policies. Each subsection includes descriptions of existing hydrology/drainage, existing flooding hazards, and the environmental impacts on hydrology and water quality resulting from implementation of the proposed project, and mitigation measures where appropriate. The impact assessment provides an evaluation of potential adverse effects to water quality based on criteria derived from CEQA Guidelines in conjunction with actions proposed in Chapter 2, Project Description.

3.11.1 Existing Conditions

Drainage

The project site is within the Imperial Valley Planning Area of the Colorado River Basin. The Colorado River Basin Region covers approximately 13 million acres (20,000 square miles) in the southeastern portion of California. It includes all of Imperial County and portions of San Bernardino, Riverside, and San Diego Counties. The Colorado River Basin Region is divided into seven major planning areas on the basis of different economic and hydrologic characteristics (California RWQCB 2019).

The Imperial Valley is characterized as a closed basin and, therefore, all runoff generated within the watershed discharges into the Salton Sea. The southern portion of the project site is located within the New River watershed (Hydrologic Unit Code [HUC-10] 1810020411) and the northern portion of the project site is located within the Alamo River watershed ([HUC-10] 1810020408) (USGS 2023a).

As shown in Figure 3.11-1, the Central Main Canal and several smaller IID canals and drains pass through the project area. The alfalfa fields in the project area are graded for flood irrigation and most were undergoing irrigation during the survey and were either very muddy or had standing water. The v-ditches present in the solar energy field are all concrete lined (Appendix F of this EIR).

Flooding

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (Panel 06025C2075C) (FEMA 2008), the project site is within Zone X (unshaded), which is an area determined to be outside of the 0.2 percent annual chance of a flood.

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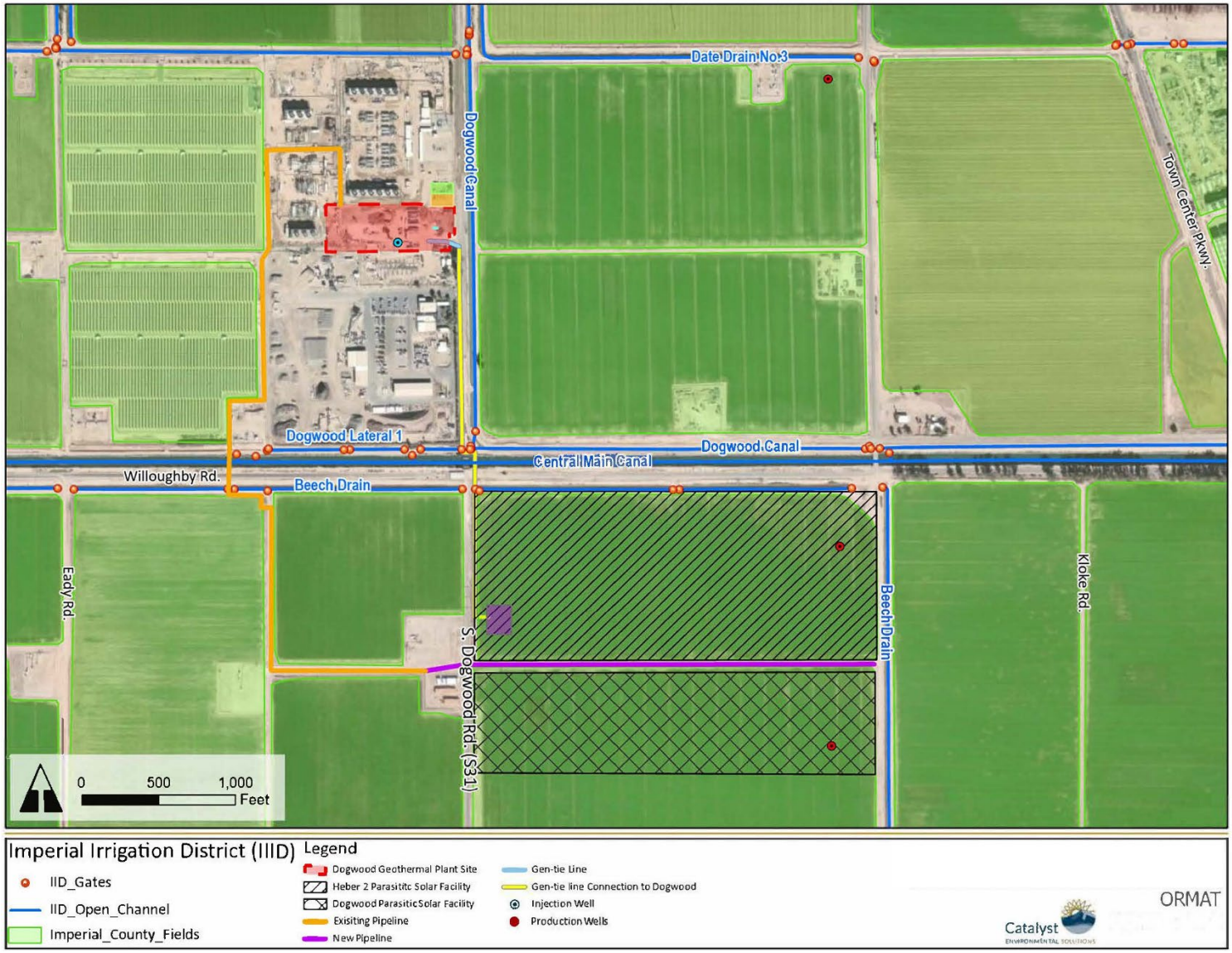
Figure 3.11-1. IID Canals and Drains



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Surface Water Quality

The surface waters of the Imperial Valley depend primarily on the inflow of irrigation water from the Colorado River via the All-American Canal. Excessive salinity concentrations have long been one of the major water quality problems of the Colorado River, a municipal and industrial water source to millions of people, and a source of irrigation water for approximately 700,000 acres of farmland. The heavy salt load in the Colorado River results from both natural and human activities. Land use and water resources are unequivocally linked. A variety of natural and human factors can affect the quality and use of streams, lakes, and rivers. Surface waters may be impacted from a variety of point and non-point discharges. Examples of point sources may include wastewater treatment plants, industrial discharges, or any other type of discharge from a specific location (commonly a large-diameter pipe) into a stream or water body. In contrast, non-point source pollutant sources are generally more diffuse in nature and connected to a cumulative contribution of multiple smaller sources.

Common non-point source contaminants within the project area may include, but are not limited to: sediment, nutrients (phosphorous and nitrogen), trace metals (e.g., lead, zinc, copper, nickel, iron, cadmium, and mercury), oil and grease, bacteria (e.g., coliform), viruses, pesticides and herbicides, organic matter, and solid debris/litter. Vehicles account for most of the heavy metals, fuel and fuel additives (e.g., benzene), motor oil, lubricants, coolants, rubber, battery acid, and other substances. Nutrients result from excessive fertilizing of agricultural areas, while pesticides and herbicides are widely used in agricultural fields and roadway shoulders for keeping right-of-way (ROW) areas clear of vegetation and pests.

Based on the 305(b)/303(d) Integrated Report prepared by the Colorado River Basin RWQCB (SWRCB 2022), the following water features are impaired: Imperial Valley Drains, New River, Alamo River, and the Salton Sea. Specific impairments listed for each of these water bodies (or Category 5) are identified below:

- Imperial Valley Drains: Impaired for ammonia, chlordane, chlorpyrifos, dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), dieldrin, disulfoton, imidacloprid, polychlorinated biphenyls (PCBs), sedimentation/siltation, selenium, toxaphene, and toxicity.
- New River: Impaired for ammonia, bifenthrin, chlordane, chlorpyrifos, cyhalothrin, lambda, cypermethrin, DDD, DDE, DDT, diazinon, dieldrin, disulfoton, hexachlorobenzene, imidacloprid, indicator bacteria, malathion, mercury, naphthalene, nutrients, organic enrichment/low dissolved oxygen, PCBs, pyrethroids, sediment, selenium, toxaphene, toxicity, and trash.
- Alamo River: Impaired for ammonia, chlordane, chlorpyrifos, cyhalothrin, lambda, cypermethrin, DDD, DDT, diazinon, dieldrin, enterococcus, escherichia coli, malathion, PCBs, pyrethroids, sedimentation/siltation, selenium, toxaphene, and toxicity.
- Salton Sea: ammonia, arsenic, chloride, chlorpyrifos, DDE, DDT, enterococcus, low dissolved oxygen, nutrients, salinity, and toxicity.

Groundwater Hydrology

The project site is located within the Imperial Valley Groundwater Basin (Basin No: 7-030), which covers approximately 1,870 surface square miles. The physical groundwater basin extends in the southeastern portion of California at the border with Mexico. The basin lies within the southern part of

the Colorado Desert Hydrologic Region, south of the Salton Sea. The basin has two major aquifers, separated at depth by a semi-permeable aquitard that averages 60 feet thick and reaches a maximum thickness of 280 feet. The average thickness of the upper aquifer is 200 feet with a maximum thickness of 450 feet. The data regarding faults controlling groundwater movement is uncertain; however, as much as 80 feet of fine-grained, low permeability prehistoric lake deposits have accumulated on the valley floor, which result in locally confined aquifer conditions.

Groundwater recharge within the basin is primarily from irrigation return. Other recharge sources are deep percolation of rainfall and surface runoff, underflow into the basin, and seepage from unlined canals which traverse the valley. Groundwater levels within a majority of the basin have remained stable from 1970 to 1990 because of relatively constant recharge and an extensive network of subsurface drains.

Groundwater quality varies extensively throughout the base; however, is generally unusable for domestic and irrigation purposes without treatment (California Department of Water Resources 2004).

3.11.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the project.

Federal

Clean Water Act

The U.S. EPA is the lead federal agency responsible for managing water quality. The CWA of 1972 is the primary federal law that governs and authorizes the U.S. EPA and the states to implement activities to control water quality. The various elements of the CWA that address water quality and that are applicable to the project are discussed below. Wetland protection elements administered by the USACE under Section 404 of the CWA, including permits for the discharge of dredged and/or fill material into waters of the United States, are discussed in Section 3.5, Biological Resources.

Under federal law, the U.S.EPA has published water quality regulations under Volume 40 of the CFR. Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the U.S. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question; and (2) criteria that protect the designated uses. Section 304(a) requires the U.S.EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. The U.S. EPA is the federal agency with primary authority for implementing regulations adopted under the CWA. The U.S.EPA has delegated the State of California the authority to implement and oversee most of the programs authorized or adopted for CWA compliance through the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act), described below.

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the U.S. must obtain a water quality certification from the SWRCB in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate.

CWA Section 402 establishes the National Pollution Discharge Elimination System (NPDES) permit program to control point source discharges from industrial, municipal, and other facilities if their

discharges go directly to surface waters. The 1987 amendments to the CWA created a new section of the CWA devoted to regulating storm water or nonpoint source discharges (Section 402[p]). The U.S.EPA has granted California primacy in administering and enforcing the provisions of the CWA and the NPDES program through the SWRCB. The SWRCB is responsible for issuing both general and individual permits for discharges from certain activities. At the local and regional levels, general and individual permits are administered by RWQCBs.

Clean Water Act Section 303(d) Impaired Waters List

CWA Section 303(d) requires states to develop lists of water bodies that will not attain water quality standards after implementation of minimum required levels of treatment by point-source dischargers. Section 303(d) requires states to develop a total maximum daily load (TMDL) for each of the listed pollutants and water bodies. A TMDL is the amount of loading that the water body can receive and still be in compliance with applicable water quality objectives and applied beneficial uses. TMDLs can also act as a planning framework for reducing loadings of a specific pollutant from various sources to achieve compliance with water quality objectives. TMDLs prepared by the state must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows links between loading reductions and the attainment of water quality objectives.

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations that limit development in floodplains. FEMA also issues Flood Insurance Rate Maps (FIRM) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection covered by the FIRM is established by FEMA, with the minimum level of flood protection for new development determined to be the 1-in-100 (0.01) annual exceedance probability) (i.e., the 100-year flood event).

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, also known as the California Water Code, is California's statutory authority for the protection of water quality. Under this act, the state must adopt water quality policies, plans, and objectives that protect the state's waters. The act sets forth the obligations of the State Water Resources Control Board (SWRCB) and RWQCBs pertaining to the adoption of Water Quality Control Plans and establishment of water quality objectives. Unlike the CWA, which regulates only surface water, the Porter-Cologne Act regulates both surface water and groundwater.

Water Quality Control Plan for the Colorado River Basin

The Water Quality Control Plan for the Colorado River Basin (or Basin Plan) prepared by the Colorado River RWQCB (Region 7) identifies beneficial uses of surface waters within the Colorado River Basin region, establishes quantitative and qualitative water quality objectives for protection of beneficial uses, and establishes policies to guide the implementation of these water quality objectives.

Water bodies that have beneficial uses that may be affected by construction activity and post-construction activity include the Imperial Valley Drains, Alamo River, and the Salton Sea. Table 3.11-1 identifies the designated beneficial uses established for the project site's receiving waters. The following are definitions of the applicable beneficial uses:

- Aquaculture (AQUA) – Uses of water for aquaculture or mariculture operations including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or bait purposes.

- Freshwater Replenishment (FRSH) – Uses of water for natural or artificial maintenance of surface water quantity or quality.

- Industrial Service Supply (IND) – Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, and oil well repressurization.

- Hydrowater Generation (POW) – Use of water for hydropower generation.

- Water Contact Recreation (REC I) – Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, and use of natural hot springs.

- Non-contact Water Recreation (REC II) – Uses of water for recreational activities involving proximity to water, but not normally involving contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

- Warm Freshwater Habitat (WARM) – Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

- Wildlife Habitat (WILD) – Uses of water that support terrestrial ecosystems including, but not limited to, the preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

- Preservation of Rare, Threatened, or Endangered Species (RARE) – Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered.

Table 3.11-1. Beneficial Uses of Receiving Waters

Beneficial Uses	Imperial Valley Drains	Alamo River	Salton Sea
AQUA	--	--	X
FRSH	X	X	--

Beneficial Uses	Imperial Valley Drains	Alamo River	Salton Sea
IND	--	--	P
POW		P	--
REC I	X	X	X
REC II	X	X	X
WARM	X	X	X
WILD	X	X	X
RARE	X	X	X

Source: RWQCB 2023

AQUA=aquaculture; FRSH=freshwater replenishment; IND=industrial service supply; P=Potential Uses; POW = Hydrowater Generation; RARE=Preservation of Rare, Threatened, or Endangered Species; REC 1= water contact recreation; REC II=non-contact water recreation; WARM=Warm Freshwater Habitat; WILD=Wildlife Habitat; X=existing beneficial uses

National Pollution Discharge Elimination System General Industrial and Construction Permits

The NPDES General Industrial Permit requirements apply to the discharge of stormwater associated with industrial sites. The permit requires implementation of management measures that will achieve the performance standard of the best available technology economically achievable and best conventional pollutant control technology. Under the statute, operators of new facilities must implement industrial BMPs in the projects' Stormwater Pollution Prevention Plan (SWPPP) and perform monitoring of stormwater discharges and unauthorized non–stormwater discharges.

Construction activities are regulated under the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit) which covers stormwater runoff requirements for projects where the total amount of ground disturbance during construction exceeds 1 acre. Coverage under a General Construction Permit requires the preparation of a SWPPP and submittal of a Notice of Intent (NOI) to comply with the General Construction Permit. The SWPPP includes a description of BMPs to minimize the discharge of pollutants from the sites during construction. Typical BMPs include temporary soil stabilization measures (e.g., mulching and seeding), storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or stormwater, and using filtering mechanisms at drop inlets to prevent contaminants from entering storm drains. Typical post-construction management practices include street sweeping and cleaning stormwater drain inlet structures. The NOI includes site-specific information and the certification of compliance with the terms of the General Construction Permit.

Local

County of Imperial General Plan

The Water Element and the Conservation and Open Space Element of the General Plan contain policies and programs, created to ensure water resources are preserved and protected. Table 3.11-2 identifies the General Plan policies and programs for water quality and flood hazards that are relevant to the project and summarizes the project's consistency with the General Plan. While this EIR analyzes the project's consistency with the General Plan pursuant to CEQA Guidelines Section

15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

County of Imperial Land Use Ordinance, Title 9

The County's Ordinance Code provides specific direction for the protection of water resources. Applicable ordinance requirements are contained in Division 10, Building, Sewer and Grading Regulations, and summarized below.

Chapter 10 – Grading Regulations. Section 91010.02 of the Ordinance Code outlines conditions required for issuance of a Grading Permit. These specific conditions include:

1. If the proposed grading, excavation or earthwork construction is of irrigatable land, said grading will not cause said land to be unfit for agricultural use.

2. The depth of the grading, excavation or earthwork construction will not preclude the use of drain tiles in irrigated lands.

3. The grading, excavation or earthwork construction will not extend below the water table of the immediate area.

4. Where the transition between the grading plane and adjacent ground has a slope less than the ratio of 1.5 feet on the horizontal plane to 1 foot on the vertical plane, the plans and specifications will provide for adequate safety precautions.

Table 3.11-2. Project Consistency with Applicable General Plan Policies

General Plan Policies	Consistency with General Plan	Analysis
Conservation and Open Space Element		
Goal 6: The County will conserve, protect, and enhance water resources in the County.	Consistent	The proposed project would protect water quality during construction through compliance with Imperial County design and detention requirements and the NPDES General Construction Permit, as well as preparation and implementation of project-specific SWPPPs, which will incorporate the requirements referenced in the State Regulatory Framework, design features, and BMPs.
Objective 6.3: Protect and improve water quality and quantity for all water bodies in Imperial County.	Consistent	The proposed project would protect water quality during construction through compliance with the NPDES General Construction Permit, SWPPP, and BMPs. The proposed project would also be designed to include site design, source control, and treatment control BMPs. The use of source control, site design, and treatment BMPs would result in a decrease potential for storm water pollution.

General Plan Policies	Consistency with General Plan	Analysis
Program: Structural development normally shall be prohibited in the designated floodways. Only structures which comply with specific development standards should be permitted in the floodplain.	Consistent	The proposed project does not contain a residential component, nor would it place housing or other structures within a 100-year flood hazard area.
Water Element		
Policy: Adoption and implementation of ordinances, policies, and guidelines which assure the safety of County ground and surface waters from toxic or hazardous materials and/or wastes.	Consistent	The project would preserve ground and surface water quality from hazardous materials and wastes during construction, operation, and decommissioning activities. The proposed project would protect water quality during construction through compliance with NPDES General Construction Permit SWPPP, which will incorporate the requirements referenced in the State Regulatory Framework and BMPs. The proposed project would also be designed to include site design, source control, and treatment control BMPs. The use of source control, site design, and treatment BMPs would result in a decrease potential for storm water pollution. It is anticipated that decommissioning activities would be subject to similar, or more stringent ground and surface water regulations than those currently required.
Program: The County of Imperial shall make every reasonable effort to limit or preclude the contamination or degradation of all groundwater and surface water resources in the County.	Consistent	Mitigation measures will require that the applicant of the proposed project prepare a site-specific drainage plan and water quality management plan to minimize adverse effects to local water resources.
Program: All development proposals brought before the County of Imperial shall be reviewed for potential adverse effects on water quality and quantity and shall be required to implement appropriate mitigation measures for any significant impacts.	Consistent	See response for Water Element Policy above.

Source: Imperial County 2016; Imperial County 1997.

Imperial County Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage and Grading Plans within Imperial County

Based on the guidance contained in the County's *Engineering Guidelines Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage and Grading Plans within Imperial County* (2008), the following drainage requirements would be applicable to the proposed project.

III A. GENERAL REQUIREMENTS

1. All drainage design and requirements are recommended to be in accordance with the IID "Draft" Hydrology Manual or other recognized source with approval by the County Engineer

and based on full development of upstream tributary basins. Another source is the Caltrans I-D-F curves for the Imperial Valley.

3. Permanent drainage facilities and ROW, including access, shall be provided from development to point of satisfactory disposal.

4. Retention volume on retention or detention basins should have a total volume capacity for a three (3) inch minimum precipitation covering the entire site with no C reduction factors. Volume can be considered by a combination of basin size and volume considered within parking and/or landscaping areas.

   There is no guarantee that a detention basin outletting to an IID facility or other storm drain system will not back up should the facility be full and unable to accept the project runoff. This provides the safety factor from flooding by ensuring each development can handle a minimum 3-inch precipitation over the project site.

7. Finish pad elevations should be indicated on the plans, which are at or above the 100-year frequency flood elevation identified by the engineer for the parcel. Finish floor elevations should be set at least 6 inches above the 100-year flood elevation.

8. The developer shall submit a drainage study and specifications for improvements of all drainage easements, culverts, drainage structures, and drainage channels to the Department of Public Works for approval. Unless specifically waived herein, required plans and specifications shall provide a drainage system capable of handling and disposing of all surface waters originating within the subdivision and all surface waters that may flow onto the subdivision from adjacent lands. Said drainage system shall include any easements and structures required by the Department of Public Works or the affected Utility Agency to properly handle the drainage on-site and off-site. The report should detail any vegetation and trash/debris removal, as well as address any standing water.

9. Hydrology and hydraulic calculations for determining the storm system design shall be provided to the satisfaction of the Director, Department of Public Works. When appropriate, water surface profiles and adequate field survey cross-section data may also be required.

11. The County is implementing a storm water quality program as required by the SWRCB, which may modify or add to the requirements and guidelines presented elsewhere in this document. This can include ongoing monitoring of water quality of storm drain runoff, implementation of BMPs to reduce storm water quality impacts downstream or along adjacent properties. Attention is directed to the need to reduce any potential of vectors, mosquitoes, or standing water.

12. A Drainage Report is required for all developments in the County. It shall include a project description, project setting including discussions of existing and proposed conditions, any drainage issues related to the site, summary of the findings or conclusions, off-site hydrology, onsite hydrology, hydraulic calculations and a hydrology map.

Imperial Irrigation District

The IID is an irrigation district organized under the California Irrigation District Law, codified in Section 20500 et seq. of the California Water Code. Critical functions of IID include diversion and delivery of Colorado River water to the Imperial Valley, operation and maintenance of the drainage canals and

facilities, including those in the project area, and generation and distribution of electricity. Several policy documents govern IID operations and are summarized below:

- The Law of the River and historical Colorado River decisions, agreements and contracts
- The Quantification Settlement Agreement and Transfer Agreements
- The Definite Plan, now referred to as the Systems Conservation Plan, which defines the rigorous agricultural water conservation practices being implemented by growers and IID to meet the Quantification Settlement Agreement commitments
- The Equitable Distribution Plan, which defines how IID will prevent overruns and stay within the cap on the Colorado River water rights
- Existing IID standards and guidelines for evaluation of new development and define IID's role as a responsible agency and wholesaler of water

Integrated Water Resources Management Plan

In relation to the project, IID maintains regulation over the drainage of water into their drains, including the design requirements of stormwater retention basins. IID requires that retention basins be sized to handle an entire rainfall event in case the IID system is at capacity. Additionally, IID requires that outlets to IID facilities be no larger than 12 inches in diameter and must contain a backflow prevention device (IID 2012).

3.11.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to hydrology/water quality are considered significant if any of the following occur:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade groundwater water quality
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
    - Result in substantial erosion or siltation on- or off-site
    - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite
    - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff
    - Impede or redirect flood flows
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation

- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

Methodology

The drainage design will be conducted in accordance with the County of Imperial's design criteria, which establishes that 100 percent of the 100-year storm (3 inches of rain) will be stored on-site and released into the IID drainage system using existing drainage connections.

Impact Analysis

Impact 3.11-1 Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade groundwater water quality?

Construction

Construction of the project includes site preparation, grading, foundation construction, dust control, construction of the proposed pipelines, and associated structures will be required. The proposed Dogwood geothermal plant, substation, and new injection well will be located in an area currently used for materials storage and supporting operations. The development area for the proposed Dogwood geothermal plant is completely disturbed from energy generation operations and devoid of any vegetation, surface waters, or existing facilities that would require relocation or demolition. However, the proposed solar and well development sites have canals, drainages, and v-ditches used for irrigation surrounding them.

During the construction phase, sedimentation and erosion could occur because of tracking from earthmoving equipment, erosion and subsequent runoff of soil, or improperly designed stockpiles. The utilization of proper erosion and sediment control Best Management Practices (BMPs) is critical in preventing discharge to surface waters/drains. The proposed project would employ proper SWPPP practices to minimize any discharges in order to meet the Best Available Technology/Best Conventional Technology standard set forth in the Construction General Permit.

The proposed project has the potential to affect surface water quality. Many different types of hazardous compounds will be used during the construction phase, with proper application, management, and containment being of high importance. Poorly managed construction materials can lead to the possibility for exposure of potential contaminants to affect onsite waters such as drainages and canals. When this occurs, these visible and/or non-visible constituents become entrained in storm water runoff. If they are not intercepted or are left uncontrolled, the polluted runoff would otherwise freely sheet flow from the project to the IID Imperial Valley Drains and could result in the accumulation of these pollutants in the receiving waters. This is considered a potentially significant impact.

With the implementation of Mitigation Measure HYD-1, impacts on surface water quality as attributable to the project would be reduced to a less than significant level. Prior to construction and grading activities, the project applicant is required to file an NOI with the SWRCB to comply with the General NPDES Construction Permit and prepare a SWPPP, which addresses the measures that would be included during construction of the project to minimize and control construction and post-construction runoff to the "maximum extent practicable." In addition, NPDES permits require the implementation of BMPs that achieve a level of pollution control to the maximum extent practical. With the implementation of Mitigation Measure HYD-1, impacts on surface water quality as attributable to the project would be reduced to a less than significant level through the inclusion of focused BMPs for the protection of

surface water resources. Monitoring and contingency response measures would be included to verify compliance with water quality objectives for all surface waters crossed during construction. In addition, given that site decommissioning would result in similar activities as identified for construction, these impacts could also occur in the future during site restoration activities.

Operation

The proposed project would result in an increase of approximately 1,400 square-feet of impervious surfaces resulting from installation of equipment footings/foundations. As runoff flows over developed surfaces, water can entrain a variety of potential pollutants including, but not limited to, oil and grease, pesticides, trace metals, and nutrients. These pollutants can become suspended in runoff and carried to receiving waters. These effects are commonly referred to as non-point source water quality impacts.

Long-term operation of the solar facility poses a limited threat to surface water quality after the completion of construction. The project would be subject to the County's Grading Regulations as specified in Section 91010.02 of the Ordinance Code. However, since the project site is located in unincorporated Imperial County and not subject to a Municipal Separate Storm Sewer System, there is no regulatory mechanism in place to address post-construction water quality concerns. Based on this consideration, the project has the potential to result in both direct and indirect water quality impacts that could be significant. Implementation of Mitigation Measure HYD-2 would require the project to incorporate post-construction BMPs into the project's drainage plan. The proposed project will be designed to include site design, source control, and treatment control BMPs, as described below. The use of source control, site design, and treatment BMPs would result in a decrease potential for storm water pollution. As such, upon implementation of Mitigation Measure HYD-2, impacts would be reduced to a level less than significant.

Hazardous materials associated with the operation of the geothermal plant will be stored at the HGEC. Two 20,000-gallon isopentane tanks for motive fluid storage will be located adjacent to the OEC generating unit. The release of the isopentane motive fluid either through natural causes (e.g., earthquake) or accidental (e.g., human error) could impact surface water quality. However, as addressed in Section 3.10, Hazards and Hazardous Materials, of this EIR, significant impacts related to the leak or spill of isopentane would be reduced to a less than significant level with the implementation of Mitigation Measure HAZ-1.

Mitigation Measure(s)

The following mitigation measures would be required:

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)
- 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 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.

HAZ-1 **Isopentane Management Measures.** (See Section 3.10, Hazards and Hazardous Materials, of this EIR).

