

**INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION**

OUTLAW ENERGY STORAGE, LLC

**OUTLAW BATTERY ENERGY
STORAGE PROJECT**

CUP 23-06

REVISED DRAFT

July 2024

INITIAL STUDY / NEGATIVE DECLARATION

1. INTRODUCTION

This document is an Initial Study and Mitigated Negative Declaration (IS/MND) prepared pursuant to the California Environmental Quality Act (CEQA) for the proposed Outlaw Battery Storage Project. This IS/MND has been prepared in accordance with the CEQA, Public Resources Code Sections 21000 et seq., and the State CEQA Guidelines.

An Initial Study is conducted by a lead agency to determine if a project may have a significant effect on the environment. In accordance with the CEQA Guidelines, Section 15064, an Environmental Impact Report (EIR) must be prepared if the Initial Study indicates that the proposed project under review may have a potentially significant impact on the environment. A Negative Declaration may be prepared instead, if the lead agency prepares a written statement describing the reasons why a proposed project would not have a significant effect on the environment, and, therefore, why it does not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a Negative Declaration shall be prepared for a project subject to CEQA when either:

- a) *The Initial Study shows there is no substantial evidence, in light of the whole record before the agency, that the proposed project may have a significant effect on the environment, or*
- b) *The Initial Study identified potentially significant effects, but:*
 - (1) *Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed negative declaration is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and*
 - (2) *There is no substantial evidence, in light of the whole record before the agency, that the proposed project as revised may have a significant effect on the environment.*

If revisions are adopted into the proposed project in accordance with the CEQA Guidelines Section 15070(b), a Mitigated Negative Declaration is prepared. This

document includes such revisions in the form of mitigation measures. Therefore, this document is a Mitigated Negative Declaration and incorporates all of the elements of an Initial Study. Hereafter this document is referred to as an MND.

2. DESCRIPTION OF THE PROPOSED PROJECT

2.1. BACKGROUND INFORMATION

Project Title

Outlaw Battery Energy Storage Project

Kings County Conditional Use Permit File No: CUP 23-06

Lead Agency Name and Address

Kings County Community Development Agency 1400 West Lacey Boulevard, Building #6

Hanford, CA 93230

Contact Person, Phone Number, and Email Address

Noelle Tomlinson, Planner

(559) 852-2697, Noelle.Tomlinson@co.kings.ca.us

Project Location

9135 7th Avenue, Hanford, California. The project would be located on the south side of Grangeville Boulevard between 6th Avenue to the east and 7½ Avenue to the west in northeastern Kings County (Figures PD-1 and PD-2).

Assessor's Parcel Number and Acres

014-260-036-000, 154 Acres

The Project would occupy approximately 10 acres in the northeastern corner of the 154-acre parcel.

Project Sponsor

Outlaw Energy Storage, LLC

100 Bayview Circle, Suite 340

Newport Beach, CA 92660

Contact: Lewis Bichkoff

Phone: 909-529-0581

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General Plan Designation

General Agriculture 20 Acre Minimum (AG20).

Zoning

General Agricultural – 20 acre minimum (AG-20) zone district.

2.2. PROJECT DESCRIPTION

INTRODUCTION

Outlaw Energy Storage, LLC (Outlaw Energy Storage, or Applicant) proposes to construct and operate a Battery Energy Storage System (BESS), referred to as the Outlaw Energy Storage Project (Outlaw Battery Storage Project, or Project). The Project site parcel is an approximately 154-acre agricultural property, referred to as Assessor's Parcel Number (APN) 014-260-036-000, located at 9135 7th Avenue, Hanford, California, on the south side of Grangeville Boulevard, east of the City of Hanford, between 6th Avenue to the east and 7½ Avenue to the west in northeastern Kings County, California. The Project will be sited on 10 acres in the northeastern corner of the 154-acre parcel. Figure PD-1 shows the Project location in Kings County and Figure PD-2 provides a generalized site plan of the Project site.

The Project site parcel is zoned as general agriculture, 20 acre minimum (AG-20). Battery energy storage is a permitted use with an approved Conditional Use Permit (CUP) and California Environmental Quality Act review in the AG-20 zone district. In addition to requesting a CUP for the Project, this application includes a request to subdivide the 154-acre parcel into two parcels. An approximately 10-acre parcel will be created for the battery energy storage facilities. Of this area, the battery storage operational area will occupy approximately 8.5 acres and the remainder will serve as a buffer from the adjacent agricultural operations. The remaining approximately 144 acres of the original parcel will remain in agricultural production.

The sections below describe the Project site conditions, Project details, and the Project schedule. Location maps, representative site photographs, and a preliminary site plan are provided at the end of this Project Description. Technical studies prepared by the Applicant in support of the Project environmental assessment are provided in appendices, including air quality and greenhouse gas calculations (Appendix A), a *Biological Resources Technical Report* (Appendix B), a *Cultural Resources Technical Report* (Appendix C), a *Noise Assessment Report* (Appendix D), and a *Preliminary Commissioning and Decommissioning Plan* (Appendix E). Additional Project site maps and photographs are provided in the biological and cultural resources technical reports.

SITE CONDITIONS AND SURROUNDING USES

The Project site parcel is agricultural land located in unincorporated Kings County, California. The parcel's General Plan land use designation is AG-20, and the zoning is AG-20-acre minimum parcel size. The parcel access is from Grangeville Boulevard, near the intersection with 7th Avenue.

The Project site is in Township 18 South, Range 22 East, Section 27 and Township 18 South, Range 22 East, Section 28 on the Remnoy, California, 7.5-minute U.S. Geological Survey topographic quadrangle.

Figures PD-1 and PD-2 indicate the site and surrounding uses. The Project site parcel is in active agricultural production (vineyard). The Project operational area has modern lattices built for the cultivation of grapes with no other structures present. The Project site parcel is level. Site vegetation includes cultivated vineyards and ruderal plants along the margins of the vineyard. No historical uses of the Project site parcel have been identified other than agricultural production.

An agricultural residence and water well are located on the Project site parcel at 9135 7th Avenue, along the west boundary of the Project site parcel. Two agricultural residences and equipment yards are located adjacent to the northwest corner of the Project site parcel at the intersection of Grangeville Boulevard and 7th Avenue.

An agricultural irrigation canal (Settlers Ditch) runs north-south through the western portion of the Project site parcel, and another irrigation canal (Melga Canal) runs north-south within the eastern portion of the Project site parcel adjacent to the battery operational area. An unpaved agricultural road runs north-south along the eastern perimeter of the Project site parcel, between the battery operational area and the Melga Canal. The Union Pacific Railroad crosses the southern portion of the Project site parcel, south of the battery operational area.

The California High Speed Rail (HSR) Hanford Viaduct runs north-south along 7½ Avenue, 1 mile west of the Project site parcel. This HSR segment is under construction and will allow high speed trains to cross over Grangeville Boulevard and State Route (SR) 198. Surrounding uses are agricultural. The Project site parcel is visible from Grangeville Boulevard, and from nearby rural residences along Grangeville Boulevard.

PROJECT DESCRIPTION

Project Overview

Outlaw Energy Storage proposes to construct and operate a utility-scale BESS, referred to as the Outlaw Energy Storage Project (Project). The Project development footprint will occupy approximately 8.5 acres within a 10-acre parcel that would be created within the northeastern portion of a 154-acre parcel located on the south side of Grangeville Boulevard, east of 7th Avenue, 1 mile north of SR 198, and about 1 mile east of Southern California Edison's (SCE) Mascot Substation (see Figures PD-1 and PD-2). The Project site parcel is not under a Farmland Security Zone Contract under the Williamson Act.