Significance after Mitigation

With the implementation of Mitigation Measure HYD-1, impacts on surface water quality as attributable to the project would be reduced to a less than significant level through the inclusion of focused BMPs for the protection of surface water resources. Monitoring and contingency response measures would be included to verify compliance with water quality objectives for all surface waters crossed during construction.

With the implementation of Mitigation Measure HYD-2, potential water quality impacts resulting from post-construction discharges during operation for the project would be reduced to a less than significant level. Implementation of Mitigation Measure HYD-2 would require the project to incorporate post-construction BMPs into the project's drainage plan. The use of source control, site design, and treatment BMPs would result in a decrease potential for storm water pollution.

Implementation of Mitigation Measure HAZ-1 would reduce potential hazards to the public attributed to the storage, transport, and use of isopentane motive fluid to levels less than significant.

Impact 3.11-2 ***Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?***

The proposed project would require the drilling of three new geothermal production wells and one new injection well. The production wells would be completed to depths between 1,000 and 4,000 feet. Casing depths will comply with California Department of Conservation – Geologic Energy Management Division (CalGEM) Regulations (Chapter 4, Article 3, Section 1723, 2018). The geothermal production wells will bypass any groundwater reservoirs in favor of geothermal aquifers. Any water needed for fugitive dust control, or other BMPs that require water will be obtained through the project applicant's existing IID contract. No groundwater wells will be drilled, nor will the project require the use of groundwater. As such, no impact on groundwater supply or recharge would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.11-3 ***Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:***

Result in substantial erosion or siltation on- or off-site?

Project implementation would not substantially alter the existing drainage pattern of the site or area. Soil erosion could result during construction of the proposed project in association with grading and earthmoving activities. The project site would be disturbed by construction activities such as grading and clearing as a part of site preparation. To the extent feasible, site preparation would be planned and designed to minimize the amount of earth movement. Compaction of the soil to support building and traffic loads as well as the proposed PV module supports and other associated infrastructure for the project may be required and is dependent on final engineering design. During construction, erosion would be controlled in accordance with County standards which include preparation, review and approval of a grading plan by the County Engineer; implementation of a Dust Control Plan (Rule 801); and compliance with the NPDES General Construction Permit and project-specific SWPPP, as outlined in Mitigation Measure HYD-1.

After construction is complete, all existing roads would be left in a condition equal to or better than their preconstruction condition. All other areas disturbed by construction activities would be recontoured and decompacted. As such, daily operations and routine maintenance (such as occasional PV panel washing) are not anticipated to alter the existing drainage pattern such that erosion increases when compared to existing conditions. The project site would remain largely impervious over the operational life of the project. Additionally, the project would implement site design BMPs, which would reduce soil disturbance during operation. The proposed project would result in less than significant impacts associated with the alteration of drainage patterns resulting in substantial erosion or siltation on- or off-site. Therefore, upon implementation of Mitigation Measure HYD-1, impacts related to erosion would be reduced to a level less than significant.

Mitigation Measure(s)

No additional measures beyond Mitigation Measure HYD-1 are required.

Impact 3.11-4 ***Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:***

Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Project implementation would not substantially alter the existing drainage pattern of the site or area. The majority of the project site would continue to sheet flow through the pervious native soils. The project will be designed to meet County of Imperial storage requirements (100 percent of the 100-year storm (3 inches of rain)) (refer to the County's *Engineering Guidelines Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage and Grading Plans within Imperial County* (2008) for storm water runoff, which will result in an impoundment of runoff in excess of the anticipated volume of runoff to be generated by the 100-year storm event. Additionally, implementation of Mitigation Measure HYD-2 requires that the project Drainage Plan 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. As such, 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.

Additionally, after construction is complete, all existing roads would be left in a condition equal to or better than their preconstruction condition. All other areas disturbed by construction activities would be recontoured and decompacted. As such, daily operations and routine maintenance are not anticipated to alter the existing drainage pattern such that flooding (on- or off-site) increases when compared to existing conditions. Lastly, the project site would remain largely impervious over the operational life of the project. Therefore, the proposed project would result in less than significant impacts associated with the alteration of drainage patterns resulting in on- or off-site flooding. Upon implementation of Mitigation Measure HYD-2, impacts would be less than significant.

Mitigation Measure(s)

No additional measures beyond Mitigation Measure HYD-2 are required.

Impact 3.11-5 ***Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:***

Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Project implementation would not substantially alter the existing drainage pattern of the site or area. During construction, erosion and associated pollutants would be controlled in accordance with County standards which include preparation, review and approval of a grading plan by the County Engineer; implementation of a Dust Control Plan (Rule 801); and compliance with the NPDES General Construction Permit and project-specific SWPPP, as outlined in Mitigation Measure HYD-1 (see Impact 3.11-1 for additional details).

After construction is complete, all existing roads would be left in a condition equal to or better than their preconstruction condition. All other areas disturbed by construction activities would be recontoured and decompacted. The proposed project is not anticipated to generate a significant increase in the amount of runoff water when compared to existing conditions. As such, daily operations and routine maintenance are not anticipated to alter the existing drainage pattern such that runoff increases would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. The project site would remain largely impervious over the operational life of the project. Water will continue to percolate through the ground, as a majority of the surfaces on the project site will remain pervious. The proposed project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. This is considered a less than significant impact.

Mitigation Measure(s)

No additional measures beyond Mitigation Measure HYD-1 are required.

Impact 3.11-6 ***Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:***

Impede or redirect flood flows?

Project implementation would not substantially alter the existing drainage pattern of the site or area. The proposed project is not anticipated to generate a significant increase in the amount of runoff water from water use for construction or operations. Water will continue to percolate through the ground, as a majority of the surfaces on the project site will remain pervious. Additionally, according to the FEMA's FIRM (Map Number Map Number 06025C2075C) (FEMA 2008), the project site is located within Zone X. The FEMA Zone X designation is an area determined to be outside the 0.2 percent annual chance floodplain. Therefore, the proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows, and impacts would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.11-7 In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

The project site is not located near any large bodies of water. The Salton Sea is located over 25 miles north of the project site. Because of the distance, the Salton Sea does not pose a danger of inundation from seiche or tsunami as related to the project site. Furthermore, the project site is over 100 miles inland from the Pacific Ocean. Therefore, there is no potential for the project site to be inundated by seiches or tsunamis. No impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.11-8 Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

As described under Impact 3.11-1 above, with the implementation of Mitigation Measure HYD-1, impacts on surface water quality as attributable to the project would be reduced to a less than significant level through the inclusion of focused BMPs for the protection of surface water resources. Implementation of Mitigation Measure HYD-2 would require the project to incorporate post-construction BMPs into the project's drainage plan. The use of source control, site design, and treatment BMPs would result in a decrease potential for storm water pollution. Additionally, the project would not require the direct use of groundwater. Therefore, the proposed project would not pose a significant threat to local surface water features or shallow groundwater resources, and, as such would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Implementation of Mitigation Measures HYD-1 and HYD-2 would reduce impacts to a level less than significant.

Mitigation Measure(s)

No additional mitigation measures beyond Mitigation Measures HYD-1 and HYD-2 are required.

3.11.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Decommissioning and restoration activities would result in similar impacts on hydrology and water quality as would occur during construction of the proposed project. The primary water quality issue associated with decommissioning/restoration would be potential impacts on surface water quality, as the decommissioning activities would be similar to construction activities and would be considered a significant impact. However, during decommissioning, soil erosion would be controlled in accordance with NPDES General Construction Permit(s) and project-specific SWPPP. Compliance with requirements and best available control technologies in place at the time of decommissioning are anticipated to be similar to, or more stringent than, those currently required. Compliance with all applicable water quality regulations would reduce the project's impacts during decommissioning to a level less than significant. Impacts on other water resource issues, including alteration of drainage

patterns, and contributing to off-site flooding would be less than significant. There would be no impact associated with inundation from impacts on groundwater recharge and supply, flooding, tsunamis, or seiche zones.

Residual

With implementation of the mitigation measures listed above, implementation of the proposed project would not result in any residual significant impacts related to increased risk of flooding from stormwater runoff, from water quality effects from long-term urban runoff, or from short-term alteration of drainages and associated surface water quality and sedimentation. With the implementation of the required mitigation measures during construction and decommissioning of the project, water quality impacts would be minimized to a level less than significant. Based on these circumstances, the proposed project would not result in any residential significant and unmitigable adverse impacts on surface water hydrology and water quality.

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3.12 Land Use Planning

This section provides information regarding current land use, land use designations, and land use policies within and in the vicinity of the project area. Section 15125(d) of the CEQA Guidelines states that "[t]he EIR shall discuss any inconsistencies between the project and applicable general plans and regional plans." This section fulfills this requirement for the project. In this context, this section reviews the land use assumptions, designations, and policies of the applicable County General Plan and other applicable federal, state, and local requirements, which govern land use within the project area and evaluates the project's potential to conflict with policies adopted for the purpose of avoiding or mitigating significant environmental effects. Where appropriate, mitigation is applied, and the resulting level of impact identified.

3.12.1 Existing Conditions

The project site is located on approximately 125 acres of privately-owned lands in southern Imperial County, California, approximately one mile south of the City of Heber jurisdictional limit and approximately 0.5 miles west from the City of Calexico jurisdictional limit.

Three separate Conditional Use Permit (CUP) applications have been filed with the County of Imperial for the construction and operation of various facilities. The three CUP applications or individual site locations consist of the following:

- CUP 23-0020: Dogwood Geothermal Energy Project
- CUP 23-0021: Heber 2 Solar Energy Project
- CUP 23-0022: Heber Field Company (HFC) Geothermal Wells and Pipeline Project

Table 3.12-1 identifies the assessor parcel numbers (APN) associated with the project site, the APN acreage, project site component approximate acreage, General Plan land use designation, and zoning. APN 054-250-31 is within the existing Heber 2 Geothermal Energy Complex (HGEC) located at 855 Dogwood Road, Heber, CA, and APN 059-020-001 and APN 054-250-017 are immediately southeast and east, respectively, of the HGEC.

Table 3.12-1. Project Assessor Parcel Numbers, Acreages, General Plan Land Use, and Zoning

APN	APN Acreage	Site Component Acreage	General Plan Land Use	Zoning
054-250-031	39.93	~5.68	Heber Specific Plan Area	A-2-G-SPA
059-020-001	246.61	~117.59	Urban	A-2-G-U
054-250-017	160.08	~2	Heber Specific Plan Area	A-2-G-SPA
Total	446.62	~125.27	--	--

APN=assessor parcel number; A-2-G-SPA=General Agriculture with Geothermal Overlay in Special Plan Area; A-2-G-U=General Agriculture with Geothermal Overlay in Urban Area

Dogwood Geothermal Energy Project (CUP 23-0020)

The Dogwood Geothermal Energy Project would be located on APNs 054-250-031 and 059-020-001. The proposed geothermal power plant would be located within the existing fenceline of the HGEC, operated by the Second Imperial Geothermal Company, a subsidiary of ORMAT which includes the Heber 2, Heber South, and Goulds 2 geothermal energy facilities located at 855 Dogwood Road, Heber, CA (APN 054-250-31). The development area for the Dogwood geothermal plant is completely disturbed from existing energy generation operations and devoid of any vegetation, surface waters, or existing facilities that would require relocation or demolition.

As shown in Figure 3.12-1, the proposed Dogwood geothermal plant site would be located on APN 054-250-031, which has a designation of Heber Specific Plan Area under the County's General Plan. The proposed Dogwood solar facility site would be located on APN 059-020-001, which has a designation of Urban under the County's General Plan. As shown in Figure 3.12-2, the proposed Dogwood geothermal plant site is currently zoned General Agriculture with a Geothermal Zone Overlay in Special Plan Area (A-2-G-SPA). The proposed Dogwood solar facility site is currently zoned General Agriculture with a Geothermal Zone Overlay in an Urban Area (A-2-G-U).

Heber 2 Solar Energy Project (CUP 23-0021)

The proposed Heber 2 solar energy facility site would be located southeast of the HGEC and in the northern portion of APN 059-020-001. As shown in Figure 3.12-1, the Heber 2 solar energy facility site would be located within the area designated as Urban under the County's General Plan. As shown in Figure 3.12-2, the proposed Heber 2 solar energy facility site is currently zoned A-2-G-U.

HFC Geothermal Wells and Pipeline Project (CUP-23-0022)

The proposed HFC Geothermal Wells and Pipeline Project would be located on two parcels. Two wells would be located within APN 059-020-001 with a small segment of pipeline (approximately 1,000 feet) developed within APN 059-020-001 connecting to the existing pipeline network. A third well would be installed adjacent to an existing geothermal well approximately 1,500 feet due east of the HGEC (APN 054-250-017). APN 054-250-017 is currently used for the cultivation of crops, specifically alfalfa.

As shown in Figure 3.12-1, the HFC Geothermal Wells and Pipeline Project site would be located within areas of the project site designated as Heber Specific Plan Area and Urban under the County's General Plan. As shown in Figure 3.12-2, the HFC Geothermal Wells and Pipeline Project site is currently zoned A-2-G-SPA and A-2-G-U.

Renewable Energy Overlay Zone

The County adopted the RE and Transmission Element, which includes RE and Geothermal Zones (RE Overlay Map). The RE and Geothermal Overlay Zones are designated within the RE and Transmission Element, which was adopted by the County in 2016. The Geothermal Overlay Zone is concentrated in areas determined to be the most suitable for the development of Geothermal and/or RE facilities while minimizing the impact to other established uses. As shown in Figure 3.12-2, the entire project site is located within the Geothermal Overlay Zone.

Figure 3.12-1. General Plan Land Use Designations

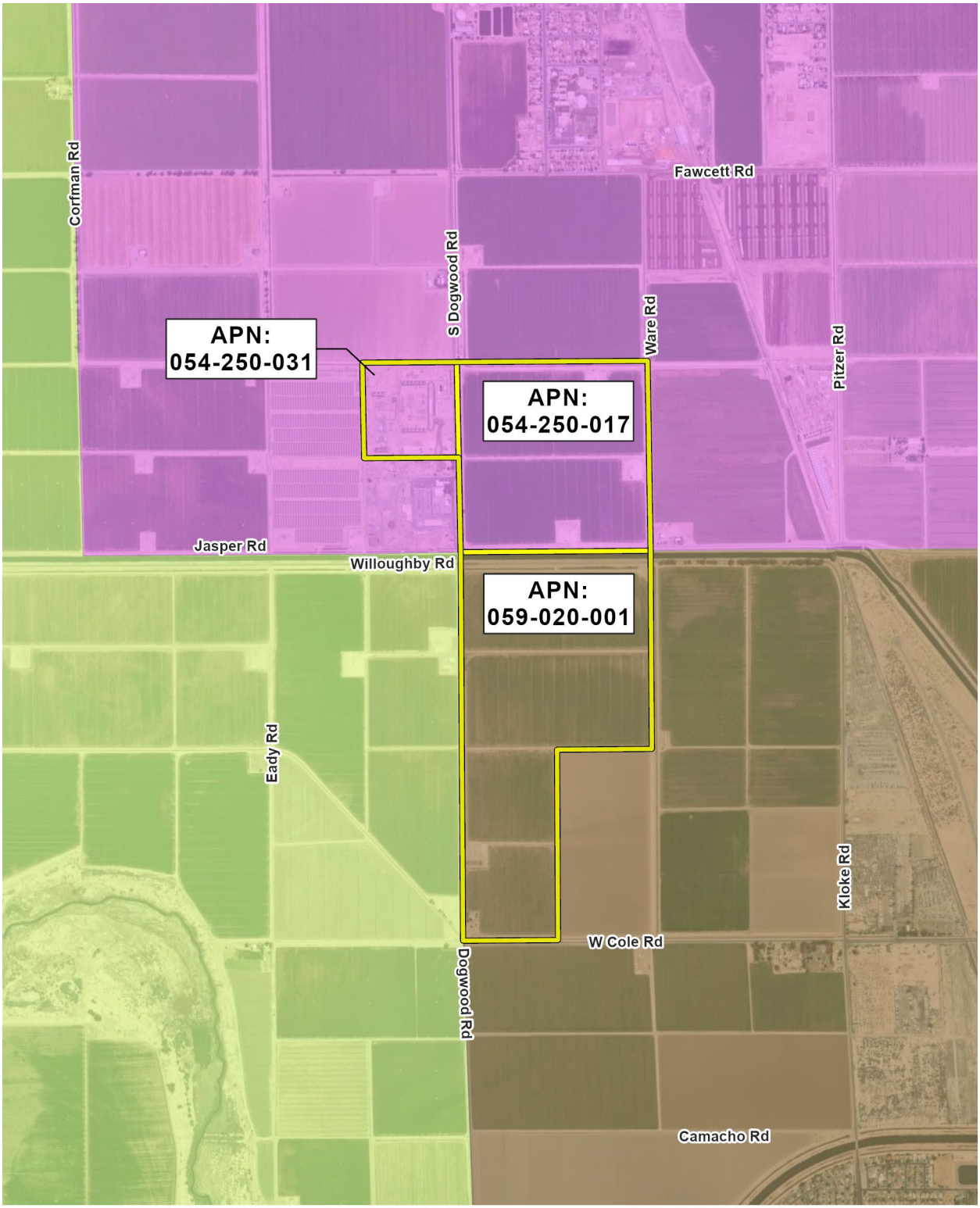
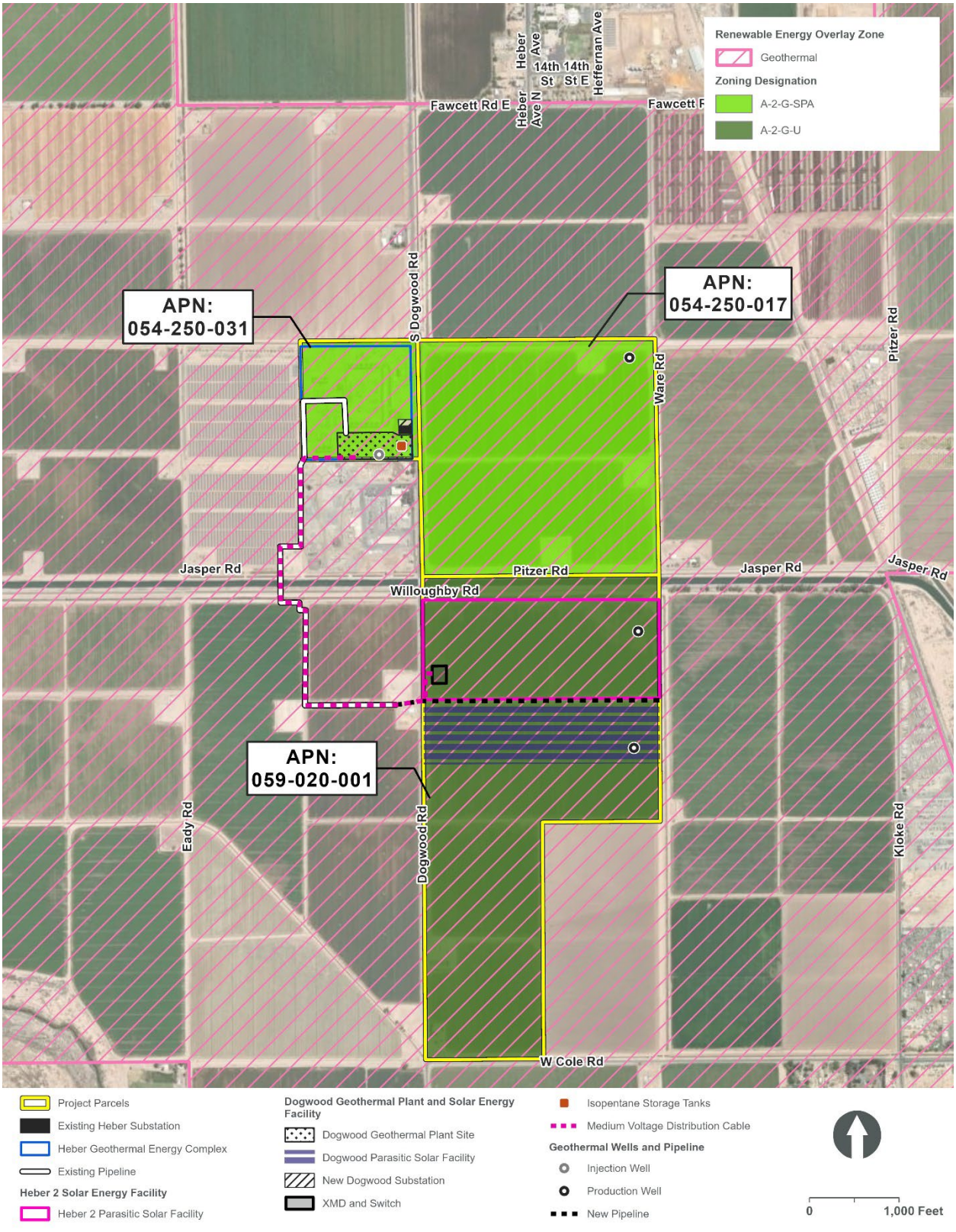


Figure 3.12-2. Zoning Designations



Established Residential Communities

The project site is located in a sparsely populated portion of Imperial County. There are no established residential communities located within or in the vicinity of the project site. The nearest established residential community is located along E. Fawcett Road, approximately 2,985 feet north of the project site in the City of Heber. Table 3.12-2 summarizes the nearest residences in the vicinity of the project site and distance to the nearest project components.

Table 3.12-2. Sensitive Receptors in Proximity to Project Components

Sensitive Receptor	Nearest Project Component	Distance to Nearest Project Component (Feet)
Residence (104 Jasper Rd.)	Heber 2 Solar Facility	540
Residence (600 Dogwood Rd.)	Dogwood Solar Facility	2,900
Residential Area (E. Fawcett Rd.)	Production Well	2,985
Residences (153, 175, 195 E. Cole Blvd.)	Dogwood Solar Facility	3,825

Nearby Airports

The nearest airport to the project site is the Calexico International Airport, located approximately two miles southeast of the project site. According to Figure 3B of the Imperial County Airport Land Use Compatibility Plan (ALUCP), no portion of the project site is located within the Calexico International Airport's land use compatibility zones (ALUC 1996).

3.12.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the project.

State

State Planning and Zoning Laws

California Government Code Section 65300 et seq. establishes the obligation of cities and counties to adopt and implement general plans. The general plan is a comprehensive, long-term, and general document that describes plans for the physical development of a city or county and of any land outside its boundaries that, in the city's or county's judgment, bears relation to its planning.

The general plan addresses a broad range of topics, including, at a minimum, land use, circulation, housing, conservation, open space, noise, and safety. In addressing these topics, the general plan identifies the goals, objectives, policies, principles, standards, and plan proposals that support the city's or county's vision for the area. The general plan is a long-range document that typically addresses the physical character of an area over a 20-year period or more.

The State Zoning Law (California Government Code Section 65800 et seq.) establishes that zoning ordinances, which are laws that define allowable land uses within a specific zone district, are required to be consistent with the general plan and any applicable specific plans.

Regional

Southern California Association of Governments – 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal)

SCAG is the designated metropolitan planning organization for Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial Counties. CEQA requires that regional agencies like SCAG review projects and plans throughout its jurisdiction. SCAG, as the region's "Clearinghouse," collects information on projects of varying size and scope to provide a central point to monitor regional activity. SCAG has the responsibility of reviewing dozens of projects, plans, and programs every month. Projects and plans that are regionally significant must demonstrate to SCAG their consistency with a range of adopted regional plans and policies.

On September 3,2020, SCAG adopted the 2020-2045 RTP/SCS (Connect SoCal). The 2020-2045 RTP/SCS (Connect SoCal) includes a strong commitment to reduce emissions from transportation sources to comply with Senate Bill 375, improve public health, and meet the NAAQS as set forth by the federal CAA. The following goals from the 2020-2045 RTP/SCS (Connect SoCal) are considered applicable to the proposed project:

- Goal 5: Reduce GHG emissions and improve air quality
- Goal 10: Promote conservation of natural and agricultural lands and restoration of habitats

Local

Imperial County General Plan

The purpose of the County's General Plan (as amended through 2008) is to direct growth, particularly urban development, to areas where public infrastructure exists or can be provided, where public health and safety hazards are limited, and where impacts on the County's abundant natural, cultural, and economic resources can be avoided. The following 10 elements comprise the County's General Plan: Land Use; Housing; Circulation and Scenic Highways; Noise; Seismic and Public Safety; Conservation and Open Space; Agricultural; Renewable Energy and Transmission Element; Water; and Parks and Recreation. Together, these elements satisfy the seven mandatory general plan elements as established in the California Government Code. Goals, objectives, and implementing policies and actions programs have been established for each of the elements.

Imperial County received funding from the CEC's Renewable Energy and Conservation Planning Grant to amend and update the County's General Plan in order to facilitate future development of renewable energy projects. The Geothermal/Alternative Energy and Transmission Element was last updated in 2006. Since then, there have been numerous renewable projects proposed, approved and constructed within Imperial County as a result of California's move to reduce greenhouse gas emissions, develop alternative fuel sources and implement its Renewable Portfolio Standard. The County has recently prepared an update to the Geothermal/Alternative Energy and Transmission Element of its General Plan, called the Renewable Energy and Transmission Element. This Element is designed to provide guidance and approaches with respect to the future siting of renewable energy projects and electrical transmission lines in the County. The County adopted this element in 2016.

The Renewable Energy (RE) and Transmission Element includes the RE and Geothermal Overlay Zones. 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. As previously mentioned, the project site is located within the Geothermal Overlay Zone, which is considered as part of the RE Overlay Zone.

An analysis of the project's consistency with the General Plan goals and objectives relevant to the project is provided in Table 3.12-2. While this EIR analyzes the project's consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Planning Commission and Board of Supervisors retain final authority for the determination of the project's consistency with the General Plan.

Table 3.12-3. Project Consistency with Applicable General Plan Policies

Applicable Policies	Consistency Determination	Analysis
Land Use Element		
Public Facilities. Objective 8.7: Ensure the development, improvement, timing, and location of community sewer, water, and drainage facilities will meet the needs of existing communities and new developing areas.	Consistent	The proposed project includes the necessary supporting infrastructure and would not require new community-based infrastructure. The proposed project would be required to construct supporting drainage infrastructure on-site consistent with County requirements and mitigation measures prescribed in Section 3.11, Hydrology/Water Quality, of the EIR. Once the proposed project is operational, a limited amount of water would be required for solar panel washing and fire protection. No septic system would be required for the proposed project.
Public Facilities. Objective 8.8: Ensure that the siting of future facilities for the transmission of electricity, gas, and telecommunications is compatible with the environment and County regulation.	Consistent	The County Land Use Ordinance, Division 17, includes the RE and Geothermal Overlay Zones, which authorizes the development and operation of RE projects with an approved CUP. The Geothermal Overlay Zone is concentrated in areas determined to be the most suitable for the development of RE and Geothermal facilities while minimizing the impact to other established uses. The project site is located within the Geothermal Overlay Zone. Therefore, the proposed project would be sited in a suitable location for the transmission of renewable energy (geothermal and solar).
Public Facilities. Objective 8.9: Require necessary public utility rights-of-way when appropriate.	Consistent	The proposed project would not include dedication of ROW to facilitate the placement of project-related facilities.
Protection of Environmental Resources. Objective 9.6: Incorporate the strategies of the Imperial County AQAP in land use planning decisions and as amended.	Consistent	Dust suppression will be implemented in accordance with a dust control plan approved by the ICAPCD. Section 3.4, Air Quality, discusses the project's consistency with the AQAP in more detail.

Applicable Policies	Consistency Determination	Analysis
Circulation and Scenic Highways Element		
Safe, Convenient, and Efficient Transportation System. Objective 1.1: Maintain and improve the existing road and highway network, while providing for future expansion and improvement based on travel demand and the development of alternative travel modes.	Consistent	The proposed project would include limited operational vehicle trips and would not be expected to reduce the current LOS at affected intersections, roadway segments, and highways. The proposed project does not propose residential or commercial development and therefore would not require new forms of alternative transportation to minimize impacts to existing roadways.
Safe, Convenient, and Efficient Transportation System. Objective 1.2: Require a traffic analysis for any new development which may have a significant impact on County roads.	Consistent	As described in Section 3.15, Transportation, a traffic study was prepared for the project and determined that proposed project would have a less than significant impact on the circulation network. Once the proposed project is complete, the site will be staffed with 1-2 onsite employees. During operations, the proposed project would generate minimal vehicle trips (11 trips per day). The project would not reduce the current level of service at affected intersections, roadway segments, and highways.
Noise Element		
Noise Environment. Objective 1.3: Control noise levels at the source where feasible.	Consistent	As discussed in Section 3.13, Noise and Vibration, no individual or cumulative pieces of construction equipment would exceed the 75 dBA Imperial County construction noise standard during any phase of construction at the nearest noise-sensitive receptor. Project operational noise would not exceed County daytime or nighttime standards.
Project/Land Use Planning. Goal 2: Review Proposed Actions for noise impacts and require design which will provide acceptable indoor and outdoor noise environments.	Consistent	The project would be required to comply with the County's noise standards during both construction and operation. As discussed in Section 3.13, Noise and Vibration, no individual or cumulative pieces of construction equipment would exceed the 75 dBA Imperial County construction noise standard during any phase of construction at the nearest noise-sensitive receptor. Project operational noise would not exceed County daytime or nighttime standards.
Conservation and Open Space Element		
Conservation of Environmental Resources for Future Generations Goal 1: Environmental resources shall be conserved for future generations by minimizing environmental impacts in all land use decisions and educating the public on their value.	Consistent	The power generated by the proposed project would be added to the state's electricity grid with the intent that it would displace fossil fueled power plants and their associated environmental impacts (i.e., air quality and GHG emissions). The proposed project would ensure future generations have access to a broad array of renewable energy sources, providing the public with alternative choices to fossil fuels.

Applicable Policies	Consistency Determination	Analysis
Conservation of Biological Resources. Goal 2: The County will integrate programmatic strategies for the conservation of critical habitats to manage their integrity, function, productivity, and long-term viability.	Consistent	A biological resources survey was conducted for the project site. As discussed in Section 3.5, Biological Resources, the proposed project has the potential to impact burrowing owl and bird species. However, with the implementation of Mitigation Measures BIO-1 through BIO-4, these impacts would be reduced to a level less than significant. The site is not designated or otherwise identified as critical habitat for any species.
Preservation of Cultural Resources. Objective 3.1: Protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.	Consistent	A cultural resources report was prepared for the project site. As discussed in Section 3.6, Cultural Resources, the proposed project has the potential to encounter undocumented archaeological resources and human remains. Mitigation Measures CUL-1 and CUL-2 have been identified to reduce potential impacts to a level less than significant.
Preservation of Agricultural Lands. Goal 4: The County will actively conserve and maintain contiguous farmlands and prime soil areas to maintain economic vitality and the unique lifestyle of the Imperial Valley.	Consistent	The project would temporarily convert land designated as Prime Farmland and Farmland of Statewide Importance to non-agricultural uses. Although the project would convert lands currently under agricultural production, the project applicant is proposing agriculture as the end use and is required to prepare a site-specific Reclamation Plan to minimize impacts related to short- and long-term conversion of farmland to non-agricultural use. The reclamation plan contents will include addressing the removal, recycling, and/or disposal of all project structures on the site, as well as restoration of the site to its pre-project condition. Therefore, the proposed project would not permanently convert Prime Farmland and Farmland of Statewide Importance to non-agricultural uses. Please refer to Section 3.3, Agricultural Resources, which provides a more detailed analysis of the project's consistency with applicable agricultural goals and objectives.
Conservation of Water Resources. Objective 6.1: Ensure the use and protection of all the rivers, waterways, and groundwater sources in the County for use by future generations.	Consistent	As discussed in Section 3.11, Hydrology/Water Quality, the project will prepare a site-specific drainage plan and water quality management plan to minimize adverse effects to local water resources; as well as coordinate with the IID for water consumption during construction and operation of the project.
Conservation of Energy Sources. Objective 6.2: Encourage the utilization of alternative passive and renewable energy resources.	Consistent	The proposed project entails the construction and operation of a geothermal plant, which is considered an alternative source of energy.
Protection of Air Quality and Addressing Climate Change. Goal 7: The County shall actively seek to improve the quality of air in the region.	Consistent	The proposed project would be required to comply with all applicable ICAPCD rules and requirements during construction and operation to reduce air emissions. Overall, the proposed project would improve air quality and reduce GHG emissions by reducing the amount of emissions that would be generated in association with electricity production from a fossil fuel burning facility. Therefore, the proposed project is consistent with this goal.

Applicable Policies	Consistency Determination	Analysis
Protection of Air Quality and Addressing Climate Change. Objective 7.1: Ensure that all project and facilities comply with current Federal, State and local requirements for attainment of air quality objectives.	Consistent	The proposed project would comply with current federal and State requirements for attainment for air quality objectives through conformance with all applicable ICAPCD rules and requirements to reduce fugitive dust and emissions. Further, the proposed project would comply with the ICAPCD Air Quality CEQA Handbook's Mandatory Standard, Discretionary and Enhanced Air Quality Measures. Therefore, the proposed project is consistent with this objective.
Protection of Air Quality and Addressing Climate Change. Objective 7.2: Develop management strategies to mitigate fugitive dust. Cooperate with all federal and state agencies in the effort to attain air quality objectives.	Consistent	The Applicant would cooperate with all federal and State agencies in the effort to attain air quality objectives through compliance with the ICAPCD Air Quality CEQA Handbook's Mandatory Standard, Discretionary and Enhanced Air Quality Measures. Therefore, the proposed project is consistent with this objective.
Protection of Open Space and Recreational Opportunities. Objective 8.2: Focus all new renewable energy development within adopted Renewable Energy Overlay Zones.	Consistent	The project site is located entirely within the RE Overlay Zone.
RE and Transmission Element		
Objective 1.4: Analyze potential impacts on agricultural, natural, and cultural resources, as appropriate.	Consistent	This EIR has been prepared to meet the requirements of CEQA for purposes of evaluating the potential environmental impacts associated with the proposed project, which includes analysis on applicable environmental topics that analyze impacts on agricultural, natural, and cultural resources.
Objective 1.5: Require appropriate mitigation and monitoring for environmental issues associated with developing RE facilities.	Consistent	A biological resources report has been prepared for the project, which is summarized in Section 3.5, Biological Resources, along with potential impacts attributable to the proposed project. With incorporation of Mitigation Measures BIO-1 through BIO-4 identified in Section 3.5, Biological Resources, less than significant impacts would result.
Objective 1.6: Encourage the efficient use of water resources required in the operation of renewable energy generation facilities.	Consistent	The proposed project would obtain water for construction and decommissioning activities, including grading, and dust control from the Applicant's existing contract with IID. Water necessary for well drilling would be obtained from local irrigation canals in conformance with IID requirements.
Objective 1.7: Assure that development of RE facilities and transmission lines comply with ICAPCD's regulations and mitigation measures.	Consistent	Dust suppression will be implemented including the use of water and soil binders during construction. Section 3.4, Air Quality, discusses the proposed project's consistency with ICAPCD's regulations in more detail.

Applicable Policies	Consistency Determination	Analysis
Objective 2.1: To the extent practicable, maximize utilization of IID's transmission capacity in existing easements or rights-of-way. Encourage the location of all major transmission lines within designated corridors easements, and rights-of-way.	Consistent	Pending Imperial Irrigation District (IID) review, no upgrades to off-site transmission facilities are necessary. If upgrades to off-site facilities are later deemed necessary through an IID transmission study, recommendations could include protection upgrades and metering replacements at existing IID substations and/or upgrades to telecommunications, distribution lines, and transmission lines. Such upgrades would use existing infrastructure, easements, right-of-way, and corridors to the extent practicable. The new Dogwood substation will connect directly to the existing point of interconnection with the IID controlled grid.
Seismic and Public Safety Element		
Land Use Planning and Public Safety. Goal 1: Include public health and safety considerations in land use planning.	Consistent	Division 5 of the County Land Use Ordinance has established procedures and standards for development within earthquake fault zones. Per County regulations, construction of buildings intended for human occupancy which are located across the trace of an active fault are prohibited. An exception exists when such buildings located near the fault or within a designated Special Studies Zone are demonstrated through a geotechnical analysis and report not to expose a person to undue hazard created by the construction. Since the project site is located in a seismically active area, the project is required to be designed in accordance with the CBC. In conjunction with mitigation requirements outlined in the impact analysis, the risks associated with seismic hazards would be minimized. A preliminary geotechnical report has been prepared for the proposed project. The preliminary geotechnical report has been referenced in this environmental document. Additionally, a design-level geotechnical investigation would be conducted to evaluate the potential for site specific hazards associated with seismic activity.
Land Use Planning and Public Safety. Objective 1.1: Ensure that data on geological hazards is incorporated into the land use review process, and future development process.		
Land Use Planning and Public Safety. Objective 1.3: Regulate development adjacent to or near all mineral deposits and geothermal operations.		
Land Use Planning and Public Safety. Objective 1.4: Require, where possessing the authority, that avoidable seismic risks be avoided; and that measures, commensurate with risks, be taken to reduce injury, loss of life, destruction of property, and disruption of service.		
Land Use Planning and Public Safety. Objective 1.7: Require developers to provide information related to geologic and seismic hazards when siting a proposed projects.		
Emergency Preparedness. Goal 2: Minimize potential hazards to public health, safety, and welfare and prevent the loss of life and damage to health and property resulting from both natural and human-related phenomena.		

Applicable Policies	Consistency Determination	Analysis
Emergency Preparedness. Objective 2.2: Reduce risk and damage due to seismic hazards by appropriate regulation.		
Emergency Preparedness. Objective 2.5: Minimize injury, loss of life, and damage to property by implementing all state codes where applicable.		
Emergency Preparedness. Objective 2.8: Prevent and reduce death, injuries, property damage, and economic and social dislocation resulting from natural hazards including flooding, land subsidence, earthquakes, other geologic phenomena, levee or dam failure, urban and wildland fires and building collapse by appropriate planning and emergency measures.		
Water Element		
Protection of Water Resources from Hazardous Materials. Program: The County of Imperial shall make every reasonable effort to limit or preclude the contamination or degradation of all groundwater and surface water resources in the County.	Consistent	Mitigation measures will require that the applicant of the proposed project prepare a site-specific drainage plan and water quality management plan to minimize adverse effects to local water resources.
Protection of Water Resources from Hazardous Materials. Program: All development proposals brought before the County of Imperial shall be reviewed for potential adverse effects on water quality and quantity, and shall be required to implement appropriate mitigation measures for any significant impacts.	Consistent	See previous response.
Housing Element		
Not Applicable. The proposed project is a renewable energy project and does not include the development of housing.		

Source: County of Imperial 2008

Notes:
AQAP=air quality attainment plan; CBC=California Building Code; CUP=conditional use permit; EIR=environmental impact report; GHG=greenhouse gas; ICAPCD=Imperial County Air Pollution Control District; IID=Imperial Control District; LOS=level of service; RE=renewable energy; ROW=right-of-way

County of Imperial Land Use Ordinance

The County's Land Use Ordinance provides the physical land use planning criteria for development within the jurisdiction of the County. The Land Use Ordinance identifies the permitted and conditional uses within a zoning designation. Uses identified as conditionally permitted require a CUP, which is

subject to the discretionary approval of the County Board of Supervisors per a recommendation by the County Planning Commission.

Permitted and Conditional Uses

A-2 Zoning. Pursuant to Title 9, Division 5, Chapter 8 of the Land Use Ordinance the purpose of the A-2 zone is to "designate areas that are suitable and intended primarily for agricultural uses (limited) and agricultural related compatible uses" (County of Imperial 2020).

Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone:

n) Oil, gas and geothermal exploration meeting requirements specified in Division 17

s) Solar energy extraction generation provided that is for on-site consumption only

Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

y) Electrical generation plants (less than 50 MW) excluding nuclear or coal fired and meeting requirements in Division 17

z) Electrical substations in an electrical transmission system (500 kv/230 kv/161 kv)

bb) Facilities for the transmission of electrical energy (100-200 kv)

ii) Geothermal test facilities, Intermediate projects, and major exploratory wells, meeting requirements in Division 17

rr) Major Geothermal projects per Division 17

ww) Resource extraction and energy development as per Division 17

aaa) Solar energy electrical generator

Height Limit in A-2 Zone. Section 90508.07 of the Land Use Ordinance limits the height of all non-residential structures and specifically states in Section 90508.07(c) that, "Non-Residential structures and commercial communication towers shall not exceed one hundred twenty (120) feet in height, and as may be required by the ALUC plan."

RE Resources. According to Title 9, Division 17 of the Land use Ordinance, the purpose of the RE Resources regulations are to "facilitate the beneficial use of renewable energy resources for the general welfare of the people of Imperial County and the State of California; to protect renewable energy resources from wasteful or detrimental uses; and to protect people, property, and the environment from detriments that might result from the improper use of renewable energy resources" (ICPDS 2017).

Title 9, Division 17 of the Land Use Ordinance includes the RE Overlay Zone, which authorizes the development and operation of renewable energy projects, with an approved CUP. Chapter 3 of Title 9, Division 17 sets forth additional specific standards for geothermal projects. Uses that are conditionally permitted require and require a CUP are subject to the discretionary approval of the County Board of Supervisors (Board) per a recommendation by the County Planning Commission.

Imperial County Airport Land Use Compatibility Plan

The Imperial County 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 Calexico International Airport, located approximately two miles southeast of the project site. According to Figure 3B of the Imperial County Airport Land Use Compatibility Plan (ALUCP), no portion of the project site is located within the Calexico International Airport's land use compatibility zones (ALUC 1996).

3.12.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to land use/planning are considered significant if any of the following occur:

- Physically divide an established community
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect

Impact Analysis

Impact 3.12-1 ***Would the project physically divide an established community?***

The project site is located in a sparsely populated portion of Imperial County. The nearest single-family residence is located approximately 360 feet east of the eastern boundary of the project site along Jasper Road. Additional single-family residences are located approximately 0.5-mile southeast of the project site along Cole Road. However, there are no established residential communities located in the vicinity of the project site. The nearest established residential community is located approximately 0.5 mile north of the project site in the City of Heber. Therefore, implementation of the proposed project would not divide an established community and no impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.12-2 ***Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?***

The project's consistency with applicable land use plans, policies, and regulations is evaluated below.

SCAG 2020-2045 RTP/SCS (CONNECT SOCAL)

As noted above, the 2020-2045 RTP/SCS (Connect SoCal) (SCAG 2020) identifies two goals which include reducing GHG emissions to improve air quality (Goal 5), and to promote conservation of natural and agricultural lands (Goal 10).

The 2020-2045 RTP/SCS (Connect SoCal), identifies strategies to support the goal of reducing regional GHG and improve air quality. Strategies include leveraging technological innovations including incorporating solar energy, hydrogen fuel cell power storage, and power generation. Once

in operation, the proposed project would contribute to SCAG's goal in reducing GHG emissions and improving air quality.

The 2020-2045 RTP/SCS (Connect SoCal) also discusses the decline of agricultural land as an issue for the economy. As discussed in Section 3.3, Agricultural Resources, the proposed project would temporarily convert Prime Farmland and Farmland of Statewide Importance to non-agricultural uses. Although the entire project falls within the RE Overlay Zone, which allows for the conversion of agricultural land for renewable energy production with an approved CUP, the loss of agricultural land classified as Prime Farmland and Farmland of Statewide Importance is considered a significant impact under CEQA. Therefore, implementation of Mitigation Measures AG-1a (Payment of Agricultural and Other Benefit Fees) and AG-1b (Site Reclamation Plan) would mitigate potential impacts to the land use conversion. Upon implementation of Mitigation Measures AG-1a and AG-1b, impacts would be reduced to a level less than significant. Therefore, no impacts due to a conflict with Connect SoCal would occur.

COUNTY OF IMPERIAL GENERAL PLAN

An analysis of the project's consistency with the General Plan goals and objectives relevant to the project is provided in Table 3.12-2. As shown in Table 3.12-2, the proposed project would generally be consistent with the goals and objectives of the General Plan.

COUNTY OF IMPERIAL LAND USE ORDINANCE

Development of the proposed project is subject to the County's zoning ordinance. The project site is located on three privately-owned legal parcels zoned A-2-G-SPA and A-2-G-U. Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone:

n) Oil, gas and geothermal exploration meeting requirements specified in Division 17

s) Solar energy extraction generation provided that is for on-site consumption only

Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

y) Electrical generation plants (less than 50 MW) excluding nuclear or coal fired and meeting requirements in Division 17

z) Electrical substations in an electrical transmission system (500 kv/230 kv/161 kv)

bb) Facilities for the transmission of electrical energy (100-200 kv)

ii) Geothermal test facilities, Intermediate projects, and major exploratory wells, meeting requirements in Division 17

rr) Major Geothermal projects per Division 17

ww) Resource extraction and energy development as per Division 17

aaa) Solar energy electrical generator

Further, Title 9, Division 17 of the Land Use Ordinance, includes the RE Overlay Zone, which authorizes the development and operation of renewable energy projects, with an approved CUP (ICPDS 2017). Chapter 3 of Title 9, Division 17 sets forth additional specific standards for geothermal projects. Therefore, the proposed project qualifies as permitted uses with the approval of the CUPs by the County to allow for the construction and operation of the proposed geothermal and solar energy facilities. With approval of the CUPs, the proposed project would not conflict with the County's zoning

ordinance. No impacts due to a conflict with the County of Imperial Land Use Ordinance(s) would occur.

IMPERIAL COUNTY AIRPORT LAND USE COMPATIBILITY PLAN

The nearest airport to the project site is the Calexico International Airport, located approximately two miles southeast of the project site. According to Figure 3B of the Imperial County Airport Land Use Compatibility Plan (ALUCP), no portion of the project site is located within the Calexico International Airport's land use compatibility zones (ALUC 1996). Therefore, the proposed project would not conflict with the Imperial County ALUCP, and no impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

3.12.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Decommissioning and restoration would not physically divide an established community or conflict with any applicable land use plans, policies, or regulations. Decommissioning would be conducted in compliance with a required Reclamation Plan that would be implemented at the end of the proposed project's life and would adhere to Imperial County's decommissioning requirements. Further, decommissioning activities would be subject to mandatory compliance with applicable local, State, and federal regulations designed to avoid adverse impacts to the project area and surrounding environment.

Residual

With mitigation as prescribed in other sections of this EIR, issues related to the conversion of Important Farmland to non-agricultural use would be mitigated and reduced to a less than significant level. Similarly, with the approval of the CUPs and reclamation plan to address post-project decommissioning, the project would generally be consistent with applicable federal, state, regional, and local plans and policies. Based on these circumstances, the project would not result in any residual significant and unmitigable land use impacts.

3.13 Noise and Vibration

This section identifies the ambient noise environment for the project area and describes applicable federal, state, and local regulations, potential project-related noise and vibration impacts, and recommended mitigation measures to avoid or reduce potential impacts of the proposed project. The information for this section is summarized from a project-specific Noise Technical Report, prepared by Catalyst Environmental Solutions (Catalyst). This report is included in Appendix K of this EIR.

3.13.1 Existing Conditions

Fundamentals of Sound and Environmental Noise

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. When sound becomes excessive or unwanted, it is referred to as noise. Although exposure to high noise levels has been demonstrated to cause hearing loss, the principal human response to environmental noise is annoyance. The response of individuals to similar noise events is diverse and influenced by the type of noise, the perceived importance of the noise and its appropriateness in the setting, the time of day and the type of activity during which the noise occurs, and the sensitivity of the individual.

Sound (noise) levels are measured and quantified with several metrics. All of them use the logarithmic decibel (dB) scale with 0 dB roughly equal to the threshold of human hearing. A property of the decibel scale is that the sound pressure levels of two separate sounds are not directly additive. For example, if a 50 dB sound is added to another 50 dB sound, the total is only a 3 dB increase (to 53 dB). Thus, every 3 dB change in sound levels represents a doubling or halving of sound energy. Related to this is the fact that a less-than-3 dB change in sound levels is imperceptible to the human ear. Sound power level is the acoustic energy emitted by a source which produces a sound pressure level at some distance. While the sound power level of a source is fixed, the sound pressure level depends upon the distance from the source and the acoustic characteristics of the area in which it is located.

The frequency of sound is a measure of the pressure fluctuations per second, measured in hertz (Hz). Most sounds do not consist of a single frequency but consist of a broad band of frequencies differing in level. The characterization of sound level magnitude with respect to frequency is the sound spectrum. Many rating methods exist to analyze sound of different spectra. The method used for this analysis is A-weighting. The A-weighted scale (dBA) most closely approximates how the human ear responds to sound at various frequencies by progressively deemphasizing frequency components below 1,000 Hz and above 6,300 Hz and reflects the relative decreased sensitivity of humans to both low and extremely high frequencies (Appendix K of this EIR).

The duration of noise and the time period at which it occurs are important factors in determining the impact of noise. Several methods are used for describing variable sounds including the equivalent level (L_{eq}), the maximum level (L_{max}), and the percent-exceeded levels. These metrics are derived from a large number of moment-to-moment A-weighted sound level measurements. Some common metrics reported in community noise monitoring studies are described below:

- L_{eq}, the equivalent level, can describe any series of noise events of arbitrary duration, although the most common averaging period is hourly. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, sounds are described

in terms of an average level that has the same acoustical energy as the summation of all the time-varying events, and L_{eq} is the common energy-equivalent sound/noise descriptor.

- L_{max} is the maximum sound level during a given time. L_{max} is typically due to discrete, identifiable events such as an airplane overflight, car or truck passing by, or a dog barking.
- L_{90} is the sound level in dBA exceeded 90 percent of the time during the measurement period. L_{90} is close to the lowest sound level observed. It is essentially the same as the residual sound level, which is the sound level observed when no obvious nearby intermittent noise sources occur.
- L_{50} is the median sound level in dBA exceeded 50 percent of the time during the measurement period.
- L_{10} is the sound level in dBA exceeded only 10 percent of the time. It is close to the maximum level observed during the measurement period. L_{10} is sometimes called the intrusive sound level because it is caused by occasional louder noises like those from passing motor vehicles.

In determining the daily measure of community noise, it is important to account for the difference in human response to daytime and nighttime noise. Noise is more disturbing at night than during the day, and noise indices have been developed to account for the varying duration of noise events over time as well as community response to them. The Day-Night Average Level (L_{dn}) is such an index. L_{dn} represents the 24-hour A-weighted equivalent sound level with a 10 dBA penalty added to the "nighttime" hourly noise levels between 10:00 p.m. and 7:00 a.m. Because of the time-of-day penalties associated with the L_{dn} index, the L_{eq} for a continuously operating sound source during a 24-hour period will be numerically less. The Community Noise Equivalent Level (CNEL), similar to L_{dn}, applies a 10 dBA penalty for noise levels occurring during the nighttime hours between 10:00 p.m. and 7:00 a.m., and a 5 dBA penalty for noise levels the sound levels occurring during evening hours between 7:00 p.m. and 10:00 p.m. CNEL has been adopted by the State of California to define the community noise environment for development of the community noise element of a General Plan. Noise is also more disturbing the closer a receptor is to the source; noise levels decrease by 6 dB as the distance from its source doubles (Appendix K of this EIR).

Fundamentals of Vibration

Ground-borne vibration consists of waves transmitted through solid material. Several types of wave motions exist in solids, unlike air, including compressional, shear, torsional, and bending. The solid medium can be excited by forces, moments, or pressure fields. Ground-borne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration may be composed of a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in Hz.

Vibration may be defined in terms of the displacement, velocity, or acceleration of the particles in the medium material. In environmental assessments, where human response is the primary concern, velocity is commonly used as the descriptor of vibration level, typically expressed in inches per second (in/sec) or millimeters per second (mm/s). The amplitude of vibration can be expressed in terms of the wave peaks or as an average, called the root mean square. The root mean square level is generally used to assess the effect of vibration on humans. Like noise, vibration can be expressed in terms of decibels with a reference velocity of $1x10^{-6}$ in/sec. The abbreviation "VdB" is often used for vibration decibels to reduce the potential for confusion with sound decibels.

The two primary concerns with project-induced vibration, the potential to damage a structure and the potential to annoy people, are evaluated against different vibration limits. Studies have shown that the threshold of perception for the average person is a peak particle velocity (PPV) in the range of 0.2 to 0.3 mm/s (0.008 to 0.012 in/sec). Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels, such as people in an urban environment, may tolerate a higher vibration level (Appendix K of this EIR).

Ambient Noise Levels

Existing ambient noise in the vicinity of the project site is consistent with a rural agricultural landscape with the dominant noise sources consisting of vehicular traffic on local roads, the existing Heber 2 Complex, and the operation of agricultural equipment. The major source of vehicular noise is traffic along SR 86 and SR 111 and the Regional Arterials Dogwood Road and Jasper Road. SR 86 is a principal farm-to-market route for Imperial County agricultural products and carries a high percentage of heavy trucks.

The existing geothermal facilities adjacent to the project site also contribute to the existing noise environment. Typical sound power levels for the existing power plants and geothermal well pads are in the range of 113 dBA at the loudest noise source of the power plant and 92 dBA directly adjacent to each well. Noise from these stationary sources lessens at a rate of approximately 6 dB per doubling of distance, depending on such environmental conditions as topography, vegetation, and weather. Specifically, operational noise levels of an existing geothermal facility in Imperial County were recorded at 70 dBA L_{eq} at approximately 100 feet (Appendix K of this EIR).

Sensitive Receptors

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels, and because of the potential for nighttime noise to result in sleep disruption. Additional land uses such as schools, transient lodging, historic sites, cemeteries, and places of worship are also generally considered sensitive to increases in noise levels. These land use types are also considered vibration-sensitive land uses, as are commercial and industrial buildings where vibration would interfere with operations within the building, including levels that may be well below those associated with human annoyance.

There are numerous sensitive receptors in proximity to project components including residences, Mt. View Cemetery, and Heber Elementary School. Table 3.13-1 summarizes the sensitive receptors in the project area and the distance to the nearest project component.

Proximity to Airports

The nearest airport to the project site is the Calexico International Airport, located approximately two miles southeast of the project site.

Table 3.13-1. Sensitive Receptors in Proximity to Project Components

Sensitive Receptor	Nearest Project Component	Distance to Nearest Project Component (feet)
Residence (104 East Jasper Road)	Heber 2 Parasitic Solar Facility	540
Residence (600 Dogwood Road)	Dogwood Parasitic Facility	2,900
Residential Area (East Fawcett Road)	Production Well	2,985
Heber Elementary School	Production Well	3,400
Residences (153, 185, 195 East Cole Boulevard)	Dogwood Parasitic Facility	3,825
Mt. View Cemetery	Production Well	6,890

Source: Appendix K of this EIR

3.13.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the project.

Federal

No federal regulations govern offsite (community) noise. The Occupational Safety and Health Act of 1970 specifies measures designed to protect workers against the effects of noise exposure and lists permissible noise level exposure as a function of the amount of time to which a worker is exposed. Occupational Safety and Health Administration (OSHA) regulations also dictate hearing conservation program requirements and workspace noise monitoring requirements. OSHA requirements limit worker noise exposure to 90 dBA over an 8-hour work shift. Furthermore, if 8-hour worker noise exposure at a work site exceeds 85 dBA, the area must be posted as a noise hazard zone; and a hearing conservation program would be required.

United States Fish and Wildlife Service (USFWS) has established a level of 60 dBA equivalent continuous noise level (L_{eq}) as the maximum permissible noise level to which certain riparian bird species may be subjected during the mating and nesting seasons.