A preliminary site plan is shown on Figure PD-3. Batteries will be arrayed in separate ground-mounted enclosures. The actual layout within the development footprint may vary depending on the final design. The ultimate technology providers for the Project have not yet been selected and will be procured via a competitive solicitation of reputable Tier 1 suppliers. In addition, augmentation of the lithium-ion batteries will be required over the lifespan of the Project. Depending on technology selection, augmentation could include replacement of the lithium-ion batteries within existing battery enclosures and/or the phased installation of new enclosures over the Project's life. In order for Kings County to fully analyze the potential effects from the Project, the estimated full buildout of the entire Project, including all battery enclosures that could potentially be constructed through the life of the Project, are assumed in the following description, and shown on the site plan prepared for the Project.

Up to 120 containerized lithium-ion battery storage units will be initially installed. The Project will be rated as a 110 megawatt (MW) 4-hour system (440 MW-hours). Capacity for an additional 48 augmentation battery units is included in the site plan in order to maintain the system rating of 440 MW-hours throughout the Project's lifetime. A profile view of a typical containerized lithium-ion battery storage unit is shown on Figure PD-4. The actual storage units may vary from this design, but the units would have similar dimensions.

The BESS will be connected to the SCE Mascot Substation via a 1-mile generation-tie (gen-tie) that will be constructed in East Grangeville Boulevard. The gen-tie alignment is shown on Figure PD-5. Battery storage units will be charged from the electrical grid and will discharge as a California Independent System Operator market participant. Interconnection studies are underway.

The Project proposes to subdivide the 154-acre parcel (APN 014-260-036-000) into two parcels. An approximately 10-acre parcel will be created in the northeast corner of the parcel for the Project (the area shown on Figure PD-3), and the remainder approximately 144 acres will remain in agricultural production. Within the 10-acre Project site parcel, approximately 8.5 acres will be developed with battery storage infrastructure, and the remaining approximately 1.5 acres will remain as an open area for staging and as a buffer from the agricultural operations.

Regulatory Permits, Notifications, and Approvals

The proposed Project requires approval by Kings County in the form of a discretionary CUP and Subdivision Parcel Map. The Project also requires administrative clearances (i.e., Zoning Clearance, building permit, grading permit, electrical permit, fire permit).

Table PD-1 lists the regulatory permits, approvals, and reviews that are anticipated for the Project. Outlaw Energy Storage will consult with these and potentially other agencies, as needed.

Table PD-1: Regulatory Permits, Notifications, and Approvals

Regulatory Agency	Potential Permits, Notifications, and Approvals
Kings County	<ul style="list-style-type: none"> • Design Review • CUP • Subdivision Parcel Map • California Environmental Quality Act review • Zoning Clearance • Grading Plan • Building permit • Electrical permit • Fire permit • Pre-Construction compliance plan reviews
Central Valley Regional Water Quality Control Board and State Water Resources Control Board	Coverage under the Construction General Permit, with a Stormwater Pollution Prevention Plan
Kings County Fire Department	Fire safety review
Kings County Environmental Health	Certified Unified Program Agency review, Hazardous Materials Business Plan review

Battery Storage Demand and Technology Overview

Energy Storage Demand

In June 2021, and later amended in 2023, the California Public Utilities Commission approved a decision ordering utilities to procure 15.5 gigawatts of new zero-emitting electricity resources to come online between 2023 and 2028. Battery energy storage will be needed to achieve

California's clean energy goals and Outlaw Energy Storage will bid this BESS into future electric utility procurements to meet this California state mandate.

The Outlaw Energy Storage Project will supplement California's power supply by receiving electricity through the existing power grid system, including surplus power generated from solar and wind sources, and storing the energy for later discharge when it is needed during peak demand periods. The facility will also support electricity grid resiliency in the event of an emergency or disaster.

Energy Storage Technology Overview

A BESS is an electrochemical device that charges (or collects energy) from the power grid or a generating station and then discharges that energy at a later time to provide electricity or other grid services when needed. Battery energy storage systems work by converting the alternating current (AC) power being produced by generation on the power grid to direct current (DC) power and storing it as electrochemical energy. Battery storage can also directly store DC power generated by solar panels or other DC power sources through storing it as DC energy and converting it to AC power for distribution into the power grid at a later time.

Battery storage systems are integrated with electrical grid operations, with the objective of increasing grid reliability. Batteries support the distribution and transmission grid offering ancillary services, energy and resource adequacy. Battery storage systems are also used for deferring distribution and transmission system upgrades by providing additional capacity at localized distribution system load points, thereby reducing outages due to distribution system overloads (rolling blackouts).

The proposed BESS is a stand-alone battery storage system that will interconnect to the SCE Mascot Substation at 66 kilovolts (kV). The battery itself is a DC source with a maximum voltage of 1,500 volts DC. An inverter changes the DC voltage to 690 volts AC. That voltage is transformed to a distribution station voltage of 34.5 kV. Multiple groups of battery units are aggregated at this voltage and fed into a collector substation. Within the substation, the 34.5 kV system is stepped up to the interconnection voltage of 66 kV using a single Main Power Transformer, where it is then connected to the gen-tie line leaving the site.

The BESS will be designed, constructed, operated, and maintained in accordance with applicable industry best practices and regulatory requirements. The make and model of the battery units will be determined during later design stages. Selection of the lithium-ion sub-

chemistry will take into consideration various technical factors, including safety, life span, energy performance, and cost.

Battery Storage Project Components

The proposed BESS components will occupy approximately 10 acres within the northeastern portion of the Project site parcel (Figures PD-2 and PD-3). Energy Storage Project components will include:

- Battery containers that will enclose the battery cells, modules, and racks; heating, ventilation, and air conditioning (HVAC) and/or liquid cooling system; and fire detection and suppression systems.
- Inverters, power conversion systems, power distribution systems, transformers, and switchgear.
- Safety elements designed into the cell, module, rack, and container components, including a robust battery management system that is designed to detect anomalies in voltage, current, temperature, and other telemetry, and automatically shutdown and de-energize the equipment to mitigate and prevent thermal runaway and other potential safety hazards. The battery management system will be an integrated part of the built-in fire detection, alarm, and protection systems.
- Internal circulation roads for emergency access per Kings County guidelines and applicable regulations.
- Systems integrated with on-site and Kings County emergency response capabilities.
- No criteria pollutant or greenhouse gas emissions from normal operations.
- Low visual profile from public vantage points.

A typical profile view of the BESS containers is provided on Figure PD-4.

Site Access, Staging, and Ground Surfacing

Project area roadways include Grangeville Boulevard adjacent to the site, 7th Avenue to the west, and 6th Avenue to the east. SR 198 is located 1 mile to the south, and SR 43 is 1.4 miles to the west.

The California HSR Hanford Viaduct segment is under construction 1 mile to the west at 7 ½ Avenue.

The Project will have direct vehicular access from one or more dedicated Project entrances on Grangeville Blvd. Project entrances will be designed and constructed in accordance with the Kings County Improvement Standards and applicable design standards for emergency access (e.g., minimum lane width and turning radius to allow the ingress and egress of emergency apparatus). Gates will have Knox locks on them for emergency access by fire response personnel.

Construction-related equipment, material delivery vehicles, and haul trucks will access the site from the dedicated Project access points. Equipment, debris, and waste materials will be staged on-site.

Internal access roads will be surfaced with asphalt or other all-weather surface material. The remainder of the ground surface within the BESS operational area will be graveled. Parking spaces will be located within the BESS operational area.