State

State Government Code requires counties to draft a Noise Element for their General Plans to establish acceptable noise limits for various land uses. The Imperial County General Plan contains a Noise Element which provides land use compatibility criteria as Community Noise Equivalent Level (CNEL) for acceptable land use noise levels. CEQA Guidelines defining a significant noise effect require that the impacts of a project be considered cumulatively in conjunction with those of other projects planned for the area.

Local

Imperial County Regulations

Imperial County is the agency responsible for regulating and controlling noise through the Noise Element of the County General Plan and the Noise Ordinance of the County's Codified Ordinances.

The Noise Element of the Imperial County General Plan provides a program for incorporating noise issues into the land use planning process with a goal of minimizing adverse noise impacts to noise-sensitive receptors. The Noise Element specifies construction hours and noise limits and the acceptable property line operational noise levels at various land uses for day, evening, and night periods for the County Noise Ordinance.

Imperial County General Plan Noise Element

The Noise Element of the Imperial County General Plan examines noise sources and provides information to be used in setting land use policies to protect noise-sensitive land uses and for developing and enforcing a local noise ordinance. The Noise Element provides a program for incorporating noise issues into the land use planning process with a goal of minimizing adverse noise impacts to receptors such as residences, schools, and hospitals, which are sensitive to noise. The County identifies Noise Impact Zones for sensitive receptors likely to be exposed to significant noise (greater than 60 dB CNEL or 75 dB L_{eq}) from roadways, railroads, airports, and agricultural activities. The purpose of the Noise Impact Zone is to define areas and properties where an acoustical analysis of a Project is required to demonstrate project compliance with land use compatibility requirements and other applicable environmental noise standards. Any property within 1,500 feet of an interstate highway or 1,100 feet of a State highway is within a Noise Impact Zone, as is any property within 0.25 mile (1,320 feet) of existing farmland that is in an agricultural zone.

An acoustical analysis is required for any action that would be located, all or in part, in a Noise Impact Zone. According to the Noise Element, if the future noise levels from the action are within the normally acceptable noise level guideline but result in an increase of 5 dBA CNEL or greater, the action would have a potentially significant noise impact and mitigation measures must be considered. If the future noise level after the action is completed is greater than the normally acceptable noise level, a noise increase of 3 dBA CNEL or greater should be considered a potentially significant noise impact; and mitigation measures must be considered.

Land use compatibility defines the acceptability of a land use in a specified noise environment. Noise/Land Use Compatibility Guidelines are provided in the Noise Element to evaluate potential noise impacts and provide criteria for environmental impact findings and conditions for project approval. An acoustical analysis is required to demonstrate conformance of a Project with Noise/Land Use Compatibility Guidelines. These guidelines categorize noise levels at residential land uses as “normally acceptable” up to 60 dBA day-night average sound level (L_{dn}) or CNEL and as “conditionally acceptable” up to 70 dBA L_{dn} or CNEL.

Construction noise standards included in the Noise Element restrict construction equipment noise levels to 75 dBA L_{eq} when averaged over an eight-hour period and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB L_{eq} when averaged over a one-hour period. In addition, construction equipment operation is limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 5:00 p.m. on Saturday. Further, no commercial construction operations are permitted on Sunday or holidays.

Noise Ordinance

The County enforces construction and operation noise standards specified in the Noise Element through the Noise Ordinance. Noise-generating sources in Imperial County are regulated under the Imperial County Codified Ordinances, Title 9, Division 7 (Noise Abatement and Control) (Imperial

County 2022). The noise standards of the Ordinance limit the hours of construction and the level of noise emitted by the construction, as well as the operational noise levels at various land uses for day, evening, and night. Noise limits are established in Chapter 2 of this ordinance and shown in Table 3.13-2.

Table 3.13-2. Imperial County Property Line Noise Limits

Zone	Time	Average Hourly Sound (L_{eq})
Residential Zones	7 a.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
Multi-Residential Zones	7 a.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
Commercial Zones	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	55
Light Industrial/Industrial Park Zones	Anytime	70
General Industrial Zones	Anytime	75

Source: Imperial County Ordinance § 90702.00

Note: When the noise-generating property and the receiving property have different uses, the more restrictive standard shall apply. When the ambient noise level is equal to or exceeds the Property Line noise standard, the increase of the existing or proposed noise shall not exceed 3 dB Leq.

Property line noise limits apply to noise generation from one property to an adjacent property. The standards imply the existence of a sensitive receptor on the adjacent, or receiving, property. In the absence of a sensitive receptor, an exception or variance to the standards may be appropriate. These standards do not apply to construction noise. These standards are enforced through the County's code enforcement program on the basis of complaints received from persons impacted by excessive noise. The County may act to restrict disturbing, excessive, or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity residing in an area. Noise received at the property line of a residence is limited to 50 dBA L_{eq} in the daytime and 45 dBA L_{eq} at night.

Under Section 90702.00 of the County's Codified Ordinances, sound level limits for industrial noise are set at 75 dBA L_{eq} on or beyond the boundary of the property line at any time. Average hourly noise in residential areas is limited to 50 to 55 dBA from 7:00 a.m. to 10:00 p.m. and to 45 to 50 dBA from 10:00 p.m. to 7:00 a.m.

3.13.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts on noise and vibration, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to noise and vibration are considered significant if any of the following occur:

- Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Generate excessive groundborne vibration or groundborne noise levels.
- For a project located in the vicinity of a private airstrip of an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

Methodology

The project construction and operation noise levels were estimated using the computer noise propagation model SoundPLAN Essential (version 5.1), which calculates noise impacts taking into account terrain features including relative elevations of noise sources, receivers, and intervening objects, ground effects due to areas of pavement and unpaved ground, and atmospheric effects on sound propagation.

Construction

The potential construction noise levels onsite associated with project construction activities were estimated for each distinct construction phase (site preparation, project construction, well drilling and pipe interconnection, substation development and interconnection, and testing). The noise model conservatively assumes that construction equipment for each respective construction activity will be operated simultaneously and in a concentrated area nearest to the closest sensitive receptors. In actual practice, however, the types and numbers of construction equipment near any specific receptor location will vary over time. The project is anticipated to take approximately16 to 24 months to install, test, and become fully operational.

Estimated vehicle trips associated with each phase of construction is presented in Table 2.4-2 and 2.4-3 of the Noise Technical Report (Appendix K of this EIR). For the purpose of this analysis, the principals of logarithmic summation are applied to estimate the maximum noise increase associated with construction traffic along local surface streets. Specifically, noise levels increase by 3 dBA when the number of similar noise sources double. The increase in delivery/haul trucks and construction worker vehicle trips are not anticipated to double the amount of traffic that currently exists in the surrounding area. As such, the increase in delivery/haul trucks and worker vehicles in the surrounding roadways is not anticipated to incrementally increase noise levels in the surrounding area by 3 dBA or more and are not analyzed further herein.

Operation

Noise data from the ORMAT Tungsten Mountain facility, which is similar in design to the project, was used to model noise associated with geothermal plant operations using SoundPLAN Essential methodology for industrial sites. Accordingly, operation of the power plant is assumed to generate an average noise level of 62 dBA at 450 feet (equivalent to approximately 105 dBA at the source) with continuous operation (i.e., 24-hours per day). Similarly, the project wells would generate an average noise level of 72 dBA at 25 feet (equivalent to approximately 90 dBA at the source) with continuous operation. In addition to these sound source inputs, potential sound-occluding terrain and project features that define the three-dimensional sound were included in the propagation model space.

Due to the low number of additional trips associated with operation of the project, vehicles traveling to/from the project site are not expected to result in changes to noise levels in the surrounding area.

Impact Analysis

Impact 3.13-1 Would the project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction

Short-term construction noise impacts could result from land clearing and grading for well pads, solar fields, and work areas; transporting the drilling rig, associated equipment, workers, and materials to the well pad sites; well drilling; and construction of facilities at plant and parasitic solar fields, in addition to accessory facilities (including installing pipelines, power poles, and pumping units associated with each well).

For a conservative analysis, the cumulative noise for both phases of construction including drilling of all three production wells and injection well is assumed to occur simultaneously (although only one well would actually be drilled at any given time) and is propagated to the nearest sensitive receptors to estimate the maximum change in noise levels resulting from the proposed project as summarized in Table 3.13-3. As shown in Table 3.13-3, construction activities would not exceed the Imperial County daytime noise standard for construction activities of 75 dBA L_{eq} at the nearest sensitive receptor and nighttime well drilling activities would not result in perceptible noise levels at the nearest sensitive receptors. Therefore, impacts would be less than significant.

Table 3.13-3. Modeled Maximum Project Construction Sound Levels (Leq, dBA)

Modeled Receptors	Modeled Daytime Construction Noise Level[1]	Modeled Nighttime Construction Noise Level	Presumed Ambient Noise Level (Day/Night)	Noise Standard[2] (Day/Night)	Exceed Standard?
S1 (Resident at 104 E. Jasper Road)	30.2	25.8	50/45	75	No
S2 (Residential Area off E. Fawcett Road)	7.4	4.7	50/45	45	No

Source: Appendix K of this EIR

Notes:

1. Modeled noise level is associated with construction equipment. Modeled construction noise levels less than ambient would not be expected to increase noise levels at the modeled receptors.

2. The noise standard for as provided in the Imperial County Noise Element specifies that noise levels shall not increase more than 5 dBA CNEL from measured ambient noise level in Noise Impact Zones that are currently within normally acceptable noise level guidelines. Per Section 90702.00 of the County's Codified Ordinances, sound level limits for industrial noise are set at 75 dBA Leq on or beyond the boundary of the property line at any time.

Operation

Predicted daytime/nighttime noise levels attributed to concurrent operation of the project onsite stationary sources (i.e., OEC, ITLU, substation transformers, auxiliary facilities, production wells, injection wells) were propagated to two nearest sensitive receptors using the SoundPLAN noise model. Table 3.13-4 presents a summary of predicted project operational noise levels at the two nearest sensitive receptors. As summarized in Table 3.13-4, project-related operational noise would be below, and thus in compliance with the Imperial County noise standards which limits the increase in future noise levels to 5 dBA CNEL as a result of the action within Noise Impact Zones that are currently within normally acceptable noise level guidelines (i.e., 60 dB CNEL). Specifically, the project-related operation noise is estimated to be less than the assumed ambient daytime noise level of 50 dBA L_{eq} and nighttime noise level of 45 dBA L_{eq}. Thus, the project would not result in an increase in the assumed ambient noise level of 60 dBA CNEL. Therefore, the project would also not result in noise levels exceeding the threshold of 65 dBA CNEL established by the Imperial County noise standards, and impacts would be less than significant.

Table 3.13-4. Modeled Maximum Project Operations Sound Levels (dBA)

Modeled Receptors	Modeled 24-Hour Project Operation Noise Level[1] (L_{eq})	Presumed Ambient Noise Level (CNEL)	Calculated CNEL (Project + Ambient)	Noise Standard[2] (CNEL/L_{eq})	Exceed Standard?
S1 (Resident at 104 E. Jasper Road)	27.7	60	60	65/75	No
S2 (Residential Area off E. Fawcett Road)	14.3	60	60	65/75	No

Source: Appendix K of this EIR
Notes:
1. Modeled noise level is associated with construction equipment. Modeled construction noise levels less than ambient would not be expected to increase noise levels at the modeled receptors.
2. The noise standard for construction activities as provided in the Imperial County General Plan Noise Element specifies that construction noise shall not exceed 75 dBA at the nearest sensitive receptor. This standard is applicable for daytime noise given the restrictions on construction hours per the Noise Element. Nighttime noise standards are presumed to be any perceptible noise at the nearest sensitive receptor (i.e., and increase in 3 dBA above presumed ambient nighttime noise level of 45 dBA).

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.13-2 Would the project generate excessive groundborne vibration or groundborne noise levels?

Construction

Construction would result in temporary ground vibration. Construction activities most likely to cause vibration include heavy construction equipment and drilling. Vibration levels from surface construction including demolition, excavation, pile driving, etc. are typically less than 0.10 to 0.20 in/sec at 10 feet from the source. Ground-borne vibration dissipates very rapidly with distance, reducing the typical

construction-related vibrations to less than the threshold of 0.2 in/sec for typical non-engineered timber and masonry buildings at a distance greater than 10 feet from the source and to an imperceptible level at about 200 feet from the source (Appendix K of this EIR).

Construction would result in varying degrees of temporary ground vibration, depending on the specific construction equipment used and operations involved. Construction would result in additional heavy vehicle trips on local roadways accessing the project site. Rubber-tire heavy vehicles traveling on roadways typically will not produce perceptible vibration at adjacent buildings. Roadways providing access to the project are located at a distance of more than 100 feet from any offsite residence or any other sensitive receptor structure.

Construction activities most likely to cause vibration include heavy construction equipment and site grading operations. Although all heavy, mobile construction equipment has the potential to cause at least some perceptible vibration when operating close to buildings, the vibration is usually short term and is not of sufficient magnitude to cause building damage. Heavy equipment such as dozers, loaders, and drill rig equipment would not be operated close enough to any residences or structures to cause vibration impact. Therefore, impacts would be less than significant.

Operation

Operation of the project would not result in vibrations perceptible to nearby receptors. As such, impacts would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.13-3 For a project located in the vicinity of a private airstrip of an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The nearest airport to the project site is the Calexico International Airport, located approximately two miles southeast of the project site. According to Figure 4G of the Imperial County Airport Land Use Compatibility Plan (ALUCP), the project site is located outside of the noise contours of the Calexico International Airport (ALUC 1996). Therefore, the proposed project would not expose people to excessive airport noise levels and no impact is identified.

Mitigation Measure(s)

No mitigation measures are required.

3.13.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

At the end of the project's useful life, all equipment and facilities will be properly abandoned and dismantled. The solar facilities require the project applicant to implement a comprehensive reclamation plan that would restore the project site to preexisting (pre-project) conditions following decommissioning of the project. Adhering to Imperial County standards for construction noise levels would reduce the noise and vibration impacts to below a level of significance.

All abandonment and decommissioning activities would be short-term and any noise from decommissioning equipment (e.g., cranes; excavators) would be similar to the construction impacts discussed in Section 3.13.3 above and would not be significant. Noise from energy operations would entirely cease with the discontinuation of geothermal energy generation activities/facilities.

Residual

Adhering to the Imperial County standards for construction noise levels would reduce the noise and vibration impacts to below a level of significance.

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3.14 Public Services

This section includes an evaluation of potential impacts for identified public services that could result from implementation of the proposed project. Public services typically include fire protection, law enforcement, schools, and other public facilities, such as parks, libraries, and post offices. Each subsection includes descriptions of existing facilities, service standards, and potential environmental impacts resulting from implementation of the proposed project, and mitigation measures where appropriate. Section 3.17, Utilities/Service Systems, of this EIR evaluates impacts related to water supply, wastewater, and other utilities. The impact assessment provides an evaluation of potential adverse effects to public services based on criteria derived from the CEQA Guidelines in conjunction with actions proposed in Chapter 2, Project Description.

The IS/NOP prepared for this EIR determined that the project would not result in impacts on schools, parks and other public facilities (libraries and post offices). Therefore, these issue areas will not be discussed further and are included in Chapter 6, Effects Found Not Significant, of this EIR. The IS/NOP is included in Appendix A of this EIR.

3.14.1 Existing Conditions

The project site is located approximately one mile south of the City of Heber jurisdictional limit and approximately 0.5 miles west from the City of Calexico jurisdictional limit The project site is located within the Imperial County Fire Department (ICFD)/Office of Emergency Services (OES) and the Imperial County Sheriff Department's areas of service.

Fire Protection Services

The project site is located within the ICFD/OES service area. ICFD/OES currently has nine fire stations and six contracting agencies serving the entire 4,500 square miles of unincorporated Imperial County. The nine ICFD stations are located in the communities of Heber, Seeley, Ocotillo, Palo Verde, Niland, Winterhaven, Salton City, and the City of Imperial (ICFD 2019). Each of the county fire stations is staffed with a Captain, Firefighter, and Reserve Firefighter with the only exception being the Palo Verde station that is staffed with a Firefighter and Reserve Firefighter. Every fire station has a Type I engine as its primary apparatus. The City of Imperial and Heber stations also house a Ladder Truck along with the Type I engine. The Seeley and Heber stations also house Type III engines. The ICFD Emergency Units strive to respond immediately after receiving the initial tone for service. The actual response time would be determined by the area of response throughout the vast response area covered.

The closest fire station to the project site is the fire station located at 1078 Dogwood, Suite 101 in Heber. The Heber station is located one mile north of the project site, along Dogwood Road.

Law Enforcement Services

Imperial County's Sheriff's Department is responsible for police protection services in the unincorporated areas of Imperial County and the City of Holtville. The patrol function is divided between North County Patrol, South County Patrol, East County Operations, and City of Holtville. Deputies assigned to the Patrol Divisions are the "first responders" to a call for law enforcement service. The main patrol station is located in El Centro on Applestill Road. Sheriff substations are located in the communities of Brawley, Niland, Salton City, and Winterhaven with resident deputies located in the unincorporated community of Palo Verde. Under an existing mutual aid agreement,

additional law enforcement services would be provided if and when required by all of the cities within the county, as well as with Border Patrol and the California Highway Patrol. The California Highway Patrol provides traffic regulation enforcement, emergency accident management, and service and assistance on state roadways and other major roadways in the unincorporated portions of Imperial County.

The project site is located in the South patrol zone, and the county patrol office is located at 328 Applestill Road in El Centro. The Sheriff's office is located approximately 2.7 miles northeast of the project site.

3.14.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the project.

State

Fire Codes and Guidelines

The California Fire Code (Title 24, Part 9 of the CCR) establishes regulations to safeguard against hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout the State of California. The Fire Code includes regulations regarding fire resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire services features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas.

Local

Imperial County General Plan

The Imperial County General Plan Seismic and Public Safety Element contains goals and objectives that relate to fire protection and law enforcement pertinent to the proposed project. An analysis of the project's consistency with the applicable goals and objectives of the Seismic and Public Safety Element is provided in Table 3.14-1.

Imperial County Office of Emergency Services – Multi-Hazard Mitigation Plan

The ICFD is the local Office of Emergency services in Imperial County. Imperial County has developed the multi-jurisdictional hazard mitigation plan (MHMP) to create a safer community. The purpose of the MHMP is to significantly reduce deaths, injuries, and other disaster losses caused by natural and human-caused hazards in Imperial County. The MHMP describes past and current hazard mitigation activities and outlines goals, strategies, and actions for reducing future disaster losses. The Imperial County MHMP is the representation of the County's commitment to reduce risks from natural and other hazards and serves as a guide for decision-makers as they commit resources to reducing the effects of natural and other hazards. The jurisdictions included in the MHMP include the cities of Brawley, Calexico, Calipatria, El Centro, Holtville, Imperial, and Westmoreland, the IID and the Imperial County Office of Education. The MHMP complies with all federal, state, and local laws guiding disaster management.

Table 3.14-1. Project Consistency with Applicable General Plan Seismic and Public Safety Element

Applicable General Plan Policies	Consistency Determination	Analysis
Seismic and Public Safety		
Goal 1: Include public health and safety considerations in land use planning.	Consistent	The project's CUP applications and site plans will be reviewed by the Imperial County Fire Department to ensure that the proposed facilities comply with state and local fire codes and fire safety features are met.
Objective 1.8: Reduce fire hazards by the design of new developments		
Goal 2: Minimize potential hazards to public health, safety, and welfare and prevent the loss of life and damage to health and property resulting from both natural and human-related phenomena.	Consistent	See response above for a discussion on how the project would implement all state and local fire codes to reduce the potential for fire hazards. With regards to public safety and security, the project would include perimeter security fencing. In addition, there will be a security service that monitors the property.
Objective 2.5: Minimize injury, loss of life, and damage to property by implementing all state codes where applicable.		

Source: ICPDS 1997
CUP = conditional use permit

Imperial County Emergency Operations Plan

The Imperial County Emergency Operations Plan (EOP) provides guidance and procedures for the County to prepare for and respond to emergencies. The EOP designates the Sheriff's Department as having jurisdiction in an emergency involving evacuation within the unincorporated areas of the county and within contract cities.

3.14.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to public services, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to public services are considered significant if the project would result in the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause

significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

- Fire protection
- Police protection
- Schools
- Parks
- Other Public Facilities

As mentioned previously, it was determined through the preparation of an IS/NOP that the project would not result in impacts on schools, parks, or other public facilities. Therefore, those issue areas will not be discussed further and are included in Chapter 6, Effects Found Not Significant, of this EIR.

Methodology

Evaluation of potential fire and police service impacts of the proposed project was based on consultation with the ICFD, Sheriff's Department and review of other development projects in the area.

Impact Analysis

Impact 3.14-1 ***Would the project result in the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection?***

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.

Points of ingress/egress would be accessed via locked gates that can be opened by any emergency responders. Although the proposed project would be designed, constructed, and operated in accordance with applicable fire protection and other environmental, health, and safety requirements, the project applicant will be required to consult and coordinate with the Fire Department to address any fire safety and service concerns so that adequate service is maintained. The project will prepare a thorough Emergency Response Plan (ERP) created with consultation from the ICFD. The project ERP will address all emergencies likely to occur at the site and requires an Emergency Coordinator who can work with County Fire Protection. The plan will contain information vital to emergency responder and engineering methods for protecting flammable isopentane tanks at the project site.

While the proposed project may result in an increase in demand for fire protection service, with installation of internal fire prevention systems and ICFD consultation, 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.

Imperial County requires payment of impact fees for new development projects. Fire Impact Fees are imposed pursuant to Ordinance 1418 §2 (2006), which was drafted in accordance with the County's TischlerBise Impact Fee Study. The ordinance has provisions for non-residential industrial projects based on square footage. The project applicant will be required to pay the fire protection services' impact fees. These fees would be included in the Conditions of Approval for the CUPs. No new fire stations or facilities would be required to serve the project. Impacts would therefore be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.14-2 ***Would the project result in the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?***

The project does not include a residential component; therefore, it would not result in a substantial addition of residents to the Sheriff Department's service area. Although the potential is low, the proposed project may attract vandals or other security risks and the increase in construction related traffic could increase demand on law enforcement services. With regards to public safety and security, the project would include perimeter security fencing. In addition, there will be a security service that monitors the property, thereby minimizing the need for police surveillance. Points of ingress/egress would be accessed via locked gates.

The proposed project may result in a temporary increase in demand for law enforcement service due to the presence of construction equipment and material being stored on-site. With installation of the proposed security features on the project site, the proposed 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. 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 the CUPs 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.

Mitigation Measure(s)

No mitigation measures are required.

3.14.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

At the end of the project's useful life, all equipment and facilities will be properly abandoned and dismantled. Decommissioning and restoration of the project site would occur and would not result in

an increased need for fire and police protection services. Decommissioning of the project would occur through implementation of a required Reclamation Plan. These activities would be in the form of disassembling project components and then restoring the site to pre-project conditions, both of which would not create an increase in demand for police or fire service beyond the level required for proposed operations. Therefore, no impact is identified and no mitigation is required for this phase.

Residual

With payment of the development impact fees for fire and police protection services, project impacts would be less than significant. No mitigation is required, and no residual significant and unmitigated impacts would result.

3.15 Transportation

This section addresses the project's impacts on traffic and the surrounding roadway network associated with construction and operation of the project. The following discussion describes the existing environmental setting in the surrounding area, the existing federal, state, and local regulations regarding traffic, and an analysis of the potential impacts of the proposed project. Information in this section is summarized from the *Traffic Technical Report* prepared by Catalyst Environmental Solutions. This report is included in Appendix L of this EIR.

3.15.1 Existing Conditions

As described in the Imperial County Circulation and Scenic Highways Element and the Imperial County Long Range Transportation Plan, the regional roadway network consists of one interstate route (I-8), seven State Routes (SR-7, SR-78, SR-86, SR-98, SR-111, SR-115, and SR-186), and several regionally significant arterials. Additionally, three international Ports of Entry (POEs) between the United States and Mexico are within the Imperial County limits: Calexico, Calexico East, and Andrade (Appendix L of this EIR).

Freeways

Freeways are controlled-access, high-speed roadways with grade-separated interchanges. They are intended to carry high volumes of traffic from region to region. The following freeways provide regional access to the project area:

- **Interstate 8 (I-8)** is the primary east-west route through Imperial County and runs for 172 miles from San Diego, California, to Yuma, Arizona. With two travel lanes, it spans 79 miles within Imperial County. From the west it connects to the western end of SR-98. In Imperial County, it intersects with SR-86, SR-111 (access to the international POE at Calexico), SR-7, and SR-115 and then reconnects to SR-98 at its eastern end. It also accesses the SR-186 connection to the Andrade POE. It serves regional, cross-border, and interstate traffic and provides access to desert recreational areas.

Major Highways

- **State Highway 98 (SR-98)** is a 56.9-mile east-west route that is entirely contained within Imperial County. It traverses the southern portion of Imperial Valley parallel to I-8 and the U.S./Mexico International Border. It begins at I-8 near Ocotillo, intersects SR-111 and SR-7, and terminates at I-8 near Midway Well. It is mostly two lanes with the exception of having four lanes through portions of the City of Calexico. It serves as an alternate route to I-8, providing access to many agricultural areas in the eastern part of the region, and is used for cross-border traffic.
- **State Highway 78 (SR-78)** is an 81.8-mile east-west route that crosses Imperial County from the San Diego County line to the north junction of SR-86, where it then merges and becomes SR-86 for 24 miles, and then becomes SR-78 again to the Riverside County line. It is typically a two-lane conventional highway except for where it is co-designated SR-86, where it was upgraded to a four-lane expressway or four-lane conventional highway.
- **State Highway 86 (SR-86)** is a 90.8-mile north-south route serving Imperial and Riverside counties. It begins at SR-111 near the U.S./Mexico International Border and extends northward

(roughly parallel to SR-111) along the western shore of the Salton Sea, where it ends at Avenue 46 in the City of Indio. It is a two-lane road in Imperial County and ends at the Riverside County line as a four-lane expressway. It intersects several State routes, including I-8 and SR-78 (where it shares the 24-mile alignment) and continues north to cross the Imperial County/Riverside County line, intersecting SR-195 and SR-111.

- **State Highway 111 (SR-111)** runs north from the downtown Calexico POE for 64 miles except for a 1.2-mile break within Brawley, where it shares an alignment with SR-78. From the Calexico POE to SR-98, it functions primarily as a city street and provides access to many local businesses.
- **State Highway 7 (SR-7)** is a 6.7-mile north-south route from the Calexico East POE to I-8. It is a four-lane highway with access control at the Calexico East POE, SR-98, and direct access to I-8 for the movement of international commercial goods.
- **State Highway 115 (SR-115)** is a 33.6-mile north-south route that begins at the junction with I-8 east of Holtville and ends at the junction with SR-111 in Calipatria. It includes a segment that shares alignment with SR-78, and it is typically a two-lane conventional highway with some short four-lane segments. It serves as an alternate route to SR-86 and SR-111 and is important in facilitating the movement of interregional agricultural goods and intraregional travel between various cities within the County.

Regional Arterials

The regional roadway system features several important arterials that generally run in either an east-west or north-south orientation. The important north-south arterials (listed from west to east) include Forrester Road, Austin Road, Imperial Avenue, and Dogwood Road. The important east-west arterials in the project area (listed from south to north) include Jasper Road, Heber Road, McCabe Road, and Ross Road.