Security Fencing and Lighting

A new 6-foot chain-link fence with three strands of barbed wire will be installed around the BESS operational area and maintained for site security. The collector substation will also be fenced within the overall site.

Security lighting will be installed at appropriate locations along the perimeter and interior of the BESS operational area. The lights will be shielded and oriented downward to avoid creating a source of glare and mounted on poles approximately 20 feet in height. A third-party security service will provide a standardized site security monitoring program that includes cameras, alarms, and notifications for the operations group and local law enforcement, and activity logs.

A 20-foot structural setback will be maintained within the BESS facility parcel perimeter. The buffer and other undeveloped areas within the perimeter fence of the new parcel will be maintained as a cleared area with gravel surfacing for additional site security.

Off-site Street Frontage Improvements. Two new driveway entrances will be constructed at the northern frontage along Grangeville Boulevard. Each entrance will be a 24-foot wide all-weather road. Entrance gates will be 28 feet wide.

Electrical Grid Point of Interconnection

From the battery operational area substation, conduit carrying electrical cables and fiber optic cables will be constructed underground in East Grangeville Blvd. Underground conduit will run west for approximately 1 mile within the existing Kings County right-of-way of East Grangeville

Blvd. Undergrounding will occur within the Kings County right-of-way through an encroachment permit with Kings County. The preferred alignment is to run through the south shoulder of East Grangeville Boulevard.

Specifically, the 1-mile segment is located between the northeast corner of the northwest quarter of Section 27 of Township 18, Range 22 and the SCE Mascot Substation located in the northeast corner of the northwest quarter of Section 28 of Township 18, Range 22 (southwest corner of intersection of East Grangeville Blvd. and 7½ Avenue). At 7½ Avenue the conduit will span under the California HSR Hanford Viaduct. The gen-tie route is shown on Figure PD-5.

The gen-tie will be privately owned. The gen-tie Point of Change of Ownership will be on the northeast corner of SCE's Mascot Substation property. The gen-tie will transition from underground to aboveground at this location.

Safety Systems and Controls

The BESS will be designed and operated in accordance with applicable industry best practices for fire safety, including applicable National Fire Protection Association standards and locally adopted fire codes and standards.

The battery system will be comprised of lithium-ion cells that are arranged into modules, where multiple modules are placed into racks, and racks are placed into outdoor-rated enclosures. The installed equipment will be listed to the Underwriters Laboratories 9540 "Standard for Safety of Energy Storage Systems and Equipment." There are physical, electrical, and control system designs at each level that mitigate safety risks, as well as protections external to the enclosure provided from local agency fire and emergency response services.

The battery storage control system will have built-in, redundant protection functions at multiple equipment and software levels for continuous monitoring of temperature, voltage, and current telemetry at each battery module along with protective devices to automatically shut down any component or system when an anomaly is detected. "Anti-islanding" protection will be included that will cause an automatic shutdown in the event of a power outage or other grid instability. The battery storage system supplier will conduct ongoing system safety monitoring and collect and communicate pertinent industry updates, product news, and safety bulletins on a regular basis to the facility operator.

Battery storage unit enclosures will include a fire detection and suppression system designed to detect and suppress fires within the enclosures. Safety and reliability systems will also include

voltage and current protection via fusing, breakers, contactors, relays, software controls, and physical protection via component isolation.

In the event of a detected battery cell failure through off-gas detection, smoke detection, or an electrical anomaly detected by the Battery Management System (BMS), the battery units are designed to de-energize and electrically isolate the affected battery cells in order to eliminate the source of the failure and intervene before ignition occurs within the battery module. If ignition still occurs within a battery rack, the battery enclosures are designed with fire-proof barriers and physical spacing so that a fire does not spread from one section of the battery unit to another. This response will be demonstrated through UL9540A laboratory testing results provided by the battery manufacturer.

Additional fire protection and emergency response capability is available from local fire and emergency response services.

Prior to operations, Outlaw Energy Storage will provide training to Kings County Fire Department fire fighters and first responders that is specific to the Project site, the equipment installed, and the system configuration. A point of contact will be designated for emergency responders to contact in case of emergency or concerns.

Battery Project Construction

Project construction is anticipated to take 8 months. BESS construction includes removal of existing agricultural infrastructure, site preparation and vegetation clearing, rough and fine grading, installing the BESS foundations and BESS enclosures, laying the undergrounding electrical collection and communication lines, assembling accessory electrical components including transformers, and installing high-voltage equipment such as the on-site switchyard and gen-tie line. Table PD-2 provides a breakdown of the preliminary construction schedule.

Construction crews would generally work Monday through Friday during daytime hours (typically from 8:00 a.m. to 5:00 p.m.). Nighttime construction work is not anticipated for the proposed Project.

The Project is estimated to require 500 cubic yards (cy) of cut and 800 cy of fill, with a net import of approximately 300 cy of soil for BESS foundations. Raw materials required for construction include gravel for drive aisles; concrete, sand, and cement for foundations; and water for concrete installation, dust control and erosion control.

Table PD-2: Project Construction Process/Phasing

Construction Phase	Tentative Schedule
Construction Kick-off/Staging (including mobilization)	April 6-10, 2026 (5 days)
Demolition/Site Clearing	April 13-17, 2026 (5 days)
Site Preparation/Rough Grading	April 20-24, 2026 (5 days)
Fine/Pad Grading, Excavation for Underground Conduit/Utilities, and Stormwater LID Areas	April 27- May 22, 2026 (20 days)
Construction of Concrete Pads	May 25- July 3, 2026 (30 day)
BESS Enclosure and Power Conversion System (PCS) Unit Installation	July 6 – Aug 14, 2026 (30 days)
Onsite Project Substation/SCE Switchyard Installation	July 6 – October 23, 2026 (80 days)
Paving for Drive Aisles	August 17-21, 2026 (5 days)
Landscaping, Lighting, Architectural Finishes	August 17 – October 30, 2026 (60 days)
Testing	Nov 2 – 27, 2026 (20 days)
Total	8 Months

Battery units will be transported to the Project site on flatbed trailers and placed on foundations using a crane. Construction worker parking and building material staging will occur on-site.

Conventional construction equipment will be used to install access improvements, equipment pads, and components. Earthwork will be required to excavate shallow foundations for concrete pads for the battery modules and auxiliary equipment. The site is level, and site grading will be minimal. Pending a detailed geotechnical analysis, the Project is estimated to require 500 cubic yards of cut and 800 cubic yards of fill, with a net import of approximately 300 cubic yards of soil for either engineered concrete pads and footings or helical pile foundations.

Site preparation, earthwork, and concrete pad installation is anticipated to take place over a period of 3 months, followed by delivery, installation, and commissioning of BESS equipment for an additional 5 months. A Project-specific Construction Stormwater Pollution Prevention Plan will be implemented, including establishment of Best Management Practices to control potential stormwater runoff.

Construction personnel will consist of up to approximately 25 craft workers and supervisors at any one time depending on the construction activities. Table PD-3 lists the equipment that will be used during construction and commissioning of the Project.