Existing Traffic Volumes

Imperial County establishes Level of Service (LOS) standards to assess the performance of a street or highway system and the capacity of a roadway. LOS is a professional industry standard by which the operating conditions of a given roadway segment or intersection are measured. LOS ranges from A through F, where LOS A represents the best operating conditions and LOS F represents the worst operating conditions. LOS A facilities are characterized as having free flowing traffic conditions with no restrictions on maneuvering or operating speeds; traffic volumes are low and travel speeds are high. LOS F facilities are characterized as having forced flow with many stoppages and low operating needs. Additionally, with the growth of Imperial County, transportation management and systems management will be necessary to preserve and increase roadway “capacity.” LOS standards are used to assess the performance of a street or highway system and the capacity of a roadway.

Table 3.15-1 summarizes the existing Annual Average Daily Trips (ADT) for road segments in the vicinity of the project. Imperial County targets LOS C as the minimum acceptable level of service (Imperial County 2008). As shown in Table 3.15-1, Dogwood Road from SR-86 to SR-98 exceeds this guideline, and is currently operating at LOS D.

Table 3.15-1. Existing Road Conditions

Segment	Direction	Limits	Capacity at LOS C[1]	ADT[2]	LOS
I-8	E-W	From Forrester Rd. to SR-111	60,000	35,000	B
SR-86	E-W	From Dogwood Rd. to SR-111	44,600	4,200	A
SR-98	E-W	From Dogwood Rd. to SR-111	7,100	21,800	F
SR-111	N-S	From I-8 to Northern Calexico City Limits	40,000	34,500	C
McCabe Rd.	E-W	From SR-86 to Dogwood Rd.	7,100	4,146	C
McCabe Rd.	E-W	From Dogwood Rd. to SR-111	7,100	2,607	B
Jasper Rd.	E-W	From SR-111 to Bowker Rd.	7,100	495	A
Forrester Rd.	N-S	From I-8 to McCabe Rd.	7,100	1,366	A
Austin Rd.	N-S	From I-8 to McCabe Rd.	7,100	1,408	A
Dogwood Rd.	N-S	From SR-86 to SR-98	7,100	8,360	D

Source: Appendix L of this EIR

Notes:

1 - Capacity based on Table 5 (Imperial County Standard Street Classification Average Daily Vehicle Trips) from Imperial County's General Plan Circulation and Scenic Highways Element (Imperial County 2008)

2- Regional highway volumes on Caltrans facilities were obtained from Caltrans Traffic Census Program (Caltrans 2022). Regional arterial volumes on Imperial County facilities were obtained from Imperial County (2022).

Transit Network

Imperial Valley Transit (IVT) is an inter-city fixed route bus system, subsidized by the Imperial Valley Association of Governments, administered by the County Department of Public Works and operated by a public transit bus service. The service is wheelchair accessible and Americans with Disabilities Act compliant. IVT Routes are defined categorized in the following manner:

- **Fixed Routes.** Fixed routes operate over a set pattern of travel and with a published schedule. The fixed route provides a low cost, reliable, accessible and comfortable way to travel.
- **Deviated Fixed Route.** In several service areas, IVT operates on a deviated fixed route basis so that persons with disabilities and limited mobility are able to travel on the bus. Passengers must call and request this service the day before service is desired in the communities of Seeley, Ocotillo and the east side of the Salton Sea.
- **Remote Zone Routes.** Remote zone route operate once a week. These routes are "lifeline" in nature in that they provide connections from some of the more distant communities in the Imperial County area (IVT 2023).

The project site is not within the Fixed Route Transportation system and, therefore, would not receive regular bus service to the project site or within the vicinity of the project site. The nearest IVT bus stop is located at the Imperial Valley Mall, which is approximately four miles north of the project site.

Bicycle Facilities

None of the roadway segments within the vicinity of the project site are designated as bicycle facilities.. However, Dogwood Road is proposed as a Class I multi-use path in the Imperial County Regional Active Transportation Plan (Imperial County Transportation Commission 2022). Class I multi-use paths (frequently referred to as “bicycle paths”) are physically separated from motor vehicle travel routes, with exclusive rights-of-way for non-motorized users like bicyclists and pedestrians.

3.15.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the proposed project.

State

California Department of Transportation

The State of California Department of Transportation (Caltrans) has responsibility over the design, construction, maintenance, and operation of the California State Highway System. Caltrans has jurisdiction over State highway right-of-way and sets maximum load limits for trucks and safety requirements for oversized vehicles that operate on highways. The project does not include any components which would encroach into Caltrans jurisdiction.

Senate Bill 743

In September 2013, the Governor’s Office signed Senate Bill 743 into law, starting a process that fundamentally changes the way transportation impact analysis is conducted under CEQA. Within the State’s CEQA Guidelines, these changes include the elimination of Auto Delay, LOS, and similar measurements of vehicular roadway capacity and traffic congestion as the basis for determining significant impacts. The guidance identifies vehicle miles traveled (VMT) as the most appropriate CEQA transportation metric, along with the elimination of Auto Delay/LOS for CEQA purposes statewide. The justification for this paradigm shift is that Auto Delay/LOS impacts lead to improvements that increase roadway capacity and therefore induce more traffic and greenhouse gas emissions.

Regional

SCAG 2020-2045 RTP/SCS (Connect SoCal)

On September 3, 2020, SCAG adopted the 2020–2045 RTP/SCS (SCAG 2020). The RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. Input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses, and local stakeholders within the Counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The 2020-2045 RTP/SCS demonstrates how the region will reduce emissions from transportation sources to comply with SB 375 and meet the NAAQS set forth by the Clean Air Act.

The updated RTP/SCS contains thousands of individual transportation projects that aim to improve the region’s mobility and air quality and revitalize the economy. Since the RTP/SCS’s adoption, the county transportation commissions have identified new project priorities and have experienced technical changes that are time sensitive. Additionally, the new amendments for the plan have outlined

minor modifications to project scopes, costs and/or funding and updates to completion years. The amendments to the RTP/SCS do not change any other policies, programs, or projects in the plan.

Local

County of Imperial Circulation and Scenic Highways Element

The Circulation and Scenic Highways Element identifies the location and extent of transportation routes and facilities. It is intended to meet the transportation needs of local residents and businesses and as a source for regional coordination. The inclusion of Scenic Highways provides a means of protecting and enhancing scenic resources within highway corridors in Imperial County. The purpose of the Circulation and Scenic Highways Element is to provide a comprehensive document that contains the latest knowledge about the transportation needs of the County and the various modes available to meet these needs. Additionally, the purpose of this Element is to provide a means of protecting and enhancing scenic resources within both rural and urban scenic highway corridors.

Coordination across jurisdictional standards for road classification and design standards was identified as a crucial component to the 2008 update of the Circulation and Scenic Highways Element. The intent of this element is to provide a system of roads and streets that operate at an LOS “C” or better (County of Imperial 2008).

3.15.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to transportation, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to transportation are considered significant if any of the following occur:

- Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities
- Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- Result in inadequate emergency access

Methodology

The assessment evaluates the proposed project’s trip generation during and after construction, and roadway conditions for roads that would be utilized to access the project site for construction.

Project Trip Generation

CONSTRUCTION

The project is anticipated to take 16 to 24 months to install, test, and become fully operational. Project construction activities will require workers to arrive and depart the project site daily. Additionally, some heavy-truck traffic will occur to deliver and remove equipment and materials to/from the site. Apart

from the direct construction traffic described above, some ancillary trips would also occur related to non-heavy truck deliveries, construction management staff, periodic inspections, etc.

Typically, each worker would be expected to arrive and depart the site at least once, resulting in a daily trip rate of two vehicle trips per worker per day for all 15 workers. Given the site's close proximity to Heber, some workers could be expected to leave and return to the site once per day on breaks. Conservatively assuming 50 percent of workers left and returned once per day (e.g., for lunch), this would result in a daily trip rate of four vehicle trips per worker per day for 8 workers.

Vendor and haul trips consist of heavy vehicle trips to the site includes delivery of construction equipment and materials, as well as transport of equipment and other materials to be removed from the site. Heavy-vehicle trips would not be expected to occur uniformly over the course of the construction period, but rather on occasion as delivery and removal of equipment/materials is required. For the purposes of this temporary construction traffic generation evaluation, 40 daily vendor truck trips and 10 haul trips were conservatively assumed to occur in conjunction with the estimated construction worker load of 15 workers. The daily distribution of truck trips over the course of the 12-hour workday is also expected to be variable; for this analysis, a conservative estimate of 20 percent of daily trips was assumed to occur during both the AM and PM commuter peak hours. As trucks are larger and heavier than passenger cars, the reduced acceleration, braking, and handling characteristics, a Passenger Car Equivalent (PCE) factor of 2.5 is applied to each truck trip to account for the effects of these heavy vehicles within the traffic stream on flat terrain (per the HCM methodology).

The project's construction trip generation is summarized in Table 3.15-2. Accordingly, the total number of vehicle trips generated by project construction is conservatively estimated at 171 PCE trips per day, with 91 total trips during the AM peak hour and 91 total trips during the PM peak hour.

Table 3.15-2. Construction Trip Generation

Trip Type	Quantity	Maximum Daily Volumes (ADT)			AM Peak Hour			PM Peak Hourr		
		Rate	PCE	Volume	In	Out	Total	In	Out	Total
Workers	15 workers	3/worker	1.0	46	46	0	46	0	46	46
Vendor	20 vehicles	2/vehicle	2.5	100	10	10	20	10	10	20
Haul	5 vehicles	2/vehicle	2.5	25	12.5	12.5	25	12.5	12.5	25
Total				**171**	**68.5**	**22.5**	**91**	**22.5**	**68.5**	**91**

Source: Appendix L of this EIR

OPERATION

Once the proposed project is complete, the site will be staffed with 1-2 onsite employees. The daily trip rates used for determining the project's operations worker trip generation are based on the 10th Edition of ITE Trip Generation manual for General Light Industrial workers. Deliveries of materials required for operations to the site would be vary and would be sporadic throughout the work week. However, for a conservative analysis, it is assumed that one delivery of materials per day will be supplied to the project site (i.e., one vendor truck per day). These vendor trips would generally not occur during peak hours but are considered as such herein for a conservative analysis. Table 3.15-3 provides the estimated average daily on-road project trip generation (i.e., trips to and from the site) for operation of the proposed project.

Table 3.15-3. Operation Trip Generation

Trip Type	Quantity	Maximum Daily Volumes (ADT)			AM Peak Hour			PM Peak Hourr		
		Rate	PCE	Volume	In	Out	Total	In	Out	Total
Workers	2 workers	3.05/worker	1.0	6	6	0	6	0	6	6
Vendor	1 vehicle	2/vehicle	2.5	5	2.5	2.5	5	2.5	2.5	5
Total				**11**	**8.5**	**2.5**	**11**	**2.5**	**8.5**	**11**

Source: Appendix L of this EIR

VMT

The County has not adopted its own VMT thresholds, for this reason the OPR's Technical Advisory on Evaluating Transportation Impacts on CEQA (December 2018) was used to evaluate VMT impacts. OPR's Technical Advisory provides guidance for lead agencies to evaluate transportation impacts from projects based on VMT metrics. It provides screening criteria, which can be used to quickly identify whether a project should be expected to cause a less-than-significant impact related to VMT. Per OPR's Technical Advisory, projects may be screened out as follows:

- Small Projects: projects generate fewer than 110 trips per day,
- Local Serving Retail (generally less than 50,000 square feet in building area),
- Location-Based (low VMT areas, within ½ mile of an existing major transit stop, or along a high-quality transit corridor), and
- Provision of affordable housing.

Impact Analysis

Impact 3.15-1 Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

During the construction phase of the proposed project, the maximum number of trip ends generated on a daily basis would be approximately PCE 171 trips. Based on the low amount of construction trips generated and low existing traffic volumes on area roadways, no substantial transportation impacts are anticipated. Implementation of the proposed project would not require any public road widening to accommodate vehicular trips associated with the proposed project (construction phase and operational phase). Once the proposed project is complete, the site will be staffed with 1-2 onsite employees. During operations, the proposed project would generate 11 trips per day.

There is no regular bus service to the general area and project-related construction and operations and maintenance phases would not impact mass transit. The proposed project would not interfere with bicycle facilities because the proposed project is located in a rural portion of the County with no existing designated bike routes in the immediate vicinity. Therefore, the proposed project would not result in any significant impacts to any roadway segments or transportation related facilities/infrastructure within the project area during construction and operation; and would not conflict with a program plan, ordinance, or policy as it relates to traffic and transportation. Impacts are considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.15-2 Would the project conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Construction of the proposed project would result in nominal and short-term increases in vehicle trips by construction workers and construction vehicles on area roadways. These trips would include construction workers commuting to and from the project site, haul truck trips associated with the transfer and disposal of materials, and material and equipment deliveries. The number of construction-related trips would vary each day, depending on construction phase, planned activity, and material needs. Table 3.15-4 summarizes the maximum estimated project daily VMT for construction and operations.

Table 3.15-4. Maximum Project Daily VMT

Trip Type	Number of One-Way Trips	One-Way Trip Length (miles)[2]	Daily VMT (miles)
Workers[1]	46	10.2	469
Vendor	40	225	9,000
Haul	2	20	40
Temporary Construction Maximum Total Daily VMT			**9,509**
Workers[1]	6	10.2	61.2
Vendor	2	11.9	23.8
Haul[3]	0	20	0
Operations Total Daily VMT			**85**

Source: Appendix L of this EIR

Notes:

1. The daily trip rates used for determining the project's construction and operation worker trip generation are based on the 10th Edition of ITE Trip Generation manual for General Light Industrial workers. A maximum of 15 construction workers are assumed and 2 operational workers for this conservative estimate.

2. Trip lengths consist of default CalEEMod values with exception of vendors for delivery of project equipment during construction, with deliveries of solar panels, geothermal equipment, etc. assumed to originate at Port of Long Beach, approximately 225 miles from the project site.

3. All truck trips are assigned to vendor deliveries.

OPR's Technical Advisory on Evaluating Transportation Impacts on CEQA (December 2018) recommends the use of VMT metrics when analyzing land use projects and plans. Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less than significant transportation impact. Per CEQA Guidelines, §15064.3 subdivision (a), 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." Here, the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks and is not applied for heavy-duty trucks. Accordingly, construction of the project would generate 46 on-road passenger vehicle trips and operations would result in 6 daily passenger vehicle trips which is much fewer than the screening threshold for small projects of 110 on-road passenger vehicle trips. Therefore, the proposed project

would not conflict or be inconsistent with Section 15064.3(b) of the CEQA Guidelines and this impact is considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.15-3 Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The proposed project would not result in any changes to any roads, intersections, streets, highways, nor would it provide any incompatible uses to the street and highway system. All vehicles that would be used for travel to and from the project site would be licensed and comply with all appropriate transportation laws and regulations including obtaining and adhering to provisions of any required permits for oversized loads. As such, no impact related to transportation design hazards would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.15-4 Would the project result in inadequate emergency access?

All proposed facilities would be constructed within the property boundaries of the project site and would not affect emergency vehicle access to the facility or any roadway. Emergency vehicle access is identified and designated at the Dogwood site, and these areas would not be changed as result of the proposed project.

At the time of final design for the project, and as a Condition of Approval of the project, the applicant will submit a final Haul Route Study that identifies what road improvements, if any, are requested by Department of Public Works and a cost estimate. The applicant would work with Department of Public Works to address the appropriate improvements and Applicant's responsibility for the cost of improvements, if required. The haul route study would include the following components:

1. Pictures and/or other documents to verify the existing conditions of the roads proposed to be utilized for haul routes
2. The haul route study shall evaluate impacts and provide recommendations on improvements, as well as quantity and cost estimates for such improvements

The County Department of Public Works will require a Roadway Maintenance Agreement, which would include a requirement that the Applicant provide financial security to maintain the road(s) to be utilized during construction as identified on the approved haul route study. The Applicant would be responsible to repair any damages caused by construction traffic during construction and maintain the applicable road(s) in a safe condition. The use of the proposed access roads is not otherwise anticipated to increase hazards because of design features or incompatible uses and no significant impact is identified.

Mitigation Measure(s)

No mitigation measures are required.

3.15.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

As presented above, construction traffic would not result in a significant impact on any of the roadway segments or intersections because of the low volume of traffic. A similar scenario would occur during the decommissioning and site restoration stage for the proposed project. ADT would be similar to or less than the ADT required for construction. Similarly, the decommissioning activities would not result in a significant impact related to possible safety hazards, or possible conflicts with adopted policies, plans, or programs as the decommissioning and subsequent restoration would revert the project site to pre-project conditions. Therefore, decommissioning and restoration of the project site would not generate traffic resulting in a significant impact on the circulation network. A less than significant impact is identified and no mitigation is required.

Residual

The construction and operation of the proposed project would not result in direct impacts on intersections, roadway segments, and freeway segments. Therefore, less than significant impacts have been identified. No mitigation is required and no residual unmitigated impacts would occur with implementation of the project.

3.16 Tribal Cultural Resources

This section discusses tribal cultural resources that may be potentially impacted by the proposed project. The following identifies the existing cultural resources within the project site, analyzes potential impacts of the proposed project, and recommends mitigation measures to avoid or reduce potential impacts of the proposed project.

3.16.1 Existing Conditions

Tribal cultural resources are defined as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR); or included in a local register of historical resources; or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant. Historical resources, unique archaeological resources, or non-unique archaeological resources may also be tribal cultural resources if they meet these criteria (PRC Section 21074).

Tribal Cultural Setting

The Cultural Resource Assessment prepared for the project (Appendix G of this EIR) contains a detailed description of the prehistoric, ethnographic, and historic context of the project region.

Native American Outreach

Sacred Lands File Results

PaleoWest contacted the Native American Heritage Commission (NAHC) for a review of the Sacred Land Files (SLF) on January 19, 2023. The objective of the SLF search was to determine if the NAHC had any knowledge of Native American cultural resources (e.g., traditional use or gathering area, place of religious or sacred activity, etc.) within the immediate vicinity of the project area. The NAHC responded on February 28, 2023, stating that the SLF search resulted in positive results.

The NAHC recommended that the Ewiiaapaayp Band of Kumeyaay Indians and the Torres-Martinez Desert Cahuilla Indians be contacted to request information on known Native American cultural resources in the project vicinity. In addition, the NAHC provided a list of 24 individuals representing 16 Native American tribal groups that may also have knowledge of cultural resources in the project area. Outreach letters that included a map of the project area were sent to the Native American contacts on March 1, 2023, with follow up emails and phone calls conducted on March 15, 2023. A summary of the Native American outreach letters is provided in Appendix G of this EIR.

As of March 23, 2023, the following four comments have been received:

- Ray Teran of the Viejas Band of Kumeyaay Indians (“Viejas”) responded via email on March 1, 2023, requesting a project plan and description, specifically as it relates to ground disturbance. PaleoWest responded later that day stating that information on the full extent of ground disturbance was not yet known but that it is anticipated that some ground disturbance will take place in most of the Project area that was shown on the map provided in the outreach letter. Mr. Teran responded via email on March 2, 2023, stating he had reviewed the proposed project and at this time has determined that the project site has cultural significance or ties to Viejas. He further noted that cultural resources have been located within or adjacent to the

proposed project and requested that a Kumeyaay Cultural Monitor be on site for ground-disturbing activities. In addition, he requested that the Viejas be informed of any new developments such as inadvertent discovery of cultural artifacts, cremation sites, or human remains.

- On March 2, 2023, Jill McCormick, the Historic Preservation Officer of the Quechan Indian Tribe, responded via email and stated that the tribe does not wish to provide PaleoWest with any comment on the project.
- Rebecca Osuna, Chairperson of the Inaja-Cosmit Band of Indians, stated on March 15, 2023, that the project is outside of the tribe's geographic area and she had no comments at this time.
- Lisa Cumper, Tribal Historic Preservation Officer for the Jamul Indian Village, discussed the proposed project on the phone with PaleoWest staff on March 15, 2023, and noted that the tribe would defer to more local Native American groups.

AB 52 Tribal Notification

In accordance with AB 52, Imperial County, as the CEQA lead agency, sent an AB 52 consultation request letter to the Campo Band of Mission Indians and Fort Yuma-Quechan Indian Tribe on January 19, 2024.

3.16.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the project.

3.16.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to tribal cultural resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to tribal cultural resources are considered significant if the project causes a substantial adverse change in the significance of a tribal cultural resource defined in PRC section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC section 5020.1(k)
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe

Impact Analysis

Impact 3.16-1 ***Would the project cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:***

Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)

A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

AB 52 was passed in 2014 and took effect on July 1, 2015. It establishes a new category of environmental resources that must be considered under CEQA called tribal cultural resources (PRC 1074) and establishes a process for consulting with Native American tribes and groups regarding those resources. AB 52 requires a lead agency to begin consultation with a California Native American Tribe that is traditionally and culturally affiliated with the geographic areas of the proposed project.

In accordance with AB 52, the County provided notification of the proposed project to Native American tribes that the County understands to be traditionally and culturally affiliated with the geographic area of the proposed project. This notification was provided in a letter sent via certified mail on January 19, 2024, to the Campo Band of Mission Indians and Fort Yuma-Quechan Indian Tribe. The County requested for tribes to provide any information regarding any Traditional Cultural Properties, Sacred Sites, resource collecting areas, or any other areas of concern known to occur in the project area. To date, the Campo Band of Mission Indians and Fort Yuma-Quechan Indian Tribe have not responded that indicate the potential for traditional cultural properties or sacred sites.

As previously mentioned in Section 3.16.1 above, the NAHC responded on February 28, 2023, stating that the SLF search resulted in positive results. The NAHC recommended that the Ewiiaapaayp Band of Kumeyaay Indians and the Torres-Martinez Desert Cahuilla Indians be contacted to request information on known Native American cultural resources in the project vicinity. In addition, the NAHC provided a list of 24 individuals representing 16 Native American tribal groups that may also have knowledge of cultural resources in the project area. Outreach letters that included a map of the project area were sent to the Native American contacts on March 1, 2023, with follow up emails and phone calls conducted on March 15, 2023. Ray Teran of the Viejas Band of Kumeyaay Indians (“Viejas”) responded via email on March 2, 2023, stating he had reviewed the proposed project and at this time has determined that the project site has cultural significance or ties to Viejas. He further noted that cultural resources have been located within or adjacent to the proposed project and requested that a Kumeyaay Cultural Monitor be on site for ground-disturbing activities. In addition, he requested that Viejas be informed of any new developments such as inadvertent discovery of cultural artifacts, cremation sites, or human remains. Implementation of Mitigation Measure TCR-1 would ensure that the potential impacts on unidentified tribal cultural resources do not rise to the level of significance.

Mitigation Measure(s)

TCR-1 If previously unidentified tribal cultural resources are identified during construction activities, construction work within 100 feet of the find shall be halted and directed away from the discovery until a Secretary of the Interior qualified archaeologist and tribal representative assesses the significance of the resource. The archaeologist, in consultation with Imperial County and any interested Tribes, shall make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the finds are determined to be a tribal cultural resource as defined in PRC Section 21074.

Significance After Mitigation

The proposed project has the potential to impact unidentified tribal cultural resources during construction. However, implementation of Mitigation Measure TCR-1 would reduce this potential impact to a less than significant level.

3.16.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Decommissioning/Restoration

At the end of the project's useful life, all equipment and facilities will be properly abandoned and dismantled. No impact is anticipated from restoration activities as the ground disturbance and associated impacts will have occurred during the construction phase of the proposed project.

Residual

With implementation of Mitigation Measure TCR-1, potential impacts on unidentified tribal cultural resources would be reduced to a level less than significant. No unmitigable impacts on tribal cultural resources would occur with implementation of the proposed project.

3.17 Utilities and Service Systems

This section includes an evaluation of potential impacts for identified Utilities/Service Systems that could result from implementation of the project. Utilities/Service Systems include wastewater treatment facilities, storm drainage facilities, water supply and treatment, and solid waste disposal. The impact analysis provides an evaluation of potential impacts to Utilities/Service Systems based on criteria derived from CEQA Guidelines in conjunction with actions proposed in Chapter 2, Project Description.

The IS/NOP prepared for this EIR determined that impacts with regards to solid waste disposal, storm drainage, and wastewater treatment would be less than significant. Therefore, these impacts are not addressed in detail in this EIR; however, the rationale for eliminating these issues is discussed in Chapter 6.0, Effects Found Not Significant.

3.17.1 Existing Conditions

Water Service

Imperial Valley depends on the Colorado River for its water, which the Imperial Irrigation District (IID) transports, untreated, to delivery gates for agricultural, municipal, industrial (including geothermal and solar energy), environmental (managed marsh), recreational (lakes), and other non-agricultural uses. IID supplies the cities, communities, institutions, and Golden State Water (which includes all or portions of Calipatria, Niland, and some adjacent Imperial County territory) with untreated water that they treat to meet state and federal drinking water guidelines before distribution to their customers.

The project site is located within IID's Imperial Unit and district boundary and as such is eligible to receive water service. IID has adopted an Interim Water Supply Policy (IWSP) for Non-Agricultural Projects, from which water supplies can be contracted to serve new developments within IID's water service area. The IWSP sets aside 25,000 acre-feet per year (AFY) of IID's Colorado River water supply to serve new non-agricultural projects. As of February 2023, a balance of 23,800 acre-feet per year (AFY) remains available under the IWSP for new non-agricultural projects.

Groundwater

The project site is located within the Imperial Valley Groundwater Basin (Basin No: 7-030), which covers approximately 1,870 surface square miles. The physical groundwater basin extends in the southeastern portion of California at the border with Mexico. The basin lies within the southern part of the Colorado Desert Hydrologic Region, south of the Salton Sea. The basin has two major aquifers, separated at depth by a semi-permeable aquitard that averages 60 feet thick and reaches a maximum thickness of 280 feet. The average thickness of the upper aquifer is 200 feet with a maximum thickness of 450 feet. The data regarding faults controlling groundwater movement is uncertain; however, as much as 80 feet of fine-grained, low permeability prehistoric lake deposits have accumulated on the valley floor, which result in locally confined aquifer conditions.

Groundwater recharge within the basin is primarily from irrigation return. Other recharge sources are deep percolation of rainfall and surface runoff, underflow into the basin, and seepage from unlined canals which traverse the valley. Groundwater levels within a majority of the basin have remained stable from 1970 to 1990 because of relatively constant recharge and an extensive network of subsurface drains.

Groundwater quality varies extensively throughout the base; however, is generally unusable for domestic and irrigation purposes without treatment (California Department of Water Resources 2004).

3.17.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the proposed project.

State

Senate Bill 610

With the introduction of SB 610, any project under CEQA shall provide a water supply assessment if:

- The project meets the definition of the Water Code Section 10912:

  For the purposes of this part, the following terms have the following meanings:

  (a) ‘‘Project’’ means any of the following:

  1. A proposed residential development of more than 500 dwelling units.
  2. A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
  3. A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
  4. A proposed hotel or motel, or both, having more than 500 rooms.
  5. A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
  6. A mixed-use project that includes one or more of the projects specified in this subdivision.
  7. A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project.

  (b) If a public water system has fewer than 5,000 service connections, then ‘‘project’’ means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system’s existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system’s existing service connections.

California Water Code

Water Code Sections 10656 and 10657 restrict state funding for agencies that fail to submit their urban water management plan to the Department of Water Resources. In addition, Water Code Section 10910 describes the WSA that must be undertaken for projects referred under PRC Section 21151.9, including an analysis of groundwater supplies. Water agencies are given 90 days from the start of consultation in which to provide a WSA to the CEQA lead agency. Water Code Section 10910 also specifies the circumstances under which a project for which a WSA was once prepared would be

required to obtain another assessment. Water Code Section 10631 directs that contents of the urban water management plans include further information on future water supply projects and programs and groundwater supplies.

Water Quality Control Plan for the Colorado River Basin

The Water Quality Control Plan for the Colorado River Basin (or Basin Plan) prepared by the Colorado River RWQCB (Region 7) identifies beneficial uses of surface waters within the Colorado River Basin region, establishes quantitative and qualitative water quality objectives for protection of beneficial uses, and establishes policies to guide the implementation of these water quality objectives.