Table PD-3: Construction Equipment List by Project Activity

Project Activity	Equipment	Quantity	Daytime Operating Hours
Demolition/Site Clearing	Dump Trucks	1	4
	Excavators	1	8
	Rubber Tired Loaders	1	8
	Skid Steer Loaders	1	8
	Tractors/Loaders/Backhoes	1	8
Site Preparation/Rough Grading	Dump Trucks	2	4
	Graders	1	8
	Rubber Tired Loaders	1	8
	Skid Steer Loaders	1	8
	Tractors/Loaders/Backhoes	1	8
Fine/Pad Grading, Excavation for Underground Conduit/Utilities, and Stormwater LID Areas	Graders	1	8
	Plate Compactors	1	8
	Rollers	1	8
	Rubber Tired Loaders	1	8
	Skid Steer Loaders	1	8
	Tractors/Loaders/Backhoes	1	8
Construction of Concrete Pads	Cement and Mortar Mixer	1	8
	Concrete Pump	1	8
	Tractors/Loaders/Backhoes	1	8
BESS Container and Conduit Installation	Air Compressors	1	8
	Cranes	1	8
	Excavators	1	8
	Generator Set	1	8
	Rough Terrain Forklift	1	8
	Skid Steer Loader	1	8
	Tractors/Loaders/Backhoes	1	8
Project Substation/Switchyard Installation	Aerial Lifts	1	8
	Air Compressors	1	8
	Bore/Drill Rigs	1	8
	Cranes	1	8
	Excavator	1	8
	Generator Set	1	8
	Rough Terrain Forklifts	1	8
	Skid Steer Loaders	1	8
	Tractors/Loaders/Backhoes	1	8
Paving for Drive Aisles	Paver	1	8
	Roller	1	8

Project Activity	Equipment	Quantity	Daytime Operating Hours
	Cement and Mortar Mixer	1	8
Landscaping, Lighting, Architectural Finishes	Tractors/Loaders/Backhoes	1	8
	Skid Steer	1	8
	Air Compressors	1	8

Construction vehicles and equipment will access the site via the site entrance at Grangeville Boulevard. Equipment and materials will be staged on-site. Project-related vehicles will avoid parking on surface streets unless it is necessary to complete a specific construction task.

Construction trip generation will entail:

- Mobilization and demobilization of heavy equipment (e.g., excavator, backhoe) at the start and end of earthwork or other construction stage.
- Delivery of the major BESS equipment components.
- An estimated maximum of 25 worker vehicles per day during construction and commissioning of the Project.

Table PD-4 lists the estimated number of one-way vehicle trips by project activity.

Table PD-4: Vehicle Trips by Project Activity

Project Activity	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Haul Trips	Notes
Demolition/Site Clearing	12	0	4	Haul trips include removal of existing vineyard infrastructure and debris (7 acres) over 5 days
Site Preparation/Rough Grading	14	0	8	Haul trips include import of 300 cy of fill (16 cy per truck) over 5 days
Fine/Pad Grading, Excavation for Underground Conduit/Utilities, and Stormwater LID Areas	8	0	0	Assume no deliveries of project equipment or hauling of material.
Construction of Concrete Pads	12	4	0	Vendor trips include delivery of concrete
BESS Container and Conduit Installation	14	18	0	Vendor Trips include delivery of 168 Battery Enclosures, 42 PCS, and 42 BESS Transformers (assume one per truck), and conduit - over 30 days
Project Substation/Switchyard Installation	20	6	0	Vendor Trips include delivery of substation equipment over 80 days
Paving for Drive Aisles	8	4	0	Vendor trips include delivery of asphalt

Project Activity	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Haul Trips	Notes
Landscaping, Lighting, Architectural Finishes	8	4	0	Vendor trips include delivery of landscaping and architectural finishes

Note that some phases overlap, with an estimated maximum of 25 workers on site.

Construction-phase emissions estimates are provided in Appendix A. None of the sensitive vegetation or habitat, aquatic features, native heritage trees, or cultural resources will be directly impacted by construction, either on-site or off-site. Sensitive resources will be avoided with the use of exclusion fencing or other appropriate measures, as described further in Appendix B, *Biological Resources Technical Report*, and Appendix C, *Cultural Resources Technical Report*.

Post-Construction Stormwater Controls

Placement of the BESS components and access improvements will result in a minor increase of impervious surfaces within the Project site parcel. The remaining area within the Project site parcel will remain in agricultural production and in its current grade and will continue to allow on-site infiltration of rainwater. If necessary, construction Best Management Practices will remain in place while the Project site is stabilized.

Battery Operations and Maintenance

The BESS will be designed to operate 24 hours a day, 7 days a week. The facility will be unstaffed; therefore, it will generate a minimal amount of traffic during its operational life. The Project will typically generate approximately two vehicle trips per week during the first year of facility operation for equipment maintenance purposes. Vehicle trips may be reduced to one trip per week after the Project's first year of operation. Equipment maintenance activities at the Project site will typically consist of inspections by a technician. If necessary, the technician will remove and replace battery modules as needed. Any removed battery modules will be disposed of in accordance with applicable regulations and per the manufacturer's instructions. Other Project-related trips will be for occasional site and landscape maintenance.

Over the course of the Project's lifetime, periodic augmentations will occur. An augmentation could include replacement of the lithium-ion batteries within existing battery enclosures and/or the phased installation of new battery enclosures within the site boundary, and connection of these enclosures to the existing on-site equipment. This is done to ensure the Project's energy capacity is maintained above the target capacity as the system gradually degrades over time.

and use. These augmentation installations will be spaced out periodically over multiple years. The detailed augmentation schedule is subject to the battery equipment vendor's plan and the operation of the Project.

Dispatch will be managed remotely from a regional control center. After commissioning and during the operational life of the Project, qualified technicians will routinely inspect the BESS and conduct any necessary maintenance to ensure safe operational readiness.

A detailed inspection and maintenance of the BESS will be performed several months after installation and annually thereafter, or more often if necessary, following the initial inspection period. More frequent inspections may occur due to unplanned maintenance visits. Inspections will originate from the San Joaquin Valley area.

Maintenance procedures are primarily visual inspections and verifications of proper operations. Annual inspection and maintenance typically encompass a visual inspection of the battery system including opening of the battery cabinets to inspect for blown fuses, swelling of the battery modules, abnormal noise, and other visual and auditory anomalies; replacement of consumable parts as needed (e.g., fuses, fans, DC Protections, Battery Modules, and BMS in later years); adjusting of torque on bolts in modules and racks; routine maintenance and servicing of HVAC or thermal management systems; and other adjustments as required by the battery equipment manufacturer.

Unplanned maintenance needs will principally be identified through the operation of the vendor's controller. Certain events will cause event alarms notifying the operator of the need for support. The controller interfaces with the BMS, the power conversion system controller, and the controllers for the various ancillary systems such as fire suppression. In addition to relaying warning signals from each of those systems individually, the controller will alert the operator for events that are not identified individually by any sub-component control system.

Long-term operations will entail no water consumption or air emissions. Water for fire protection will be sourced from either an existing on-site well or an existing nearby off-site well. The on-site 24,000-gallon capacity water tank will be filled during construction and the tank level will be inspected and maintained during routine operations. In the unlikely event that nearby well water sources are not available, then water will be trucked to the site from a regional source (e.g., from a supplier in the greater Hanford area). In this instance, water would be stored in a separate reservoir tank that is connected to the fire suppression water tank. Other utilities such as gas and sewer will not be required for the operation and maintenance of the Project.

For security purposes, yard lights will be installed to illuminate the Project site during nighttime hours. This security lighting will be inside the operational area perimeter, shielded, and focused inward toward the BESS equipment.

Depending on the final design configuration and equipment selection, the primary source of noise from the BESS may be from the power conversion system enclosure's Insulated Gate Bipolar Transistors (IGBTs) humming during operation, their ventilation fans, and/or battery storage enclosure HVAC systems, as well as the transformer cooling fans. The batteries themselves would make very little noise and would be fully enclosed. When operating at full power, the ventilation fans and HVAC systems would cycle on and off.

Potentially sensitive receptors to unwanted noise from the Project include rural residences located along Grangeville Boulevard. Table PD-5 lists the locations of the nearest residences and the distance from the Project site boundary. Other residences and sensitive receptors are located at farther distances from the Project site.

Table PD-5: Sensitive Receptors in Proximity to Project Site

Sensitive Receptors	Direction	Distance from Project Site Boundary (feet)
S1 - 6900 Grangeville Blvd.	West	660
S2 - 6909 Grangeville Blvd.	West	810
S3 - 6668 Grangeville Blvd.	Northwest	106
S4 - 6454 Grangeville Blvd.	Northeast	145
S5 - 6390 Grangeville Blvd.	Northeast	530

A noise analysis was performed for the project (Catalyst 2024). This report is provided in Appendix D. The noise analysis projected the noise levels at the nearest receptors from construction, and from operation of the proposed Project's onsite stationary sources (i.e., concurrent operation of battery enclosures, HVAC units, PCS units, and substation transformer). Based on the rate of attenuation of sound (generally 6 dBA for every doubling of distance) and the distance between the battery storage facility and the nearest residential receptors, the model results indicate that noise from Project construction operations would conform with Kings County development standards.

SCE will provide the BESS' auxiliary electricity needs. As noted above, water for fire protection will be sourced from either an existing on-site well or an existing nearby off-site well. Other utilities such as gas and sewer will not be required for the operation and maintenance of the Project.

Operational Contingency Planning

Outlaw Energy Storage will work closely with Kings County Fire Department to ensure appropriate fire prevention equipment and response procedures are in place. The preliminary site plan (Figure PD-3) indicates the location of a minimum 24,000 gallon water tank for fire-fighting purposes. Contingency plans will be developed as appropriate to address potential contingency situations associated with battery storage. These plans and procedures may include a Hazardous Materials Business Plan, Fire Protection Plan, and Emergency Response Plan with emergency response and spill response procedures and a list of on-site emergency response equipment including the firewater tank and appurtenances, fire extinguishers, fire suppression system, and spill kit.

Project Decommissioning

Decommissioning of the Project at the end of its useful life will include removal of battery units from the foundations, disconnection of wiring, and transport of the battery units to an approved recycling facility. It is conservatively estimated that Project decommissioning would occur in 2050. Project decommissioning activities will generally mirror the scope and intensity of activities completed to construct the Project. The Project's Preliminary Commissioning and Decommissioning Plan is provided in Appendix E.

PROJECT SCHEDULE

Permitting of the BESS and associated land use changes is planned for the remainder of 2024. BESS installation is planned to start in 2026 and be commercially operational in 2027. Total Project construction is anticipated to take 8 months. Site preparation, earthwork, and concrete pad installation is anticipated to take place over a period of 3 months, followed by delivery, installation, and commissioning of BESS equipment for an additional 5 months. Project decommissioning activities will generally mirror the scope and intensity of activities completed to construct the Project.



Photo 1: General view of the proposed battery energy storage site, viewing north from the parcel interior, toward Grangeville Boulevard.



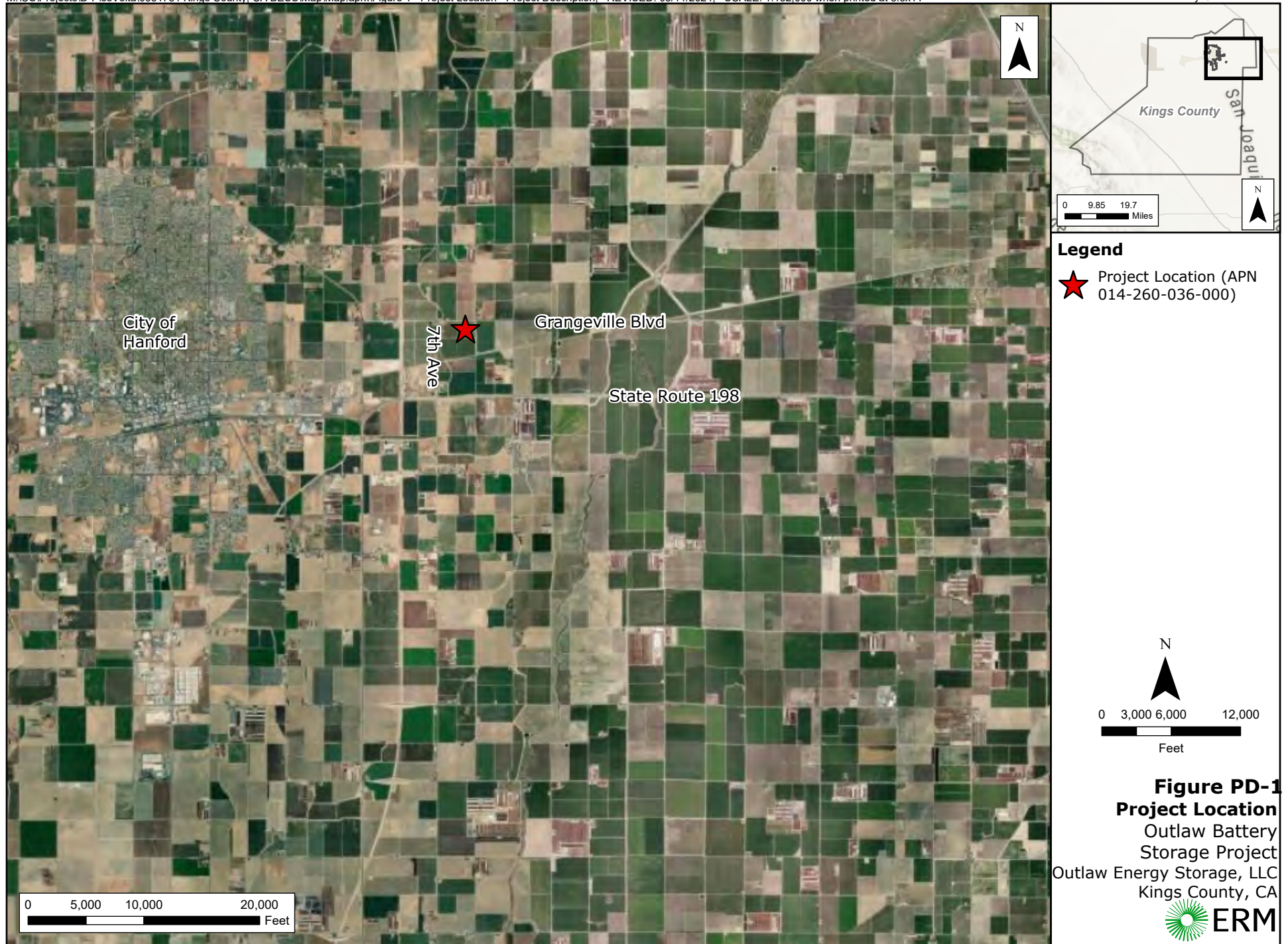
Photo 2: General view of the proposed battery energy storage site, viewing south from the north side of Grangeville Blvd. The gen-tie would be constructed underground in this segment of Grangeville Boulevard.



Photo 3: General view of Melga Canal at eastern boundary of property, viewing north. The proposed battery storage facility would be located west of the access road (right side of photo).



Photo 4: General view of the proposed battery energy storage site, viewing northwest from the southeast corner of the proposed development site.