Local

Imperial Irrigation District Interim Water Supply Policy (IWSP) for Non-Agricultural Projects

The IWSP was adopted by the IID Board on September 29, 2009. The IWSP provides a mechanism to address water supply requests for projects being developed within the IID service area, while the Integrated Regional Water Management Plan was pending approval. The IWSP designates up to 25,000 AFY of IID's annual Colorado River water supply for new non-agricultural projects, provides a mechanism and process to develop a water supply agreement for any appropriately permitted project, and establishes a framework and set of fees to ensure water used to meet new demands do not adversely affect existing users by funding water conservation or augmentation projects, as needed.

Depending on the nature, complexity, and water demands of the project, new projects may be charged a one-time reservation fee and an annual water supply development fee for the contracted water volume used solely to assist in funding new water supply projects. All new industrial use projects are subject to the fee, while new municipal and mixed-use projects shall be subject to the fee if the project water demands exceed certain district-wide average per capita use standards. The applicability of the fee to mixed-use projects will be determined by IID on a case-by-case basis, depending on the proportion of types of land uses and water demand proposed for a project.

Temporary Land Conversion Fallowing Policy (TLCFP)

The Imperial Irrigation District Temporary Land Conversion Fallowing Policy was adopted by the IID Board of Directors on May 8, 2012. This policy developed a framework for a temporary, long-term fallowing program to work in concert with the IWSP, and in line with the coordinated land use/water supply strategy.

The TLCFP works to coordinate land use/ water supply policy that would assign water supplies to categories of use consistent with land use zoning designations and adapt to land use changes as non-agriculture projects are sited in agricultural zones through the County CUP system (i.e., Renewable Energy Overlay). Renewable energy projects may need a short-term water supply for construction and decommissioning activities and longer-term water service for facility operation and maintenance or for water treatment to meet potable water standards. This fallowing program satisfies multiple district objectives and serves to reduce the conservation and water use demands on other IID water users and thus provides district-wide benefits.

3.17.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to utilities and service systems are considered significant if any of the following occur:

Water Supply

- Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years

Impact Analysis

Impact 3.17-1 Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

The proposed project would obtain water for construction and decommissioning activities, including grading, and dust control from the applicant's existing contract with IID. For the first two-to-four months of development, 5,000 gallons per day (gpd) of water will be required and approximately 2,000 gpd (0.006 acre feet) for the remaining 12-18 months of construction. In total, 1.1 million gallons of water (10.1 acre-feet) will be used for on-site construction. Water necessary for well drilling would be obtained from local irrigation canals in conformance with IID requirements. Approximately 50,000 gpd (1.53 acre-feet) would be required for drilling activities. In addition to obtaining water from canals, temporary pipelines could be used for water delivery to well sites. All temporary pipelines would be above ground immediately adjacent to access roads.

Once the project is operational, the water demand would decline significantly to approximately 325 gpd (0.36 acre-feet per year). The OEC's are air cooled and would require minimal water to operate. Additional water would be stored on-site for fire prevention measures including an automatic fire suppression system as a safety measure for the two double-walled 20,000-gallon isopentane storage tanks as per the California Fire Code as adopted by the Imperial County Code. Also, some water would be required for washing of solar panels. The project will not require additional water from the IID for operations and will be covered under the existing contract.

As of February 2023, a balance of 23,800 AFY remains available under the IWSP for new non-agricultural projects. The project's estimated water demand would not affect IID's ability to provide water to other users in IID's water service area. Therefore, the project would have sufficient water supplies available to serve the project from existing entitlements and resources, and impacts would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

3.17.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

At the end of the project's useful life, all equipment and facilities will be properly abandoned and dismantled. All abandonment and decommissioning activities would be short-term and utilities from

decommissioning equipment (e.g., cranes; excavators) would be similar to the construction impacts discussed above and would not be significant. The proposed project would have sufficient water supplies available to serve the project from existing entitlements and resources, and impacts would be less than significant.

Residual

The proposed project would not result in significant impacts to the water supply of Imperial County; therefore, no mitigation is required. The proposed project would not result in residual impacts.

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4 Analysis of Long-Term Effects

4.1 Growth-Inducing Impacts

In accordance with Section 15126.2(e) of CEQA Guidelines, an EIR must:

> *"discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth ... Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."*

Projects promoting direct growth will impose burdens on a community by directly inducing an increase in population or resulting in the construction of additional developments in the same area. For example, projects involving expansions, modifications, or additions to infrastructure, such as sewer, water, and roads, could have the potential to directly promote growth by removing existing physical barriers or allowing for additional development through capacity increases. New roadways leading into a previously undeveloped area directly promote growth by removing previously existing physical barriers to development and a new wastewater treatment plant would allow for further development within a community by increasing infrastructure capacity. Because these types of infrastructure projects directly serve related projects and result in an overall impact to the local community, associated impacts cannot be considered isolated. Indirect growth typically includes substantial new permanent employment opportunities and can result from these aforementioned modifications.

The proposed project is located within the unincorporated area of Imperial County and it does not involve the development of permanent residences that would directly result in population growth in the area. The unemployment rate in Imperial County as of December 2023 was 18.3 percent (State of California Employment Development Department 2024). The applicant expects to utilize construction workers from the local and regional area, a workforce similar to that involved in the development of other geothermal and solar facilities. Based on the unemployment rate, and the availability of the local workforce, construction of the proposed project would not have a growth-inducing effect related to workers moving into the area and increasing the demand for housing and services.

Once construction is complete, the facilities will be staffed with 1-2 full-time employees. The project would require routine maintenance and unscheduled maintenance as needed. The solar facilities will be monitored remotely with visitation on as needed basis and security personnel will perform periodic site visits. The proposed project would not result in a substantial growth in the area, as the number of employees required to operate and maintain the facilities is minimal.

The project would construct two parasitic solar photovoltaic facilities - one to provide auxiliary power to the proposed Dogwood Geothermal plant and one for the existing Heber 2 plant. The California Energy Commission (CEC) considers these two solar facilities behind-the-meter, which means that the energy generated by the solar arrays exclusively feeds the geothermal plants and does not directly enter the transmission grid. The energy generated by the solar facilities will be collected by an on-site substation and then transferred to the plants via a short transmission cable. The solar facilities will

effectively reduce the margin between gross and net geothermal energy generation, allowing for the more efficient generation of geothermal energy and allow more geothermal energy to enter the grid. Before entering the grid, a new substation will be built near the Dogwood plant to step up the low voltage electrical energy generated at the Dogwood geothermal unit to the higher voltage required for commercial transmission. Pending Imperial Irrigation District (IID) review, no upgrades to off-site transmission facilities are necessary. If upgrades to off-site facilities are later deemed necessary through an IID transmission study, recommendations could include protection upgrades and metering replacements at existing IID substations and/or upgrades to telecommunications, distribution lines, and transmission lines. Such upgrades would use existing infrastructure, easements, right-of-way, and corridors to the extent practicable. The new Dogwood substation will connect directly to the existing point of interconnection with the IID controlled grid.

While the proposed project would contribute to energy supply, which indirectly supports population growth, the proposed project is a response to the state's need for renewable energy to meet its Renewable Portfolio Standard, and while it would increase the availability of renewable energy, it would also replace existing sources of non-renewable energy. Unlike a gas-fired power plant, the proposed project is not being developed as a source of base-load power in response to growth in demand for electricity. The power generated would be added to the state's electricity grid with the intent that it would displace fossil fueled power plants and their associated environmental impacts, consistent with the findings and declarations in SB X1-2 that a benefit of the Renewable Portfolio Standard is displacing fossil fuel consumption within the state. The proposed project is being proposed in response to state policy and legislation promoting development of renewable energy.

The proposed project would supply energy to accommodate and support existing demand and projected growth, but the energy provided by the project would not foster any new growth because (1) the additional energy would be used to ease the burdens of meeting existing statewide energy demands within and beyond the area of the project site; (2) the energy would be used to support already-projected growth; or, (3) the factors affecting growth are so diverse that any potential connection between additional energy production and growth would necessarily be too speculative and uncertain to merit further analysis.

Under CEQA, an EIR should consider potentially significant energy implications of a project (CEQA Guidelines Appendix F(II); PRC Section 21100(b)(3)). However, the relationship between the proposed project's increased electrical capacity and the growth-inducing impacts outside the surrounding area is too speculative and uncertain to warrant further analysis. When a project's growth-inducing impacts are speculative, the lead agency should consider 14 CCR Section 15145, which provides that, if an impact is too speculative for evaluation, the agency should note this conclusion and terminate discussion of the impact. As the court explained in Napa Citizens for Honest Gov't v. Napa County Board of Supervisors, 91 Cal. App.4th 342, 368: "Nothing in the Guidelines, or in the cases, requires more than a general analysis of projected growth" Napa Citizens, 91 CA4th at 369. The problem of uncertainty of the proposed project's growth-inducing effects cannot be resolved by collection of further data because of the diversity of factors affecting growth.

While this document has considered that the proposed project, as an energy project, might foster regional growth, the particular growth that could be attributed to the proposed project is unpredictable, given the multitude of variables at play, including uncertainty about the nature, extent, and location of growth and the effect of other contributors to growth besides the proposed project. No accurate and reliable data is available that could be used to predict the amount of growth outside the area that would result from the proposed project's contribution of additional electrical capacity. The County of Imperial

has not adopted a threshold of significance for determining when an energy project is growth-inducing. Further evaluation of this impact is not required under CEQA.

Additionally, the proposed project would not involve the development of any new local or regional roadways, new water systems, or sewer; and thus, the project would not further facilitate additional development into outlying areas. For these reasons, the proposed project would not be growth-inducing.

4.2 Significant Irreversible Environmental Changes

In accordance with CEQA Guidelines Section 15126.2(d), an EIR must identify any significant irreversible environmental changes that would be caused by implementation of the proposed project being analyzed. Irreversible environmental changes may include current or future commitments to the use of non-renewable resources or secondary growth-inducing impacts that commit future generations to similar uses.

Energy resources needed for the construction of the proposed project would contribute to the incremental depletion of renewable and non-renewable resources. Resources, such as timber, used in building construction are generally considered renewable and would ultimately be replenished. Non-renewable resources, such as petrochemical construction materials, steel, copper, lead and other metals, gravel, concrete, and other materials, are typically considered finite and would not be replenished over the lifetime of the project. Thus, the project would irretrievably commit resources over the anticipated 30-year life of the project. Project approvals would include 15-year CUPs, each with a single 15-year renewal.

At the end of the project's operation term, the applicant may determine that the project should be decommissioned and deconstructed. Should the project be decommissioned, the project applicant is required to restore land to its pre-project state. Consequently, some of the resources on the site could potentially be retrieved after the site has been decommissioned. Concrete footings, foundations, and pads would be removed and recycled at an off-site location. All remaining components would be removed, and all disturbed areas would be reclaimed and recontoured. The applicant anticipates using the best available recycling measures at the time of decommissioning.

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. Therefore, the incremental reduction in fossil fuels would be a positive effect of the commitment of nonrenewable resources. Additionally, the project is consistent with the state's 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 PRC.

4.3 Significant and Unmitigable Impacts

In accordance with CEQA Guidelines Section 15126(c), EIRs must include a discussion of significant environmental effects that cannot be avoided if the proposed project is implemented.

The impact analysis, as detailed in Section 3 of this EIR, concludes that no significant and unmitigable impacts were identified for the project. Where significant impacts have been identified, mitigation measures are proposed, that when implemented, would reduce the impact level to less than significant.

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5 Cumulative Impacts

The CEQA Guidelines (Section 15355) define a cumulative impact as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” The CEQA Guidelines [Section 15130(a)(1)] further states that “an EIR should not discuss impacts which do not result in part from the project.”

Section 15130(a) of the CEQA Guidelines provides that “[A]n EIR shall discuss cumulative impacts of a project when the project’s incremental effect is cumulatively considerable...” Cumulatively considerable, as defined in Section 15065(a)(3), “means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.”

An adequate discussion of significant cumulative impacts requires either: (1) “a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or (2) “a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact.”

The CEQA Guidelines recognize that cumulative impacts may require mitigation, such as new rules and regulations that go beyond project-by-project measures. An EIR may also determine that a project’s contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project’s contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The Lead Agency must identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable (CEQA Guidelines Section 15130(a)(3)).

This EIR evaluates the cumulative impacts of the projects for each resource area, using the following steps:

1. Define the geographic and temporal scope of cumulative impact analysis for each cumulative effects issue, based on the project’s reasonably foreseeable direct and indirect effects.
2. Evaluate the cumulative effects of the project in combination with past and present (existing) and reasonably foreseeable future projects and, in the larger context of the Imperial Valley.
3. Evaluate the projects’ incremental contribution to the cumulative effects on each resource considered in Chapter 3, Environmental Analysis. When the projects’ incremental contribution to a significant cumulative impact is considerable, mitigation measures to reduce the projects’ “fair share” contribution to the cumulative effect are discussed, where required.

5.1 Geographic Scope and Timeframe of the Cumulative Effects Analysis

The geographic area of cumulative effects varies by each resource area considered in Chapter 3. For example, air quality impacts tend to disperse over a large area, while traffic impacts are typically more

localized. Similarly, impacts on the habitats of special-status wildlife species need to be considered within its range of movement and associated habitat needs.

The analysis of cumulative effects in this EIR considers a number of variables including geographic (spatial) limits, time (temporal) limits, and the characteristics of the resource being evaluated. The geographic scope of each analysis is based on the topography surrounding the project sites and the natural boundaries of the resource affected, rather than jurisdictional boundaries. The geographic scope of cumulative effects will often extend beyond the scope of the direct effects of a project, but not beyond the scope of the direct and indirect effects of that project.

The cumulative development scenario includes projects that extend through year (2030), which is the planning horizon of the County of Imperial General Plan. Because of uncertain development patterns that are far in the future, it is too speculative to accurately determine the type and quantity of cumulative projects beyond the planning horizon of the County's adopted County General Plan. Evaluating the proposed projects' cumulative impacts when future facility decommissioning occurs is highly speculative because decommissioning is expected to occur in 20 to 25 years' time. Therefore, cumulative impacts during decommissioning are speculative for detailed consideration in this analysis.

5.2 Projects Contributing to Potential Cumulative Impacts

The CEQA Guidelines identify two basic methods for establishing the cumulative environment in which the projects are to be considered: the use of a list of past, present, and probable future projects (the "list approach") or the use of adopted projections from a general plan, other regional planning document, or certified EIR for such a planning document (the "plan approach").

For this EIR, the list approach has been utilized to generate the most reliable future projections of possible cumulative impacts. When the impacts of the projects are considered in combination with other past, present, and future projects to identify cumulative impacts, the other projects considered may also vary depending on the type of environmental impacts being assessed. As described above, the general geographic area associated with different environmental impacts of the projects defines the boundaries of the area used for compiling the list of projects considered in the cumulative impact analysis. Figure 5-1 provides the general location for each of these projects in relation to the project sites.

5.3 Cumulative Impact Analysis

This cumulative impact analysis utilizes an expanded list method (as defined under CEQA) and considers environmental effects associated with those projects identified in Table 5-1 in conjunction with the impacts identified for the proposed project in Chapter 3 of this EIR. Table 5-1 includes projects known at the time of release of the NOP of the Draft EIR, as well as additional projects that have been proposed since the NOP date. Figure 5-1 provides the general location for each of these projects in relation to the project site.

Table 5-1. Projects Considered in the Cumulative Impact Analysis

Map Label[1]	Project Name	Project Type	Distance from Project Site (miles)	Size (acres)	Capacity (MW)	Status[2]
1	Campo Verde	PV Solar Facility	15.6	1.990	140	Operational
2	Laurel 1	PV Solar Facility	15	171	325	Approved – Not Built
3	Laurel 2	PV Solar Facility	15.4	280	325	Approved – Not Built
4	Laurel 3	PV Solar Facility	18	587	325	Approved – Not Built
5	Laurel 4	PV Solar Facility	14.3	342	325	Approved – Not Built
6	CED Westside Canal Battery Storage	Battery Storage	15.9	148	2,000	Pending Entitlement
7	Vega SES Solar	PV Solar Facility	13.1	574	100	Approved – Not Built
8	Centinela Solar*	PV Solar Facility	10.5	2,067	275	Approved – Not Built
9	Drew Solar	PV Solar Facility	9.6	762.8	100	Approved - Under Construction
10	Le Conte Battery Storage	Battery Storage	10.3	5	125	Pending Entitlement
11	Imperial Solar South	PV Solar Facility	10	838.6	200	Operational
12	Centinela Solar*	PV Solar Facility	10.5	2,067	275	Operational
13	Calexico I-B	PV Solar Facility	9	4,228	600	Approved - Under Construction
14	Wistaria Ranch Solar**	PV Solar Facility	7.5	2,793	250	Approved – Not Built
15	Wistaria Ranch Solar**	PV Solar Facility	7.5	2,793	250	Approved - Under Construction
16	Calexico I-A	PV Solar Facility	9	4,228	600	Approved - Under Construction

Table 5-1. Projects Considered in the Cumulative Impact Analysis

Map Label[1]	Project Name	Project Type	Distance from Project Site (miles)	Size (acres)	Capacity (MW)	Status[2]
17	Iris Cluster - Rockwood	PV Solar Facility	7.5	1,422	360	Operational
18	Wistaria Ranch Solar**	PV Solar Facility	7.5	2,793	250	Operational
19	Iris Cluster - Ferrell	PV Solar Facility	6.6	1,422	360	Approved - Under Construction
20	Calexico II-B	PV Solar Facility	6.4	4,228	600	Operational
21	Mount Signal Solar	PV Solar Facility	8.9	4,237	594	Operational
22	Iris Cluster - Iris	PV Solar Facility	5.9	1,422	360	Approved - Under Construction
23	Calexico II-A	PV Solar Facility	3.5	4,228	600	Operational
24	Imperial Solar 1	Geothermal	0	1,130	250	Operational
25	Heber 2 Geothermal Energy Complex	Geothermal	0	40	33	Operational
26	Heber 1 Parasitic Solar	Parasitic Solar Facility	0	106	20	Pending Entitlement

1 – See Figure 5-1 for cumulative project location.

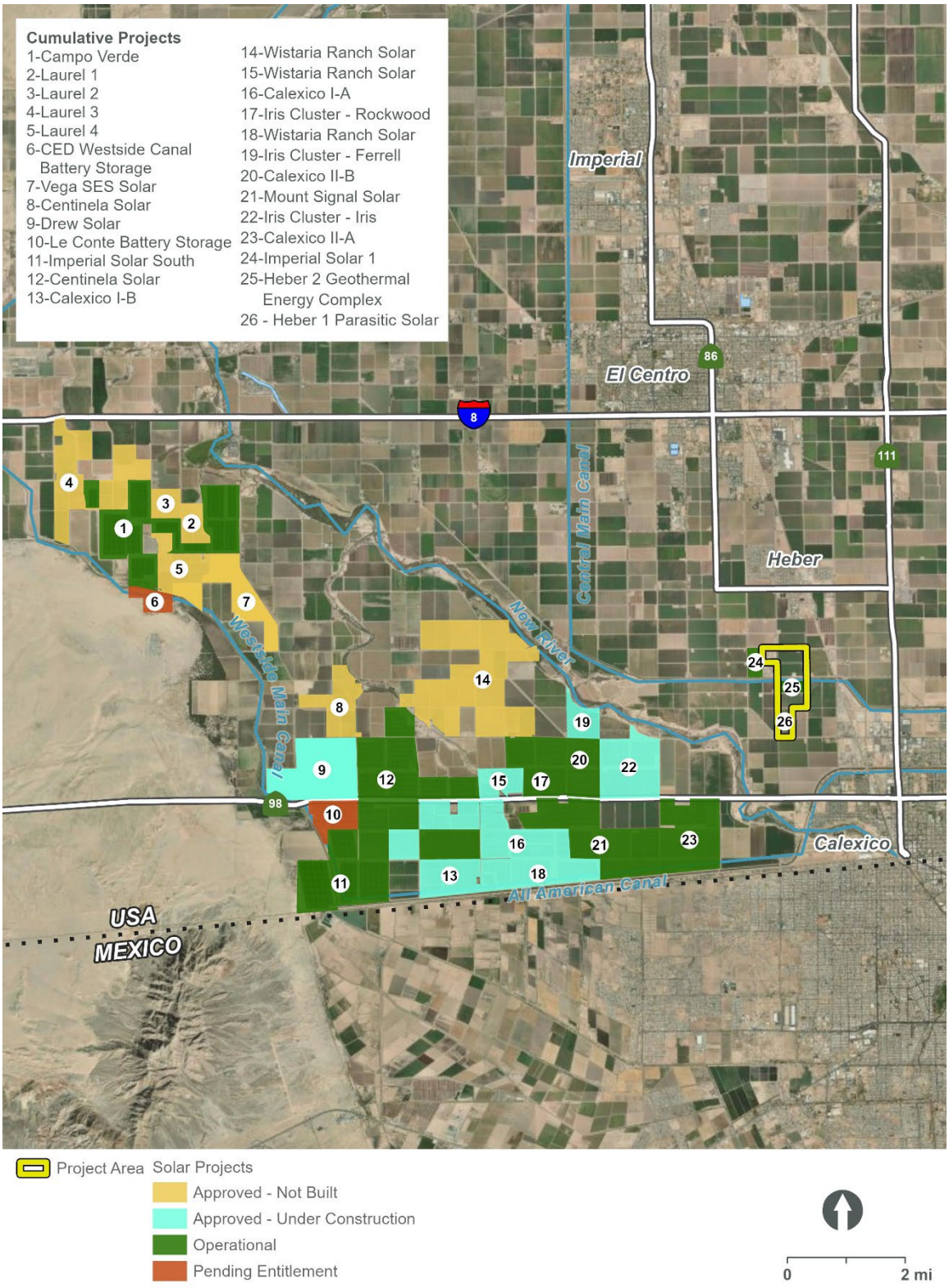
2 – Project status based on information provided by County staff and on Imperial County Planning & Development Service's RE Geographic Information System Mapping Application (https://icpds.maps.arcgis.com/apps/webappviewer/index.html?id=0d869c18d11645cc918391fdcac24b80). Accessed on April 4, 2024.

MW – megawatts; PV – photovoltaic

** Centinela Solar Project is listed as Cumulative Project No. 8 and 12 in Table 5-1. This is due to portions of the project site being constructed in different phases.*

** Wistaria Ranch Solar Project is listed as Cumulative Project No. 14, 15 and 18 in Table 5-1. This is due to portions of the project site being constructed in different phases.*

Figure 5-1. Cumulative Projects



** Centinela Solar Project is identified as Cumulative Project No. 8 and 12 in Figure 5-1. This is due to portions of the project site being constructed in different phases.*

** Wistaria Ranch Solar Project is identified as Cumulative Project No. 14, 15 and 18 in Figure 5-1. This is due to portions of the project site being constructed in different phases.*

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5.3.1 Aesthetics and Visual Resources

The cumulative study area for projects considered in the visual resources cumulative impact analysis considers a 5-mile radius from the project site. Views beyond 5 miles are obstructed by a combination of the flat topography coupled with the Earth's curvature. The short-term visual impacts of the project would be in the form of general construction activities including grading and use of construction machinery. Longer-term visual impacts of the project would be in the form of the presence of isopentane storage tanks, solar array grids, substation, medium voltage distribution cable, and drilling equipment.

As discussed in Section 3.2, Aesthetics, the proposed facilities would be located near the existing HGEC, which is comprised of three stand-alone geothermal power plants: Heber 2, Heber South, and Goulds 2, and is completely devoted to geothermal energy generation. Surrounding land uses in the project vicinity are primarily for industrial facilities, energy facilities, and agricultural cultivation. The Imperial County General/Zoning Plan allows for Major Geothermal Projects on the project site and, taking into account the existing geothermal power plants, the proposed project would not substantially impact the visual character of the site or its surroundings. Therefore, impacts associated with degrading the existing visual character or quality of the project site are considered less than significant.

Development of the proposed project in conjunction with the cumulative projects identified in Table 5-1 will gradually change the visual character of this portion of the Imperial Valley. Projects located within private lands and/or under the jurisdiction of the County of Imperial are being designed in accordance with the County of Imperial's General Plan and Land Use Ordinance, which includes policies to protect visual resources in the County. Cumulative projects including the Imperial Solar Energy Center South, Centinela Solar, Wistaria Ranch, Campo Verde, and others south of I-8 would not have a cumulative effect on a scenic vista because they are located in an area that is not identified as a designated scenic resource and would not affect a scenic vista. All cumulative projects would not impact scenic resources within a state scenic highway as no designated state scenic highway is located within 5 miles of these cumulative projects.

Finally, all projects listed in Table 5-1 would not produce a substantial amount of light and glare, as no significant source of light or glare is proposed, or the project will otherwise comply with the County lighting ordinance, as would all other related projects. Based on these considerations, there would be no significant cumulatively considerable aesthetic impact, and cumulative aesthetic impacts would be less than significant.

5.3.2 Agricultural Resources

Cumulative impacts on agricultural resources take into account the proposed project's temporary impacts as well as those likely to occur as a result of other existing, proposed and reasonably foreseeable projects. To determine cumulative impacts on agricultural resources, an assessment is made of the temporal nature of the impacts on individual resources (e.g., temporary such as in solar projects versus permanent as in industrial or residential developments) as well as the inventory of agricultural resources within the cumulative setting.

As discussed in Section 3.3, Agricultural Resources, the project would result in the temporary conversion of approximately 106.88 acres of Important Farmland (22.94 acres of Prime Farmland and 83.94 acres of Farmland of Statewide Importance). Thus, the proposed project would incrementally add to the temporary conversion of agricultural land in Imperial County. According to the California Department of Conservation, in 2020, approximately 519,891 acres out of a total of 1,028,522 acres

in Imperial County is classified as Important Farmland (California DOC n.d.). Table 5-2 summarizes the percentage of each type of farmland in the County that would be converted by the proposed project.

Table 5-2. Percentage Conversion of Farmland by Proposed Project

Agriculture Classification	Total Acreage in Imperial County (2020)	Approximate Acreage Converted on Project Site	Project Percentage of County Acreages
Prime Farmland	188,365	22.94	0.01
Farmland of Statewide Importance	289,002	83.94	0.03
Unique Farmland	1,767	0.0	0.0
Farmland of Local Importance	40,757	0.0	0.0
Total	**519,891**	**106.88**	**0.02**

Source: California DOC n.d.

As shown in Table 5-2, the Prime Farmland and Farmland of Statewide Importance within the project site comprises approximately 0.04 percent (0.01 + 0.03) of the total Important Farmland in the County. Thus, the proposed project would temporarily convert a very small fraction of the total Important Farmlands in the County and have a minimal effect on agricultural land on a cumulative scale. Furthermore, the conversion would be temporary and last for the duration of the project's useful life which is expected to be up to 30 years.

The project would be constructed on land currently zoned A-2-G-SPA and A-2-G-U. Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone:

> *n) Oil, gas and geothermal exploration meeting requirements specified in Division 17*
>
> *s) Solar energy extraction generation provided that is for on-site consumption only*

Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

> *y) Electrical generation plants (less than 50 MW) excluding nuclear or coal fired and meeting requirements in Division 17*
>
> *z) Electrical substations in an electrical transmission system (500 kv/230 kv/161 kv)*
>
> *bb) Facilities for the transmission of electrical energy (100-200 kv)*
>
> *ii) Geothermal test facilities, Intermediate projects, and major exploratory wells, meeting requirements in Division 17*
>
> *rr) Major Geothermal projects per Division 17*
>
> *ww) Resource extraction and energy development as per Division 17*
>
> *aaa) Solar energy electrical generator*

Upon approval of a CUPs, the project's uses would be consistent with the Imperial County Land Use Ordinance and thus, is also consistent with the General Plan land use designations of the site. Additionally, as a condition of project approval, the project applicant or its successor in interest will be

responsible for implementing a reclamation plan when the project is decommissioned at the end of its lifespan.

As discussed in Section 3.3, Agricultural Resources, Mitigation Measure AG-1a (Payment of Agricultural and Other Benefit Fees), AG-1b (Site Reclamation Plan), and AG-2 (Pest Management Plan) would be implemented to reduce potential impacts on agricultural resources to a level less than significant. Each individual cumulative project would be or would have been required to provide mitigation for any impacts on agricultural resources in accordance with the County's policies directed at mitigating the impact associated with the conversion of important farmlands. Therefore, the project's contribution to this impact would be less than cumulatively considerable.

5.3.3 Air Quality

Imperial County is used as the geographic scope for analysis of cumulative air quality impacts. As shown in Table 5-1, many of the cumulative projects are renewable energy generation projects, where the main source of air emissions would be generated during the construction phases of these projects; however, there would also be limited operational emissions associated with operations and maintenance activities for these facilities.

Additionally, the following cumulative projects (listed in Table 5-1) are already constructed and operational:

- Campo Verde
- Imperial Solar South
- Centinela Solar (portion of project site already operational)
- Iris Cluster - Rockwood
- Wistaria Ranch Solar (portion of project site already operational)
- Calexico II-B
- Mount Signal Solar
- Calexico II-A
- Imperial Solar 1
- Heber 2 Geothermal Energy Complex

The remaining cumulative projects are either pending entitlement or approved and not constructed, and not anticipated to involve overlapping construction activities with the proposed project. Therefore, the potential for a cumulative, short-term air quality impact as a result of construction activities is anticipated to be less than significant.

Currently, the SSAB is either in attainment or unclassified for all federal and state air pollutant standards with the exception of 8-Hour O_3 and $PM_{2.5}$. On November 13, 2009, EPA published Air Quality Designations for the 2006 24-Hour Fine Particle ($PM_{2.5}$) NAAQS wherein Imperial County was listed as designated nonattainment for the 2006 24-hour $PM_{2.5}$ NAAQS. However, the nonattainment designation for Imperial County is only for the urban area within the County and it has been determined that the proposed project is not located within the nonattainment boundaries for $PM_{2.5}$.

The AQAP for the SSAB, through the implementation of the AQMP and SIP for PM_{10}, sets forth a comprehensive program that will lead the SSAB into compliance with all federal and state air quality standards. With respect to PM_{10}, the ICAPCD implements Regulation VIII – Fugitive Dust Rules, to control these emissions and ultimately lead the basin into compliance with air standards, consistent with the AQAP. Within Regulation VIII are Rules 800 through 806, which address construction and earthmoving activities, bulk materials, carry-out and track-out, open areas, paved and unpaved roads, and conservation management practices. Best Available Control Measures to reduce fugitive dust during construction and earthmoving activities include but are not limited to:

- Phasing of work in order to minimize disturbed surface area;
- Application of water or chemical stabilizers to disturbed soils;
- Construction and maintenance of wind barriers; and
- Use of a track-out control device or wash down system at access points to paved roads.

Compliance with Regulation VIII is mandatory on all construction sites, regardless of size. However, compliance with Regulation VIII does not constitute mitigation under the reductions attributed to environmental impacts. In addition, compliance for a project includes: (1) the development of a dust control plan for the construction and operational phase; and (2) notification to the air district is required 10 days prior to the commencement of any construction activity.

Construction

The proposed project would emit criteria pollutants from the use of combustion sources such as diesel off-road equipment (e.g., tractors, cranes, generators, etc.), and on-road mobile sources associated with construction-related vehicle travel. The proposed project would also generate air emissions during construction as a result of soil disturbance and fugitive dust emissions. Likewise, the other cumulative projects that are approved, but not yet built or pending entitlement identified in Table 5-1 would result in the generation of air emissions during construction activities.

With respect to the proposed project, during construction, the project would generate PM_{10}, $PM_{2.5}$, ROG, CO, SO_2, and NO_X emissions during each active day of construction. As discussed in Section 3.4, Air Quality, the proposed project's daily construction emissions would exceed the ICAPCD thresholds for NO_X and PM_{10}. However, implementation of Mitigation Measures AQ-1 through AQ-4 and Mitigation Measure AQ-6, the project would not exceed the ICAPCD's thresholds of significance during construction and would reduce potential impacts to a level less than significant. However, the proposed project's impact could be cumulatively considerable because the Imperial County portion of the SSAB is nonattainment already for O_3 and PM_{10} under state standards and for O_3 and $PM_{2.5}$ federal standards. Thus, existing O_3 and PM_{10} levels in the SSAB are at unhealthy levels during certain periods. Additionally, the cumulative construction effects could again be experienced in the future during decommissioning and site restoration activities.

Several of the projects listed in Table 5-1 are already constructed and in operation. In the event the proposed project is constructed in conjunction with those pending entitlement or approved for construction, each project would be subject to mitigation pursuant to ICAPCD's Regulations. Therefore, the cumulative impact would be reduced to a level less than significant through compliance with these measures. Further, because the proposed project will be required to implement measures consistent with ICAPCD regulations designed to alleviate the cumulative impact associated with fugitive dust (PM_{10}) and NO_X, the project's contribution would be rendered less than cumulatively considerable and is therefore, less than significant.

Operation

Project-generated increases in emissions would be predominately associated with isopentane emissions and emissions related to landscape equipment use for routine maintenance work. The proposed project's combined operational emissions would not exceed the ICAPCD thresholds for CO, ROG, NO_X, PM_{10}, $PM_{2.5}$, and SO_2; therefore, the impact would be less than significant. Operational impacts of other renewable energy facilities identified in Table 5-1 would also be similar. Although these cumulative projects generally involve large areas, their operational requirements are very

minimal, requiring minimal staff or use of machinery or equipment that generate emissions. Further, alternative energy projects, such as the project, would assist attainment of regional air quality standards and improvement of regional air quality by providing clean, renewable energy sources. Consequently, the projects would provide a positive contribution to the implementation of applicable air quality plan policies and compliance with EO S-3-05, which establishes a GHG emissions reduction target for the State to reduce GHG emissions to 80 percent below 1990 levels by 2050.

However, from a cumulative air quality standpoint, the potential cumulative impact associated with the generation of O_3, $PM_{2.5}$ and PM_{10} emissions during operation of the cumulative projects is a consideration because existing O_3 and PM_{10} levels in the SSAB are at unhealthy levels during certain periods. Imperial County is classified as non-attainment for $PM_{2.5}$ for the urban areas of Imperial County. However, the project's operational contribution to O_3, $PM_{2.5}$ and PM_{10} would be below a level of significance. As with the construction phases, the cumulative projects would be required to comply with ICAPCD's Regulation VIII for dust control (Regulation VIII applies to both the construction and operational phases of projects). As a result, the ICAPCD would be required to comply with the various dust control measures and to prepare and implement operational dust control plans as approved by the ICAPCD, which is a component of ICAPCD's overall framework of the AQAP that sets forth a comprehensive program for SSAB's compliance with all federal and state air quality standards. Therefore, the project would not contribute to long-term cumulatively considerable air quality impacts and the projects would not result in cumulatively significant air quality impacts, and cumulative impacts would be less than significant.

5.3.4 Biological Resources

The geographic scope for considering cumulative impacts on biological resources includes the Imperial Valley and related biological habitats. Table 5-1 lists the projects considered for the biological resources cumulative impact analysis.

In general terms, in instances where a potential impact could occur, CDFW and USFWS have promulgated a regulatory scheme that limits impacts on these species. The effects of the project would be rendered less than significant through mitigation requiring compliance with all applicable regulations that protect plant, fish, and animal species, as well as waters of the U.S. and state. Other cumulative projects would also be required to avoid impacts on special-status species and/or mitigate to the satisfaction of the CDFW and USFWS for the potential loss of habitat. As described in Section 3.5, Biological Resources, the project has the potential to result in impacts on biological resources. These impacts are generally associated with the potential construction-related effects to burrowing owl and bird species.

Burrowing Owls are protected by the CDFW mitigation guidelines for burrowing owl (CDFW 2012) and Consortium guidance (1993), which require a suite of mitigation measures to ensure direct effects to burrowing owls during construction activities are avoided and indirect effects through burrow destruction and loss of foraging habitat are mitigated at prescribed ratios. Mitigation measures identified in Section 3.5, Biological Resources, contain these requirements thereby minimizing potential impacts on these species to a less than significant level. Additionally, as provided in Section 3.5, Biological Resources, special-status bird species have a potential to be present. As a result of project-related construction activities, one or more of these species could be impacted. However, with the implementation of mitigation as identified in Section 3.5, Biological Resources, these impacts would be reduced to a level of less than significant, primarily through avoidance of direct and indirect impacts to these species via pre-construction surveys and monitoring requirements during construction. Similarly, the cumulative projects within the geographic scope of the project would be

required to comply with the legal framework as described above, and similar avoidance and minimization measures. Based on these considerations, impacts on biological resources would not be cumulatively considerable.

As with the proposed project, each of the cumulative projects would be required to provide mitigation for impacts on biological resources. The analysis below is conducted qualitatively and in the context that the cumulative projects would be subject to a variety of statutes and administrative frameworks that require mitigation for impacts on biological resources.

Birds listed at 50 CFR 10.3 are protected by the MBTA (16 USC 703 et seq.), a Federal statute that implements treaties with several countries on the conservation and protection of Birds listed at 50 CFR 10.3 are protected by the MBTA (16 USC 703 et seq.), a Federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The MBTA is enforced by USFWS. This act prohibits the killing of any migratory birds without a valid permit. Any activity which contributes to unnatural migratory bird mortality could be prosecuted under this act. With few exceptions, most birds are considered migratory under this act. Raptors and active raptor nests are protected under California FGCs 3503.5, 3503, and 3513.

The CWA and California's Porter-Cologne Water Quality Control Act provide protection for water-related biological resources by controlling pollution, setting water quality standards, and preventing jurisdictional streams, lakes, and rivers from being filled without a federal permit. No state or federally protected wetlands exist within the project's jurisdictional survey area. The IID irrigation canals and drains meet the requirements for jurisdictional waters, however none of the jurisdictional features are within the project footprint except for the proposed medium voltage distribution cable. The medium voltage distribution cable would cross S Dogwood Road and be attached via trays to the existing pipeline that runs west before turning north to cross the Beech Drain and Central Main Canal at the existing above-ground pipeline span. The entire span of the medium voltage distribution cable would sit above the canal. Therefore, the proposed project would have no substantial adverse effect on state or federally protected wetlands, and impacts would be less than significant. Further, the proposed project would result in a net decrease in water demand, which would provide a benefit to IID's water budget and available supply for the Salton Sea. Implementation of the project would result in fallowing of currently irrigated agricultural fields. The IID's "Imperial Valley Natural Community Conservation Plan and Habitat Conservation Plan Planning Agreement No. 2810-2004-001-06 (February 2006) covers water conservation and irrigation and drainage of land to which IID delivers water to which the environmental impacts and various approaches to mitigate potential impacts to the Salton Sea include fallowing agricultural lands as identified in the HCP Final EIR/EIR. EIR Section 3.17.2 discusses the IID's Interim Water Supply Policy (IWSP) for Non-Agricultural Projects and Temporary Land Conversion Fallowing Policy (TLCFP) adopted by the IID and according to the TLCFP "This fallowing program satisfies multiple district objectives and service to reduce the conservation and water use demands on other IID water uses and thus provide district-wide benefits."

The proposed project would comply with these and other laws, regulations and guidelines and therefore would not contribute substantially to a cumulative biological resources impact. Similarly, the cumulative projects within the geographic scope of the proposed project will be required to comply with the legal frameworks set forth above, as well as others, and will be required to mitigate their impacts to a less than significant level. Therefore, the project would not contribute to a cumulatively considerable impact to biological resources, and cumulative impacts would be less than significant.

5.3.5 Cultural Resources

As described in Section 3.6, Cultural Resources, the proposed project will not result in any adverse change to the significance of the Central Main Canal as a historical resource under CEQA and no impact would occur. Although unlikely, the potential for unearthing a previously-undiscovered archaeological resource during construction does exist. This potential impact is considered significant. However, implementation of Mitigation Measure CUL-1 would reduce the potential impact associated with the inadvertent discovery of archaeological resources to a level less than significant. Implementation of Mitigation Measure CUL-2 would reduce potential impacts on human remains to a level less than significant.

Future projects with potentially significant impacts on cultural resources would be required to comply with federal, state, and local regulations and ordinances protecting cultural resources through implementation of similar project-specific mitigation measures during construction. Therefore, through compliance with regulatory requirements, standard conditions of approval, and Mitigation Measures CUL-1 and CUL-2, the proposed project would have a less than cumulatively considerable contribution to impacts on cultural resources.

During operations and decommissioning of the project, no additional impacts on archeological resources would be anticipated because the soil disturbance would have already occurred and been mitigated during construction.

5.3.6 Energy

Cumulative projects listed in Table 5-1 largely consist of utility-scale solar power generation facilities. The nature of these projects is such that, like the project, they would be consistent with the strategies of the CARB Climate Change Scoping Plan. In order to meet the SB 32 GHG emissions reduction mandate, the 2017 Scoping Plan relies on achievement of the RPS target of 60 percent of California's energy coming from renewable sources by 2030 and 100 percent renewable sources by 2045. The project and other similar projects are essential to achieving the RPS.

The main contribution of energy consumption from the project would be from construction equipment usage, haul truck trips, and employee trips during the construction phase and maintenance trips, and employee trips during project operation of the project. The project's emissions would, therefore, contribute to the increase in emissions in the transportation sector. Construction emissions would be finite and temporary and would cease at the end of construction activities. Electricity required during operations would be greatly offset by the electricity produced by the geothermal and solar facilities. Specifically, operation of renewable energy facilities would offset greenhouse gas emissions by replacing energy generated by fossil fuel power plants. The project would generate up to 47 MW of renewable energy, 25 MW of which would be net of energy that would be added to the power grid and be used in place of electricity generated by fossil fuel sources.

Although the project would result in a contribution to cumulative energy consumption in California, operation of the project could offset emissions from the electricity generation sector. Electricity required during operations would be greatly offset by the electricity produced by the geothermal and solar facilities. Specifically, operation of renewable energy facilities would offset greenhouse gas emissions by replacing energy generated by fossil fuel power plants. The project would generate up to 47 MW of energy that would be added to the power grid and be used in place of electricity generated by fossil fuel sources. Overall, the project would not contribute to cumulative energy consumption in California because operation of the project would provide electric power with negligible operational energy consumption over the long term when compared to traditional fossil-fueled generation

technologies. Thus, the project would not have a cumulatively considerable impact on energy consumption, would not conflict with any renewable energy plans, and cumulative impacts would be less than significant.

5.3.7 Geology and Soils

The Imperial Valley portion of the Salton Trough physiographic province of Southern California is used as the geographic scope for the analysis of cumulative impacts on geology/soils. Cumulative development would result in an increase in population and development that could be exposed to hazardous geological conditions, depending on the location of proposed developments. Geologic and soil conditions are typically site specific and can be addressed through appropriate engineering practices. Cumulative impacts on geologic resources would be considered significant if the project would be impacted by geologic hazard(s) and if the impact could combine with off-site geologic hazards to be cumulatively considerable.

Although the project site is not located within a mapped area of known land subsidence, a study published in collaboration with the California Energy Commission in 2019 found surface deformation at the Heber Geothermal Field (HGF) connected to geothermal production and injection. The HGF is the area containing and surrounding the HGEC. Subsidence was occurring at the HGF up to -45 mm/year (-1.77 in/year). Furthermore, it was reported that an increase in injection resulted in ground uplift in the northwestern portion of the HGF; however, over time this uplift transitioned to subsidence with an increase in geothermal production (Eneva et al 2019). This potential impact is considered significant. However, implementation of Mitigation Measure GEO-1 would reduce the potential impact associated with the potential for land subsidence by requiring the preparation of a design-level geotechnical report to reduce impacts to a level less than significant.

None of the projects identified within the geographic scope of potential cumulative impacts would intersect or be additive to the project's site-specific geology and soils impacts; therefore, no cumulatively considerable effects are identified for geology/soils, and cumulative impacts would be less than significant.

Development of the proposed project, in combination with other projects in the area, has the potential to contribute to a cumulatively significant paleontological resources impact due to the potential loss of paleontological resources unique to the region. However, mitigation is included in this EIR to reduce potentially significant project impacts to paleontological resources during construction of the proposed project. Implementation of Mitigation Measure GEO-2 would ensure that the potential impacts on paleontological resources do not rise to the level of significance. Future projects with potentially significant impacts on paleontological resources would be required to comply with federal, state, and local regulations and ordinances protecting paleontological resources through implementation of similar project-specific mitigation measures during construction. Therefore, through compliance with regulatory requirements, standard conditions of approval, and Mitigation Measure GEO-2, the proposed project would have a less than cumulatively considerable contribution to impacts on paleontological resources.

5.3.8 Greenhouse Gas Emissions

Emissions of GHGs have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. Although the emissions of the projects alone would not cause global climate change, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. In turn, global climate

change has the potential to result in rising sea levels, which can inundate low-lying areas; affect rainfall and snowfall, leading to changes in water supply; and affect habitat, leading to adverse effects on biological resources. The ICAPCD has not adopted a GHG significance threshold. SCAQMD has a screening threshold of 10,000 metric tons of CO_2e per year, which was applied to the project's analysis as provided in Section 3.9, Greenhouse Gas Emissions.

As discussed in Section 3.9, Greenhouse Gas Emissions, the proposed project's CO_2 emissions would not exceed SCAQMD's screening threshold of 10,000 metric tons of CO_2e per year. As the project's emissions do not exceed the SCAQMD's threshold, the proposed project would not result in a cumulatively considerable impact to GHG emissions and would not conflict with the State GHG reduction targets. Other cumulative projects identified in Table 5-1 largely consist of utility-scale solar facilities. The nature of these projects is such that they would be consistent with the strategies of the 2022 Climate Change Scoping Plan. In order to meet the AB 32 and SB 32 GHG emissions reduction mandate, the Scoping Plan relies on achievement of the RPS target of 33 percent of California's energy coming from renewable sources by 2020 and 50 percent by 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050. The RPS target was updated in September 2018 under SB 100 to 60 percent by 2030. The project and other similar projects are essential to achieving the RPS.

The short-term minor generation of GHG emissions during construction, which is necessary to create new, low-GHG emitting power-generating facilities, as well as the negligible amount generated during ongoing maintenance operations, would be more than offset by GHG emission reductions associated with solar-generated energy during operation. Based on these considerations, no significant long-term operational GHG impacts would occur and, therefore, project-related GHG impacts would not be cumulatively considerable.

5.3.9 Hazards/Hazardous Materials

The geographic scope considered for cumulative impacts from health, safety, and hazardous materials is the area within 1 mile of the boundary of the project site. One mile is the standard American Society of Testing and Materials (ASTM) standard search distance for hazardous materials.

Under cumulative conditions, implementation of the project in conjunction with the projects listed in Table 5-1 is not anticipated to present a public health and safety hazard to residents. Additionally, the project and related projects would all involve the storage, use, disposal, and transport of hazardous materials to varying degrees during construction, operation, and decommissioning. Impacts from these activities are less than significant for the project because the storage, use, disposal, and transport of hazardous materials are extensively regulated by various Federal, state, and local laws, regulations, and policies. It is foreseeable that the project and related projects would implement and comply with these existing hazardous materials laws, regulations, and policies. Therefore, the other cumulative projects would not cause a cumulative impact, and the project would not result in a cumulatively considerable incremental contribution to a cumulative impact related to use or routine transport of hazardous materials.

5.3.10 Hydrology and Water Quality

Table 5-1 lists the projects considered for the hydrology and water quality cumulative impact analysis. The geographic scope for considering cumulative hydrology and water quality impacts is the Imperial Valley Hydrologic Unit as defined by the Colorado Basin RWQCB Basin Plan.

The construction of the project is expected to result in short-term water quality impacts. Compliance with the SWRCB's NPDES general permit for activities associated with construction (2009-0009-DWQ) per Mitigation Measure HYD-1 would reduce water quality impacts. As with the proposed project, each of the cumulative projects would be required to comply with the Construction General Permit. The SWRCB has determined that the Construction General Permit protects water quality, is consistent with the CWA, and addresses the cumulative impacts of numerous construction activities throughout the state. This determination in conjunction with the implementation of mitigation would ensure short-term water quality impacts are not cumulatively considerable.

The project is not expected to result in long-term operations-related impacts related to water quality. The project would mitigate potential water quality impacts by implementing site design, source control, and treatment control BMPs. Some cumulative projects would require compliance with the SWRCB's NPDES general permit for industrial activities, as well as rules found in the CWA, Section 402(p)(1) and 40 CFR 122.26, and implemented Order No. 90-42 of the RWQCB. With implementation of SWRCB, Colorado River RWQCB, and County policies, plans, and ordinances governing land use activities that may degrade or contribute to the violation of water quality standards, cumulatively considerable impacts on water quality would be minimized to a less than significant level.

Based on a review of the FEMA Flood Insurance Rate Map, the project site is located within Zone X. The FEMA Zone X designation is an area determined to be outside the 0.2 percent annual chance floodplain. Therefore, the proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows, and impacts would be less than significant. As such, the project would not result in a significant cumulatively considerable impact on floodplains by constructing new facilities within an identified flood hazard zone.

Surface waters in the Imperial Valley ultimately drain into the Salton Sea via the New and Alamo Rivers as well as via irrigation drains and canals. Due to increased demand for water supplies in the region and IID water transfer agreements, increasing amounts of water are being consumed in Imperial Valley. In addition, water is also being transferred out of the Valley to population centers such as San Diego County, thus reducing inflows to the Salton Sea. Project implementation would not substantially alter the existing drainage pattern of the site or area. The majority of the project site would continue to sheet flow through the pervious native soils. The reduction of runoff to the Salton Sea during project construction and operation is not expected to combine with similar impacts of large scale proposed, approved and reasonably foreseeable renewable energy projects identified in Table 5-1. As such, the projects would not result in a significant cumulatively considerable impact on floodplains by constructing new facilities within an identified flood hazard zone. Likewise, cumulative impacts associated with runoff reduction would be less than cumulatively considerable.

Based on these considerations, the project would not contribute to or result in a significant cumulatively considerable impact to hydrology or water quality, and cumulative impacts would be less than significant.

5.3.11 Land Use Planning

The geographic scope for the analysis of cumulative land use and planning impacts is typically defined by government jurisdiction. The geographic scope for considering potential inconsistencies with the General Plan's policies from a cumulative perspective includes all lands within the County's jurisdiction and governed by its currently adopted General Plan. In contrast, the geographic scope for considering

potential land use impacts or incompatibilities include the project site plus a one-mile buffer to ensure a consideration for reasonably anticipated potential direct and indirect effects.

As provided in Section 3.12, Land Use/Planning, the project would not involve any facilities that could otherwise divide an established community. Based on this circumstance, no cumulatively considerable impacts would occur. As discussed in Section 3.12, Land Use/Planning, the project would not conflict with the goals and objectives of the County of Imperial General Plan. In addition, a majority of the cumulative projects identified in Table 5-1 would not result in a conflict with applicable land use plans, policies, or regulations. In the event that incompatibilities or land use conflicts are identified for other projects listed in Table 5-1, the County would require mitigation to avoid or minimize potential land use impacts. Where General Plan Amendments and/or Zone Changes are required to extend the RE Overlay Zone for cumulative projects listed in Table 5-1, that project would be required to demonstrate consistency with the overall goals and policies of the General Plan, and would be required to demonstrate meeting the criteria for extending the RE Overlay onto the project site. Based on these circumstances, no significant cumulatively considerable impact would occur, and cumulative impacts would be less than significant.

5.3.12 Noise and Vibration

When determining whether the overall noise (and vibration) impacts from related projects would be cumulatively significant and whether the project's incremental contribution to any significant cumulative impacts would be cumulatively considerable, it is important to note that noise and vibration are localized occurrences; as such, they decrease rapidly in magnitude as the distance from the source to the receptor increases. Therefore, only those related projects and identified in Table 5-1 that are in the vicinity of the project site and those that are considered influential in regards to noise and vibration would have the potential to be considered in a cumulative context with the project's incremental contribution.

As shown in Figure 5-1, there are two cumulative projects (Imperial Solar 1 and Heber 2 Geothermal Energy Complex) within close proximity of the proposed project. The proposed project's construction noise is not anticipated to be additive to the noise generated by these two cumulative projects because they are already operational. Similar to the proposed project, other cumulative projects would be required to comply with the County's construction noise standards. Construction activity is 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. Adhering to the County's construction hours would reduce the noise and vibration impacts to below a level of significance. Thus, the incremental contribution of the project to a cumulative noise impact would not be cumulatively considerable.

Stationary-source and vehicular noise from the aforementioned related projects would be similar in nature and magnitude to those discussed for the project in Section 3.13, Noise and Vibration. For the proposed project, no noise impacts have been identified. Thus, the incremental contribution of the project to significant cumulative noise impacts would not be cumulatively considerable.

5.3.13 Public Services

The project would result in increased demand for public services (fire protection service and law enforcement services) (Section 3.14, Public Services). Future development in the Imperial Valley, including projects identified in Table 5-1, would also increase the demand for public services. In terms of cumulative impacts, the appropriate service providers are responsible for ensuring adequate provision of public services within their jurisdictional boundaries. In conjunction with the project's

approval, the project applicant would also be conditioned to ensure sufficient funding is available for any fire protection or prevention needs and law enforcement services. Based on the type of projects proposed (e.g., geothermal and solar energy generation), their relatively low demand for public services other than fire and police, it is reasonable to conclude that the project would not increase demands for education, or other public services. Service impacts associated with the project related to fire and police would be addressed through payment of impact fees as part of the project's Conditions of Approval to ensure that the service capabilities of these departments are maintained. Therefore, no cumulatively considerable impacts would occur.

5.3.14 Transportation

During the construction phase of the proposed project, the maximum number of trips generated on a daily basis would be approximately PCE 171 trips. Based on the low amount of construction trips generated and low existing traffic volumes on area roadways, no substantial transportation impacts are anticipated. Implementation of the proposed project would not require any public road widening to accommodate vehicular trips associated with the proposed project (construction phase and operational phase). Once the proposed project is complete, the site will be staffed with 1-2 onsite employees. During operations, the proposed project would generate 11 trips per day.

Since the proposed project is located in a rural portion of the County there are no fixed routes for alternative transportation or non-motorized travel within the general area of the project site that would be impacted by project construction or operation. Although the proposed project would increase VMT during the construction phase, these increases are temporary in nature.

The construction phasing of cumulative projects is not anticipated to overlap with the proposed project. Furthermore, the cumulative projects are not anticipated to use the same construction haul route as the proposed project. During operations, the proposed project would generate minimal trips to the project site. Based on these findings, the project would not result in cumulatively considerable roadway or intersection impacts, and this impact would be less than significant.

5.3.15 Tribal Cultural Resources

As discussed in Section 3.16, Tribal Cultural Resources, the Viejas Band of Kumeyaay Indians ("Viejas") responded via email on March 2, 2023 and determined that the project site has cultural significance or ties to Viejas Implementation of Mitigation Measure TCR-1 would ensure that the proposed project's potential impacts on unidentified tribal cultural resources do not rise to the level of significance. Future cumulative projects would also be required to comply with the requirements of AB 52 to determine the presence/absence of tribal cultural resources and engage in consultation to determine appropriate mitigation measures to minimize or avoid impacts on tribal cultural resources. Based on these considerations, the project would not contribute to or result in a significant cumulatively considerable impact on tribal cultural resources.