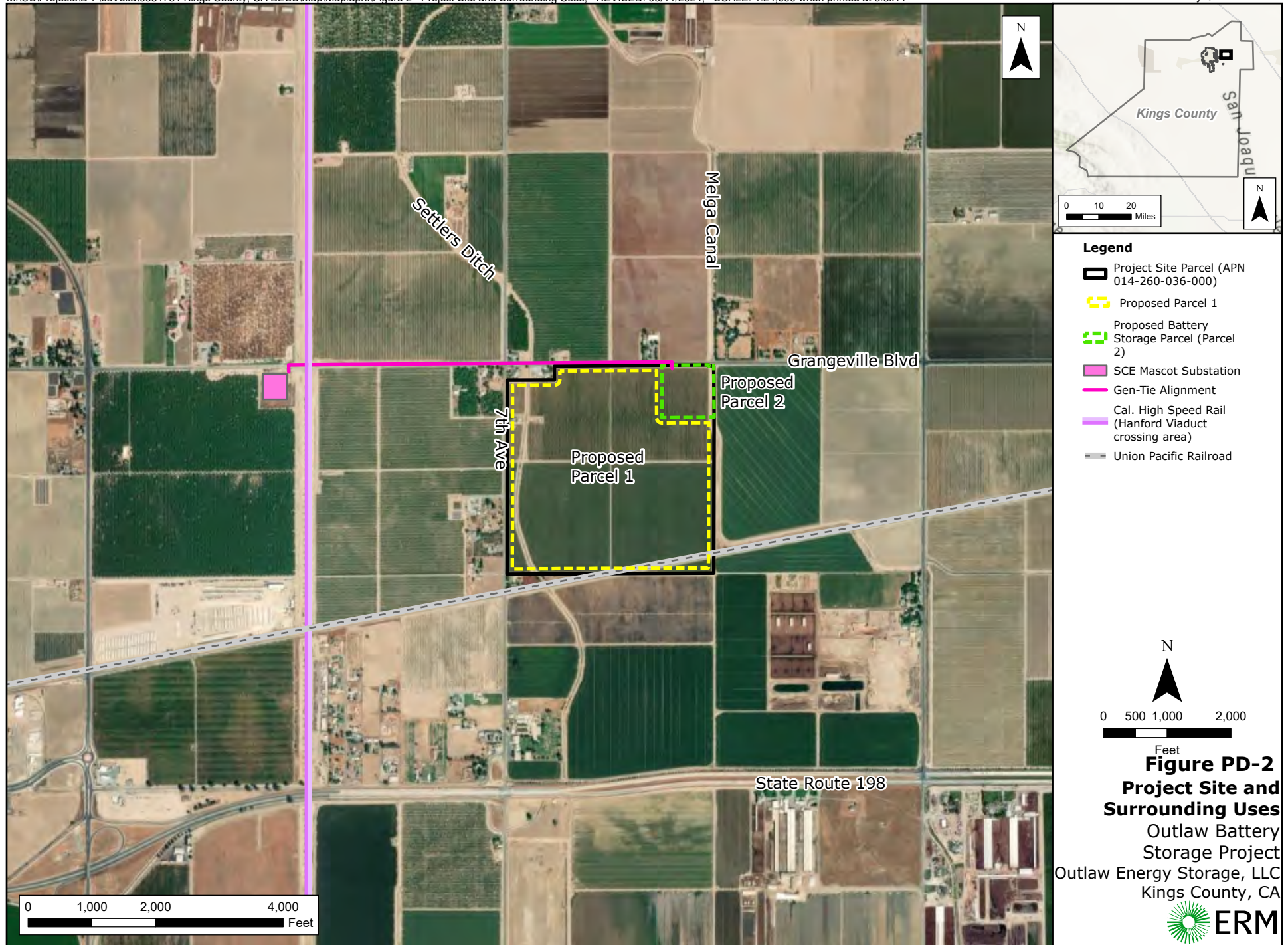


Figure PD-3. Battery Energy Storage Preliminary Site Plan

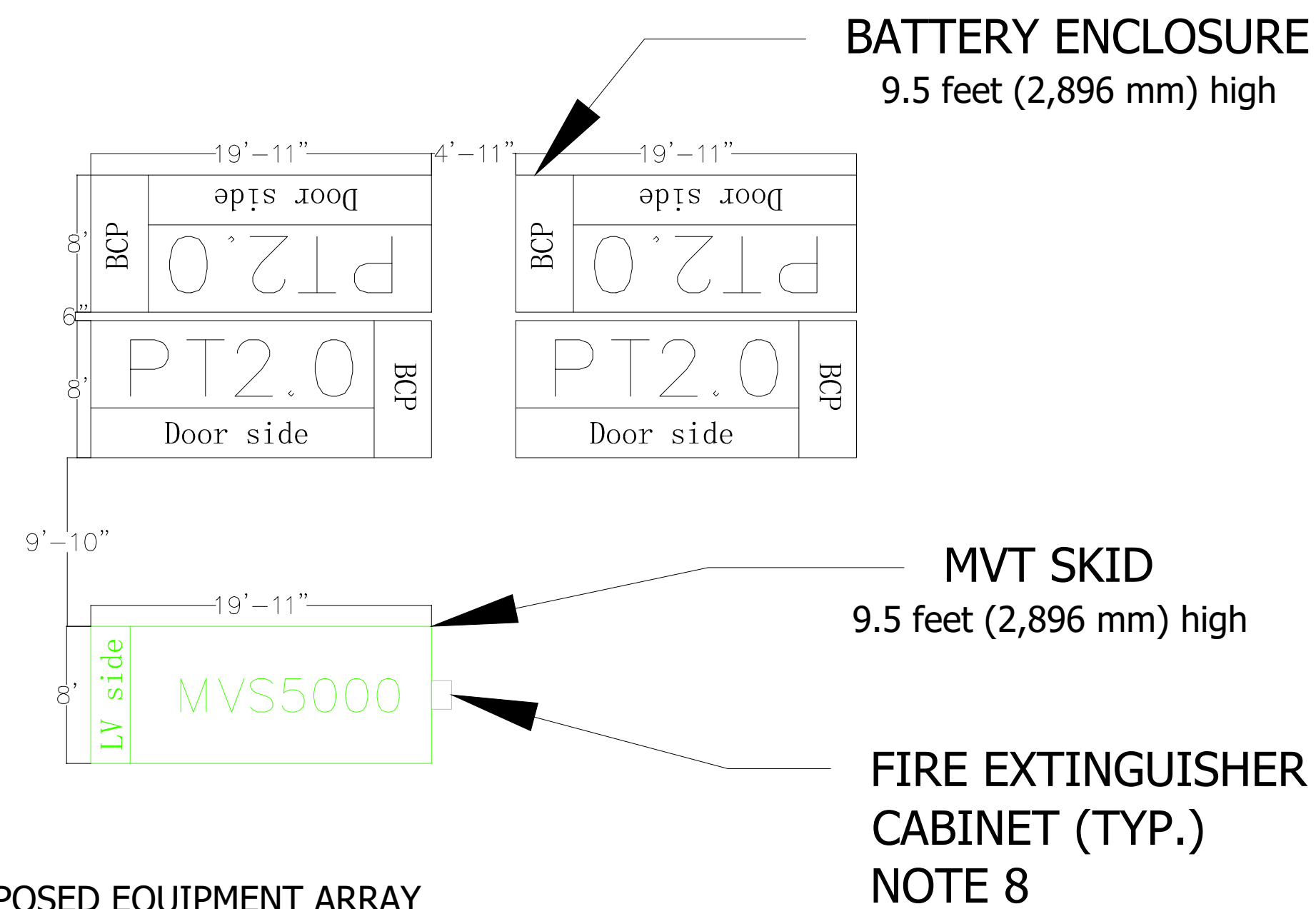
BATTERY ENERGY STORAGE PROJECT DRAWINGS

OUTLAW

9135 7th Ave., Hanford, CA

OVERVIEW		PROJECT TEAM		DRAWING INDEX																																																	
<div>DESIGN CODES AND STANDARDS</div> <div>ALL WORK SHALL CONFORM TO ALL PERTINENT CODES AND REGULATIONS INCLUDING THE FOLLOWING:</div> <div>2022 CALIFORNIA BUILDING CODE</div> <div>2022 CALIFORNIA FIRE CODE</div> <div>NFPA</div> <div>AUTHORITIES HAVING JURISDICTION (AHJ)</div> <div>KINGS COUNTY PLANNING DEPARTMENT</div> <div>KINGS COUNTY PUBLIC WORKS DEPARTMENT</div> <div>KINGS COUNTY FIRE DEPARTMENT</div> <div>ELECTRIC UTILITY</div> <div>SOUTHERN CALIFORNIA EDISON</div> <div>PROPERTY OWNER</div> <div>TE VELDE KARL J & LAUREN N REV FAM TRST</div> <div>c/o Karl Te Velde</div> <div>5142 Denver Ave</div> <div>Kingsburg, CA 93632</div> <div>APN: 014-260-036-000</div>		<div>GENERAL CONTRACTOR</div> <div>TBD</div> <div>DESIGN ENGINEER</div> <div>LUKAS ROWLAND</div> <div>ELECTRICAL ENGINEER</div> <div>TBD</div> <div>CIVIL ENGINEER</div> <div>TBD</div> <div>STRUCTURAL ENGINEER</div> <div>TBD</div> <div>GEOTECHNICAL ENGINEER</div> <div>TBD</div> <div>PROJECT OWNER</div> <div>esVolta, LP</div> <div>100 Bayview Circle, Suite 100,</div> <div>Newport Beach, CA 92660</div>		<div>SHEET NUMBER</div> <div>T-1</div> <div>SP-01</div> <div>SP-03</div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div>		<div>SHEET TITLE</div> <div>TITLE SHEET</div> <div>SITE PLAN (CONCEPTUAL)</div> <div>LABELS & SIGNAGE</div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div>																																															
REGIONAL VIEW		MAP VIEW		SITE VIEW		SCOPE OF WORK																																															
						- SITE PLAN FOR CONDITIONAL USE PERMIT APPLICATION																																															