5.3.16 Utilities/Service Systems

Future development in Imperial County would increase the demand for utility service in the region. In terms of cumulative impacts, the appropriate service providers are responsible for ensuring adequate provision of public utilities within their jurisdictional boundaries.

As discussed in Section 3.17, Utilities and Service Systems, a total of 1.1 million gallons of water (10.1 acre-feet) will be used for project construction. Water necessary for well drilling would be obtained from local irrigation canals in conformance with IID requirements. Approximately 50,000 gpd (1.53

acre-feet) would be required for drilling activities. In addition to obtaining water from canals, temporary pipelines could be used for water delivery to well sites. All temporary pipelines would be above ground immediately adjacent to access roads. Once the project is operational, the water demand would decline significantly to approximately 325 gpd (0.36 acre-feet per year). The project will not require additional water from the IID for operations and will be covered under the existing contract.

As of February 2023, a balance of 23,800 AFY remains available under the IWSP for new non-agricultural projects. The project's estimated water demand would not affect IID's ability to provide water to other users in IID's water service area.

Additionally, as reported for IID's 2020 Temporary Land Conversion Fallowing Program, solar developments at the end of 2020 converted 12,404 acres of farmland, approximately half the acreage set aside by the County for conversion. These projects had a yield at-river of 65,964 AF of water in 2020 and on average, each agricultural acre converted reduces agricultural demand by 5.1 AFY, which results in a total at-river yield (reduction in consumptive use) of 127,500 AFY, representing a significant cumulative net benefit to IID's water supply.

As a result, the proposed project would not require or result in the relocation or construction of new or expanded wastewater facilities, storm water facilities, or water facilities. Additionally, the project would be comprised of mostly recyclable materials and would not generate significant volumes of solid waste that could otherwise contribute to significant decreases in landfill capacity. Based on these considerations, the project would result in less than significant impacts on existing utility providers and, therefore, would not result in cumulatively considerable impacts.

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6 Effects Found Not Significant

In accordance with Section 15128 of the CEQA Guidelines, an EIR must contain a statement briefly indicating the reasons that various potential significant effects of a project were determined not to be significant. Based on the Initial Study and Notice of Preparation prepared for the proposed project (Appendix A of this EIR), Imperial 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.

6.1 Agriculture and Forestry Resources

6.1.1 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.

6.2 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.

6.3 Population and Housing

Development of housing is not proposed as part of the proposed project. The unemployment rate in Imperial County as of December 2023 was 18.3 percent (State of California Employment Development Department 2024). The applicant expects to utilize construction workers from the local and regional area, a workforce similar to that involved in the development of other utility-scale solar facilities. Based on the unemployment rate in Imperial County (18.3 percent) (State of California Employment Development Department 2024), and the availability of the local workforce, construction of the proposed project would not have a growth-inducing effect.

Once construction is complete, the facilities will be staffed with 1-2 full-time employees. The project would require routine maintenance and unscheduled maintenance as needed. The solar facilities will be monitored remotely with visitation on as needed basis and security personnel will perform periodic site visits. The proposed project would not result in a substantial growth in the area, as the number of employees required to operate and maintain the facilities 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 a less than significant impact to population and housing.

6.4 Public Services

6.4.1 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.

6.4.2 Parks and Other Public Facilities

Once the project is complete, the facilities will be staffed with 1-2 full-time employees. The project would require routine maintenance and unscheduled maintenance as needed. The solar facilities will be monitored remotely with visitation on as needed basis and security personnel will perform periodic site visits. 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.

6.5 Recreation

The project site is not used for formal recreational purposes. Also, the proposed project would not result in a substantial growth in the area, as the number of employees required to operate and maintain the facilities is minimal. 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, a less than significant impact is identified for recreation.

6.6 Utilities and Service Systems

Wastewater Facilities. Construction of the proposed facilities would not generate/discharge any wastewater. Portable toilets would be brought on-site per California Code of Regulations, Title 8, Section 1526, Subchapter 4, Construction Safety Orders Article 3, General §1526, Toilets at Construction Jobsites and disposed of at the appropriate wastewater facility, resulting in no impact to Regional Water Quality Control Board requirements. The HGEC employees have permanent bathrooms in the existing facilities, and no new wastewater would be generated from the operation of the proposed facilities. In addition, the OECs are air cooled and operate on a closed loop, do not consume any water and are therefore free of the environmental consequences that accompany water-based systems. Chemical additives are not required for the cooling tower operation and therefore there is no waste disposal. Impacts associated with wastewater facilities would be less than significant.

Storm Water Facilities. The proposed project will involve the construction of drainage control facilities within the project site, 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 facilities 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. 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. All water necessary for the construction, operation, and decommissioning of the project would be obtained from the Applicant's existing contract with IID. Operational use of water resources for the project would be limited to domestic use within operations and maintenance buildings, solar panel washing, and fire protection services. Impacts associated with water facilities would be less than significant.

Power. The project would construct two parasitic solar photovoltaic facilities- one to provide auxiliary power to the proposed Dogwood Geothermal plant and one for the existing Heber 2 plant. The California Energy Commission (CEC) considers these two solar facilities behind-the-meter, which means that the energy generated by the solar arrays exclusively feeds the geothermal plants and does not directly enter the transmission grid. The energy generated by the solar facilities will be collected by an on-site substation and then transferred to the plants via a short transmission cable. The solar facilities will effectively reduce the margin between gross and net geothermal energy generation, allowing for the more efficient generation of geothermal energy and allow more geothermal energy to enter the grid. Before entering the grid, a new substation will be built near the Dogwood plant to step up the low voltage electrical energy generated at the Dogwood geothermal unit to the higher voltage required for commercial transmission. Pending Imperial Irrigation District (IID) review, no upgrades to off-site transmission facilities are necessary. If upgrades to off-site facilities are later deemed necessary through an IID transmission study, recommendations could include protection upgrades and metering replacements at existing IID substations and/or upgrades to telecommunications, distribution lines, and transmission lines. Such upgrades would use existing infrastructure, easements, right-of-way, and corridors to the extent practicable. The new Dogwood substation will connect directly to the existing point of interconnection with the IID controlled grid. Impacts associated with electric power facilities would be less than significant.

Natural Gas. No natural gas facilities are located near the project site and no natural gas hookup is required for the project. No impacts associated with natural gas facilities would occur.

Telecommunications. AT&T Corporation provides telephone service to Imperial County. Several companies provide wireless or cell phone services for the area as well. The project would not have an impact on any telecommunications.

Solid Waste Facilities. Solid waste generation would be minor for the construction and operation of the proposed project. Solid waste during construction will be disposed of in an approved solid waste disposal site in accordance with Imperial County Environmental Health Department requirements. Waste will be routinely collected and disposed of at an authorized landfill by a licensed disposal contractor. Trash would likely be hauled to the Calexico Solid Waste Site (13-AA-0004) located approximately 1.25 miles southwest of the project site in Calexico, CA. The Calexico Solid Waste Site has approximately 1,561,235 cubic yards of remaining capacity and is estimated to remain in operation through 2079 (CalRecycle 2019). The project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

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.

6.7 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 2023). Therefore, the proposed project would not substantially impair an adopted emergency response plan or emergency evacuation plan; expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire; exacerbate fire risk; or, expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. No impact is identified for wildfire.

7 Alternatives

7.1 Introduction

The identification and analysis of alternatives is a fundamental concept under CEQA. This is evident in that the role of alternatives in an EIR is set forth clearly and forthrightly within the CEQA statutes. Specifically, CEQA §21002.1(a) states:

> *"The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided."*

The CEQA Guidelines require an EIR to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (CEQA Guidelines §15126.6(a)). The CEQA Guidelines direct that selection of alternatives focus on those alternatives capable of eliminating any significant environmental effects of the project or of reducing them to a less-than significant level, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly. In cases where a project is not expected to result in significant impacts after implementation of recommended mitigation, review of project alternatives is still appropriate.

The range of alternatives required within an EIR is governed by the "rule of reason" which requires an EIR to include only those alternatives necessary to permit a reasoned choice. The discussion of alternatives need not be exhaustive. Furthermore, an EIR need not consider an alternative whose implementation is remote and speculative or whose effects cannot be reasonably ascertained.

Alternatives that were considered but were rejected as infeasible during the scoping process should be identified along with a reasonably detailed discussion of the reasons and facts supporting the conclusion that such alternatives were infeasible.

Based on the alternatives analysis, an environmentally superior alternative is designated among the alternatives. If the environmentally superior alternative is the No Project Alternative, then the EIR shall identify an environmentally superior alternative among the other alternatives (CEQA Guidelines §15126.6(e)(2)).

7.2 Criteria for Alternatives Analysis

As stated above, pursuant to CEQA, one of the criteria for defining project alternatives is the potential to attain the project objectives. Established objectives of the project applicant for the proposed project include:

- Develop a geothermal power plant with minimal disturbance footprint and environmental impacts by siting the facility on an existing disturbed industrial site.
- Develop clean, renewable geothermal energy in the Heber Geothermal Zone pursuant to the Imperial County General Plan.
- Utilize a location that is in close proximity to existing energy generation facilities and electrical transmission system.

- Develop supporting renewable energy solar PV facilities to support the geothermal power plant operations.
- Use proven and established PV technology that is efficient and requires low maintenance.
- Provide renewable baseload energy and capacity to assist the State of California with meeting the objectives of Senate Bill 100 (100% Clean Energy Act of 2018) and the State's Renewables Portfolio Standard program.
- Minimize and mitigate any potential impact to sensitive environmental resources within the project area.

7.3 Alternatives Considered but Rejected

7.3.1 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).

The proponent does not have control of an alternate site; if control were viable, the proponent would have to re-initiate the application process as a new project. Similar to the proposed project site, an alternate site would require environmental review once the proponent has prepared sufficient project description information. At present, the proponent does not have control of an alternate site. Alternative sites would also lack the benefits of located the proposed project next to existing facilities. Furthermore, geothermal resources (and solar facilities to complement them) are limited in their available locations. This alternative would likely be the most complex, costly, and time-consuming alternative to implement, and the environmental benefits are unlikely. For these reasons an alternative site was eliminated from further consideration in this EIR.

7.4 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)(1), "the specific alternative of 'no project' shall also be evaluated along with its impact." Also, pursuant to Section 15126.6(e)(2); "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 further developed with geothermal and solar energy facilities. The No Project/No Development Alternative would not meet the project objectives.

7.4.1 Environmental Impact of Alternative 1: No Project/No Development Alternative

Aesthetics

Under the No Project/No Development Alternative, the project site would not be developed and would continue to be undeveloped land. The No Project/No Development Alternative would not modify the existing project site or add construction to the project site; therefore, there would be no change to the existing condition of the site. Under this alternative, there would be no potential to create a new source of light or glare associated with the PV arrays. As discussed in greater detail in Section 3.2, Aesthetics, the proposed project would result in a less than significant impact associated with introduction of new sources of light and glare. Under this alternative, no impacts related to light, glare, and aesthetic impacts would occur.

Agricultural Resources

As discussed in Section 3.3, Agricultural Resources, implementation of the project would result in the temporary conversion of approximately 106.88 acres of land currently under or available for agricultural production to non-agricultural uses, as described below:

- Dogwood Geothermal Energy Project (CUP #23-0020): Approximately 5.31 acres of the Dogwood parasitic solar facility footprint are classified as Prime Farmland and 34.67 acres are classified as Farmland of Statewide Importance.
- Heber 2 Solar Energy Project (CUP #23-0021): Approximately 17.63 acres of the Heber 2 parasitic solar facility footprint are classified as Prime Farmland and 49.27 acres are classified as Farmland of Statewide Importance.

Compared to the proposed project, implementation of this alternative would avoid the conversion of Prime Farmland and Farmland of Statewide Importance. Therefore, this alternative would not contribute to the conversion of agricultural lands or otherwise adversely affect agricultural operations. Compared to the proposed project, this alternative would avoid the need for future restoration of the project site to pre-project conditions.

Air Quality

Under the No Project/No Development Alternative, there would be no air emissions associated with project construction or operation, and no project- or cumulative-level air quality impact would occur. Therefore, no significant impacts to air quality or violation of air quality standards would occur under this alternative. Moreover, this alternative would be consistent with existing air quality attainment plans and would not result in the creation of objectionable odors.

As discussed in Section 3.4, Air Quality, the proposed project would not exceed the ICAPCD's significance thresholds during both the construction and operational phases of the project. Although no significant air quality impacts would occur, 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.

This alternative would not result in air quality emissions compared to the proposed project, the majority of which would occur during construction. The No Project/No Development Alternative would not reduce the long-term need for renewable electricity generation. As a consequence, while the No

Project/No Development Alternative would not result in new impacts to air quality as a result of construction, it would likely not realize the overall benefits to regional air quality when compared to the operation of the proposed project.

Biological Resources

Under the No Project/No Development Alternative, existing biological resource conditions within the project site would largely remain unchanged and no impact would be identified. Unlike the proposed project which requires mitigation for biological resources including burrowing owl and nesting birds, this alternative would not result in construction activities that could otherwise result in significant impacts to these biological resources. Compared to the proposed project, this alternative would avoid impacts to biological resources.

Cultural Resources

The proposed project would involve ground-disturbing activities that have the potential to disturb previously undocumented cultural resources that could qualify as historical resources or unique archaeological resources pursuant to CEQA. Under the No Project/No Development Alternative, the project site would not be developed, and no construction-related ground disturbance would occur. Therefore, compared to the proposed project, this alternative would avoid impacts to cultural resources.

Energy

Because there would be no development at the project site under the No Project/No Development Alternative, no grading or construction of new facilities would occur. Compared to the proposed project, the No Project/No Development Alternative would not result in energy consumption associated with the operation of construction equipment. Therefore, no impact is identified for this alternative.

Geology and Soils

Because there would be no development at the project site under the No Project/No Development Alternative, no grading or construction of new facilities would occur. Therefore, there would be no impact to project-related facilities as a result of local seismic hazards (strong ground shaking), soil erosion, and paleontological resources. In contrast, the proposed project would require the incorporation of mitigation measures related to potential seismic hazards, soil erosion, and paleontological resources to minimize impacts to a less than significant level. Compared to the proposed project, this alternative would avoid significant impacts related to local geology and soil conditions and paleontological resources.

Greenhouse Gas Emissions

Under the No Project/No Development Alternative, there would be no GHG emissions resulting from project construction or operation or corresponding impact to global climate change. 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 SB 32. While this alternative would not further implement policies (e.g., SB X1-2) for GHG reductions, this alternative would also not directly conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. This alternative would not create any new GHG emissions during construction but would not lead to a long-term beneficial impact to global climate change by providing renewable

clean energy. For the proposed project, a less than significant impact was identified for construction-related GHG emissions, and in the long-term, the project would result in an overall beneficial impact to global climate change as the result of creation of clean renewable energy, that does not generate GHG emissions. While the No Project/No Development Alternative would not result in new GHG emissions during construction, it would be less beneficial to global climate change as compared to the proposed project. Further, the construction emissions associated with the project would be off-set by the beneficial renewable energy provided by the project, negating any potential that the No Project/No Development alternative would reduce construction-related GHG emissions.

Hazards and Hazardous Materials

The No Project/No Development Alternative would not include any new construction and would not require the installation of two 20,000-gallon isopentane vessels on the project site. Compared to the proposed project, this alternative would avoid the potential hazards to the public attributed to the storage, transport, and use of isopentane motive fluid.

Hydrology/Water Quality

The No Project/No Development Alternative would not result in modifications to the existing drainage patterns or volume of storm water runoff as attributable to the proposed project, as the existing site conditions and on-site pervious surfaces would remain unchanged. In addition, no changes with regard to water quality would occur under this alternative. Therefore, compared to the proposed project, this alternative would avoid impacts to hydrology and water quality.

Land Use/Planning

As discussed in Section 3.12, Land Use/Planning, the proposed project would not physically divide an established community or conflict with applicable plans, policies, or regulations. Under the No Project/No Development Alternative, the project site would not be developed and continue to be undeveloped land. Current land uses would remain the same. No CUPs would be required under this alternative. Under this alternative, no existing community would be divided, and no inconsistencies with planning policies would occur. No land use impacts would occur.

Noise

This alternative would not require construction or operation of the project facilities; therefore, this alternative would not increase ambient noise levels within the vicinity of the project site. For this reason, no noise impacts would occur. As discussed in Section 3.13, Noise and Vibration, the proposed project would not result in significant noise impacts to sensitive receptors during construction and operation. Compared to the proposed project, this alternative would not generate noise and would not result in any noise or vibration impacts.

Public Services

The No Project/No Development Alternative would not increase the need for public services which would otherwise be required for the proposed project (additional police or fire protection services). Therefore, no impact to public services is identified for this alternative.

Transportation

There would be no new development under the No Project/No Development Alternative. Compared to the proposed project, this alternative would not generate vehicular trips during construction or operation. For these reasons, no impact would occur and this alternative would not impact any applicable plan, ordinance, or policy addressing the performance of the circulation system, substantially increase hazards because of a design feature, result in inadequate emergency access, or conflict with public transit, bicycle, or pedestrian facilities.

Tribal Cultural Resources

The proposed project would involve ground-disturbing activities that have the potential to disturb previously undocumented tribal cultural resources. Under the No Project/No Development Alternative, the project site would not be developed, and no construction-related ground disturbance would occur. Therefore, compared to the proposed project, this alternative would avoid potential impacts to tribal cultural resources.

Utilities and Service Systems

Compared to the proposed project, the No Project/No Development Alternative would not require the expansion or extension of existing utilities, since there would be no new project facilities that would require utility service. No solid waste would be generated under this alternative. Therefore, this alternative would result in no impacts to existing utilities or solid waste facilities.

Conclusion

Implementation of the No Project/No Development Alternative would generally result in reduced impacts for a majority of the environmental issues areas considered in Chapter 3, Environmental Analysis when compared to the proposed project. A majority of these reductions are realized in terms of significant impacts that are identified as a result of project construction. However, this alternative would not realize the benefits of reduced GHG emissions associated with energy use, which are desirable benefits that are directly attributable to the proposed project.

Comparison of the No Project/No Development Alternative to Project Objectives

The No Project/No Development Alternative would not meet 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 SB 32.

7.5 Alternative 2: Reduced Project Site

The purpose of this alternative is to avoid the Prime Farmland located within the project site. As discussed in Section 3.3, Agricultural Resources, implementation of the project would result in the temporary conversion of approximately 106.88 acres of land currently under or available for agricultural production to non-agricultural uses, as described below:

- Dogwood Geothermal Energy Project (CUP #23-0020): Approximately 5.31 acres of the Dogwood parasitic solar facility footprint are classified as Prime Farmland and 34.67 acres are classified as Farmland of Statewide Importance.

- Heber 2 Solar Energy Project (CUP #23-0021): Approximately 17.63 acres of the Heber 2 parasitic solar facility footprint are classified as Prime Farmland and 49.27 acres are classified as Farmland of Statewide Importance.

This alternative would avoid approximately 22.94 acres of Prime Farmland on the project site (5.31 acres on Dogwood parasitic solar facility footprint and 17.63 acres on the Heber 2 parasitic solar facility footprint). The size and MW output of the solar facilities would be slightly reduced under this alternative.

7.5.1 Environmental Impact of Alternative 2: Reduced Project Site

Aesthetics

Under Alternative 2, the overall size of the solar energy facilities would be reduced. No significant visual aesthetic impact has been identified as the proposed project's facilities would not impact scenic resources, result in the substantial degradation of the existing visual character of the project site, or add a substantial amount of light and glare. As such, this alternative would not avoid or reduce any significant impacts identified for the project and the aesthetic impact would be similar to the proposed project.

Agricultural Resources

Under Alternative 2, the conversion of approximately 22.94 acres of Prime Farmland to non-agricultural uses would be avoided on the project site. However, the solar facilities would still be located on land designated as Farmland of Statewide Importance and would still require mitigation for the temporary conversion of Farmland of Statewide Importance to non-agricultural uses to reduce significant impacts to a less than significant level. Impacts associated with contributing to the conversion of other agricultural lands or otherwise affecting agricultural operations would still occur, but would be less than would occur under the proposed project. Compared to the proposed project, this alternative would result in less of an impact on agricultural resources as compared to the proposed project.

Air Quality

Under Alternative 2, air emissions during construction would be less than the proposed project because of the reduced site development. As discussed in Section 3.4, Air Quality, the proposed project would not exceed the ICAPCD's significance thresholds during both the construction and operational phases of the project. Although no significant air quality impacts would occur, 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. Similar to the proposed project, this alternative would be consistent with existing AQMPs and would not result in the creation of objectionable odors. Compared to the proposed project, this alternative would result in less air quality impacts.

Biological Resources

Under Alternative 2, the overall size of the solar energy facilities would be reduced. Although the overall size of the solar energy facilities would be reduced, there is still potential for impacts on special-

status species. Compared to the proposed project, this alternative would result in a reduction in impacts on biological resources, but would still require mitigation.

Cultural Resources

Although the overall size of the solar energy facilities would be reduced, this alternative would still require ground-disturbing activities, which has the potential to disturb undocumented cultural resources that could qualify as historical resources or unique archaeological resources pursuant to CEQA, and human remains. Compared to the proposed project, this alternative would result in a reduction in impacts on cultural resources because of the reduced site development, but would still require mitigation related to monitoring for inadvertent discovery.

Energy

Although the overall size of the solar energy facilities would be reduced, this alternative would still result in energy consumption associated with the operation of construction equipment. Compared to the proposed project, the No Project/No Development Alternative would result in slightly less energy consumption due to a reduced project site. However, impacts would be less than significant similar to the proposed project.

Geology and Soils

Under Alternative 2, while the overall project footprint would be reduced, grading and construction of new facilities, such as the geothermal plant, solar facilities, and geothermal wells would still occur. Similar to the proposed project, this alternative would also be subject to potential impacts related to strong ground shaking, soil erosion, and paleontological resources, and incorporation of mitigation measures would be required to minimize these impacts to a less than significant level. This alternative would result in similar geology and soil and paleontological resources impacts as the proposed project.

Greenhouse Gas Emissions

Under Alternative 2, the overall project footprint would be reduced, thereby contributing to reductions in GHG emissions during project construction. However, as a consequence of the reduced size of the project, this alternative would result in a reduced power production capacity as compared to the proposed project; hence, the overall benefits of the project to global climate change through the creation of renewable energy would also be reduced. This alternative would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Similar to the proposed project, this alternative would not exceed SCAQMD's screening threshold of 3,000 metric tons of CO_2e per year. This alternative would contribute to similar and desirable reductions in GHG emissions and associated contribution to global climate change through the production of renewable energy, although to a lesser degree. This alternative would have a similar impact as the proposed project.

Hazards and Hazardous Materials

Similar to the proposed project, construction of this alternative would involve the limited use of hazardous materials, such as fuels and greases to fuel and service construction equipment. This alternative would still require the installation of two 20,000-gallon isopentane vessels on the project site and would require mitigation to reduce the potential hazards to the public attributed to the storage, transport, and use of isopentane motive fluid. Similar to the proposed project, no impact associated

with potential safety hazards to the public residing or working within proximity to a public airport would occur. Implementation of this alternative would result in a similar hazards and hazardous materials impact as the proposed project.

Hydrology/Water Quality

Alternative 2 would result in modifications to the existing drainage patterns and the volume of storm water runoff, as this alternative would introduce impervious area on-site, although to a lesser degree than the proposed project. Because the overall project footprint would be reduced, this alternative would realize a minor reduction in the corresponding impacts on hydrology and on-site drainage; however, the same mitigation measures would be applicable to this alternative. Compared to the proposed project, this alternative would result in less of an impact on hydrology/water quality.

Land Use Planning

Implementation of this alternative would not avoid or reduce a land use and planning impact, as no significant impact associated with the projects has been identified. As with the proposed project, this alternative would be consistent with the County Land Use Ordinance, Division 17, RE Overlay Zone, which authorizes the development and operation of RE projects with an approved CUP. Implementation of this alternative would be similar to the proposed project with respect to land use and planning.

Noise

As with the proposed project, Alternative 2 would not result in significant noise impacts associated with construction activities. As with the proposed project, operational impacts associated with this alternative would not expose persons or generate noise levels in excess of applicable noise standards, exposure persons to, or generate excessive groundborne vibration, or expose persons to excessive aircraft noise. This alternative would have similar noise impacts as the proposed project.

Public Services

Alternative 2 would require increased public services, specifically law enforcement and fire protection services. While the solar facilities would be slightly smaller, the impacts of this alternative to public services and associated service ratios would be similar. Like the proposed project, this alternative would be conditioned to provide law enforcement and fire service development impact fees. Therefore, this alternative would result in a similar impact related to public services as the proposed project.

Transportation

This alternative would result in a similar level of construction and operation-related vehicle and truck trips as compared to the proposed project. However, the increase in vehicular traffic was identified as a less than significant impact for the proposed projects. In this context, Alternative 2 would not reduce or avoid an impact related to transportation and would result in less than significant impacts similar to the proposed project. As with the proposed project, Alternative 2 would not impact any applicable plan, ordinance, or policy addressing the performance of the circulation system, substantially increase hazards because of a design feature, result in inadequate emergency access, or conflict with public transit, bicycle, or pedestrian facilities. This alternative would result in a similar impact related to transportation as the proposed project.

Tribal Cultural Resources

Implementation of this alternative would not avoid or reduce a tribal cultural resources impact, as no significant impact associated with the projects has been identified. Impacts to tribal cultural resources under this alternative are similar to the proposed projects.

Although the overall size of the solar energy facilities would be reduced, this alternative would still require ground-disturbing activities, which has the potential to disturb undocumented tribal cultural resources. Compared to the proposed project, this alternative would result in a reduction in impacts on tribal cultural resources because of the reduced site development, but would still require mitigation.

Utilities and Service Systems

Implementation of this alternative would result in an overall less demand for utilities, including water. However, this alternative would not avoid or reduce a significant impact associated with the project as a less than significant impact to utilities has been identified associated with the project. Implementation of this alternative would not achieve to the same degree the beneficial impacts of providing renewable energy. As compared to the proposed project, the overall demand for utilities would be less under this alternative.

Conclusion

As shown on Table 7-1, this alternative would reduce impacts to agricultural resources, air quality, biological resources, cultural resources, hydrology/water quality, tribal cultural resources, and utilities/service systems.

Comparison of Alternative 2: Reduced Project Site

Alternative 2 would meet most of the basic objectives of the proposed project and should remain under consideration. However, as a consequence of the reduced size of the project, this alternative would result in a reduced power production capacity as compared to the proposed project; hence, the overall benefits of the project to global climate change through the creation of renewable energy would also be reduced.

7.6 Environmentally Superior Alternative

Table 7-1 provides a qualitative comparison of the impacts for each alternative compared to the proposed project. As noted on Table 7-1, 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 on Table 7-1, Alternative 2 would be the environmental superior alternative because it would reduce impacts for the following environmental issue areas as compared to the proposed project: agricultural resources, air quality, biological resources, cultural resources, hydrology/water quality, tribal cultural resources, and utilities/service systems.

Table 7-1. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Aesthetics	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Agricultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Air Quality	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Less Impact
Biological Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Cultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact

Table 7-1. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Energy	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Geology and Soils	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact (Avoid)	*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:* No Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Hazards and Hazardous Materials	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact
Hydrology/ Water Quality	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact

Table 7-1. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Land Use/Planning	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Noise	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Public Services	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Transportation	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Tribal Cultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact

Table 7-1. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Utilities/Service Systems	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* No Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Less Impact

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9 EIR Preparers and Persons and Organizations Contacted

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- Noise Technical Report
- Preliminary Jurisdictional Report
- Transportation Technical Report
- Visual Resources Baseline and Sensitivity Report
- Water Quality Management Plan

PaleoWest

- Cultural Resource Assessment

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9.2 Persons and Organizations Contacted

No persons or organizations were contacted directly in preparation of the Draft EIR.