<div></div> <div>65 Enterprise, 3rd Floor</div> <div>Aliso Viejo, CA, 92656</div> <div>United States</div> <div>tel: (949) 330 6300</div> <div>email: info@esvolta.com</div>		<table><tr><td>NO.</td><td>DATE</td><td>REVISION</td><td>DR</td><td>BY</td><td>APVD</td></tr><tr><td>6</td><td>04/26/24</td><td>CUP APPLICATION SUBMITTAL – REVISED PER COMMENTS</td><td></td><td></td><td></td></tr><tr><td>5</td><td>02/28/24</td><td>CUP APPLICATION SUBMITTAL – REVISED PER COMMENTS</td><td></td><td></td><td></td></tr><tr><td>4</td><td>12/18/23</td><td>CUP APPLICATION SUBMITTAL – REVISED PER COMMENTS</td><td></td><td></td><td></td></tr><tr><td>3</td><td>10/11/23</td><td>CUP APPLICATION SUBMITTAL – REVISED PER COMMENTS</td><td></td><td></td><td></td></tr><tr><td>2</td><td>10/03/23</td><td>CUP APPLICATION SUBMITTAL – REVISED PER COMMENTS</td><td></td><td></td><td></td></tr><tr><td>1</td><td>08/25/23</td><td>CUP APPLICATION SUBMITTAL</td><td></td><td></td><td></td></tr></table>		NO.	DATE	REVISION	DR	BY	APVD	6	04/26/24	CUP APPLICATION SUBMITTAL – REVISED PER COMMENTS				5	02/28/24	CUP APPLICATION SUBMITTAL – REVISED PER COMMENTS				4	12/18/23	CUP APPLICATION SUBMITTAL – REVISED PER COMMENTS				3	10/11/23	CUP APPLICATION SUBMITTAL – REVISED PER COMMENTS				2	10/03/23	CUP APPLICATION SUBMITTAL – REVISED PER COMMENTS				1	08/25/23	CUP APPLICATION SUBMITTAL				<div>DESIGNED BY: LJR</div> <div>DATE: 04/26/2024</div> <div>DRAFTED BY: LJR</div> <div>DWG PKG.:</div> <div>CHECKED BY: KM</div> <div>APPROVED BY: KM</div> <div>REVISION NO.: 6</div>		<div></div> <div>ENGINEER'S STAMP</div>		<div>TITLE SHEET</div> <div>OUTLAW 110MW/440MWH</div>		<div>SHEET NO.</div> <div>T-1</div>	
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Figure PD-3. Battery Energy Storage Preliminary Site Plan



2 PROPOSED EQUIPMENT ARRAY
Scale: 1/8" = 1'-0"

EQUIPMENT SCHEDULE			
TYPE	MAKE	MODEL	QTY
BATTERY ENCLOSURE	SUNGROW	ST5015KWH-125 0KW-4H-US	120+48
PCS	SUNGROW	MVSS0000-LV-US	30+12
BESS TRANSFORMER	TBD	34.5 KV DELTA 480 V WYE G	30+12
GENERATOR STEP UP TRANSFORMER	TBD	TBD	1

LEGEND AND ABBREVIATIONS

- EXISTING PROPERTY BOUNDARY

PROPOSED PROPERTY BOUNDARY

SETBACK LINE

PROPOSED 6' CHAIN LINK FENCE WITH 3 STRANDS BARBED WIRE

PROPOSED UG ELECTRICAL LINE

PROPOSED ALL-WEATHER ACCESS ROAD

STRUCTURE SETBACK

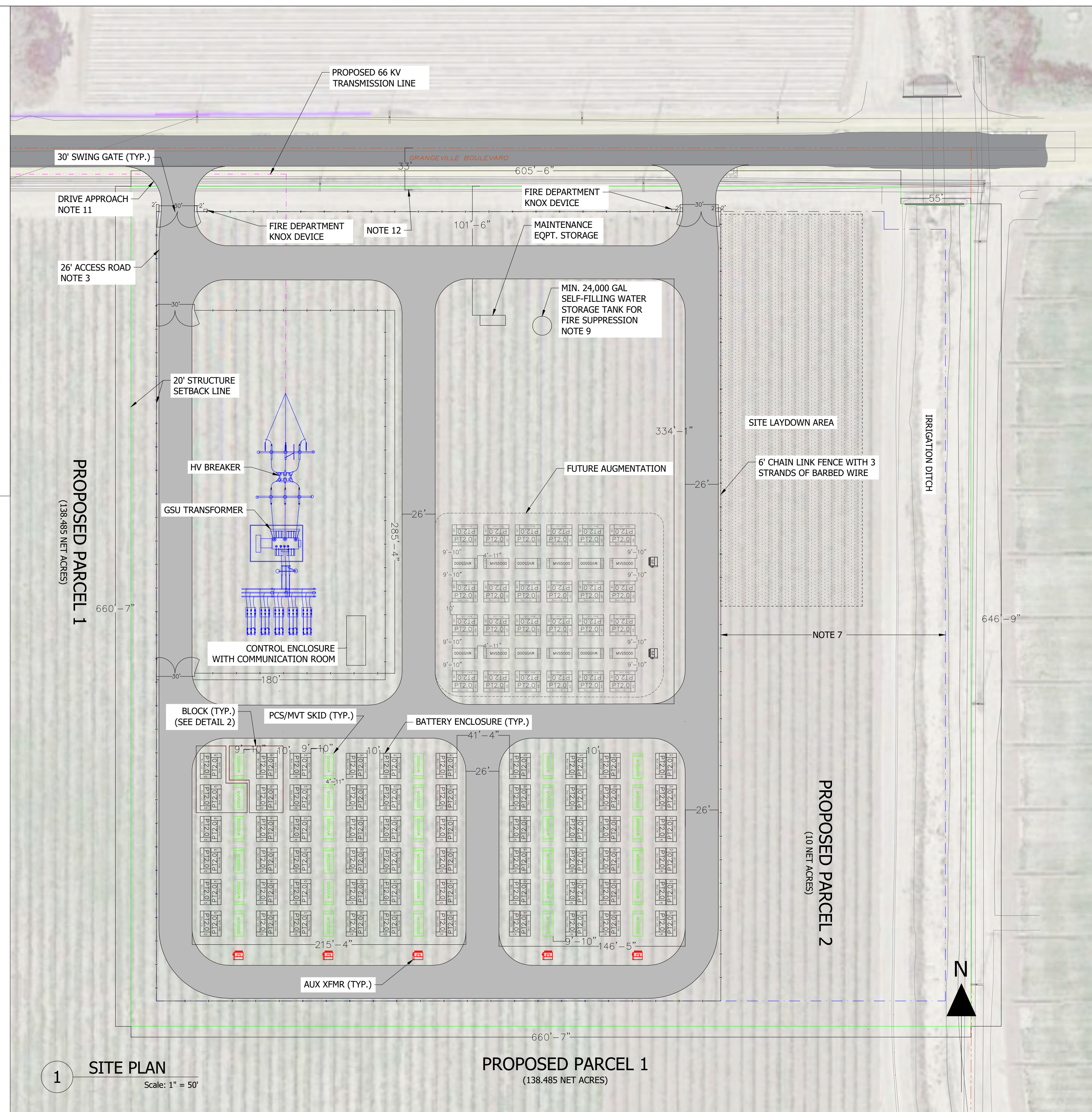
BATTERY ENCLOSURE

PCS/MVT SKID

AUX POWER TRANSFORMER

- NOTES:

1. SITE IS RATED TO BE A 110 MW 4 HOUR (440,000 kWh) SYSTEM AT POI. ADDITIONAL AUGMENTATION EQUIPMENT WILL BE ADDED IN FUTURE TO MAINTAIN SITE NAMEPLATE RATINGS THROUGHOUT PROJECT LIFETIME.
2. EQUIPMENT MAKE, MODELS, AND QUANTITIES ARE FOR INDICATIVE PURPOSES ONLY AND SUBJECT TO CHANGE. FINAL EQUIPMENT SELECTION WILL CONSIST OF OUTDOOR-RATED CONTAINER-BASED LITHIUM-ION BATTERY PRODUCTS AND ASSOCIATED POWER EQUIPMENT CERTIFIED TO UL9540 AND COMPLIANT WITH NFPA 68 AND 69. SITE WILL BE CLASSIFIED AS AN OUTDOOR INSTALLATION NEAR EXPOSURES PER CFC 1207.8.2.
3. LIFE SAFETY AND FIRE SUPPRESSION ACCESS ROADS SHALL BE DESIGNED, ENGINEERED, AND MAINTAINED TO BE AN ALL-WEATHER SURFACE CAPABLE OF SUPPORTING IMPOSED LOADS OF A SIXTY-FIVE THOUSAND (65,000) POUND APPARATUS WITH A MAXIMUM GRADE OF 12 PERCENT. THERE SHALL BE AN UNOBSTRUCTED VERTICAL CLEARANCE OF 13 FEET 6 INCHES ABOVE ALL LIFE SAFETY AND FIRE SUPPRESSION ACCESS ROADS. ALL GATES SHALL BE 4 FEET WIDER THAN ROAD WIDTH.
4. FOUR-INCH REFLECTIVE ADDRESS NUMBERS AT MAIN ENTRANCE SHALL BE INSTALLED PURSUANT TO SECTION 505.1 OF THE CALIFORNIA FIRE CODE.
5. EXISTING VINEYARD TO BE REMOVED WITHIN STRUCTURE SETBACK.
6. INTERNAL GROUND SURFACING WILL BE PERVIOUS GRAVEL.
7. VINYARD TO BE REMOVED TO PROPERTY LINE.
8. THERE SHALL BE A MINIMUM RATED 4A:60B:C FIRE EXTINGUISHER INSTALLED AT EACH MVT SKID WITHIN AN EXTERNALLY MOUNTED WEATHERPROOF CABINET. ALL EXTINGUISHERS SHALL BE MOUNTED WITH SECURELY FASTENED HANGERS SUCH THAT THE WEIGHT OF THE EXTINGUISHER IS ADEQUATELY SUPPORTED, AND AT A HEIGHT AND MAINTAINED IN COMPLIANCE WITH CALIFORNIA FIRE CODE.
9. WATER TANK FOR FIRE SUPPRESSION SHALL BE SELF-FILLING WITH CONVEYANCE FROM AN EXISTING WELL ON PROPOSED PARCEL 1. WATER TANK SHALL MEET NFPA 22 REQUIREMENTS AS WELL AS APPLICABLE REQUIREMENTS OF KCFD "FIRE - WATER STORAGE TANK HANDOUT" DOCUMENT.
10. APPROVED SIGNS SHALL BE PROVIDED ON OR ADJACENT TO ALL ENCLOSURES OR ESS CABINETS. SEE DRAWING SP-03 FOR SIGNAGE DETAILS.
11. DRIVE APPROACH SHALL BE CONSTRUCTED SO AS STORM DRAINAGE SHALL FLOW TOWARDS PROPERTY. GATES SHALL BE INDENTED TO ALLOW FOR SUFFICIENT DISTANCE FOR TRAFFIC TO PARK OFF OF COUNTY RIGHT OF WAY.
12. 3 FT RIGHT-OF-WAY ALONG THE NORTH SIDE OF PARCEL SHALL BE DEDICATED FOR A 33 FOOT HALF WIDTH.
13. ALL DRAINAGE SHALL BE CONTAINED ON SITE.
14. THE FIRE SUPPRESSION SYSTEM(S) REQUIRE A SEPARATE PERMIT AND SUBMITTAL PER CFC 903.1, 904.1.
15. EACH BATTERY ENCLOSURE HAS A NOMINAL STORAGE CAPACITY OF 5,015 kWh. THIS TRIGGERS THE REQUIREMENT FOR A HAZARD MITIGATION ANALYSIS (HMA) PER SECTION 1207.1.4. ENCLOSURES ARE DESIGNED TO BE INSTALLED IN PAIRS BACK-TO-BACK, SUCH THAT ONE ESS GROUP CONSTITUTES 10,030 kWh.
16. THIS DRAWING IS INTENDED FOR CONCEPTUAL USE ONLY AND IS NOT INTENDED TO BE USED FOR CONSTRUCTION. ALL FINAL ENGINEERING IS THE RESPONSIBILITY OF THE EPC.



65 Enterprise, 3rd Floor
Aliso Viejo, CA, 92656
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email: info@esvolta.com

3	04/26/24	CUP APPLICATION SUBMITTAL – REVISED PER COMMENTS			
2	12/18/23	CUP APPLICATION SUBMITTAL – REVISED PER COMMENTS			
1	10/11/23	CUP APPLICATION SUBMITTAL			
NO.	DATE	REVISION	DR	BY	APVD

APPROVED BY: KM

REVISION NO.: 3

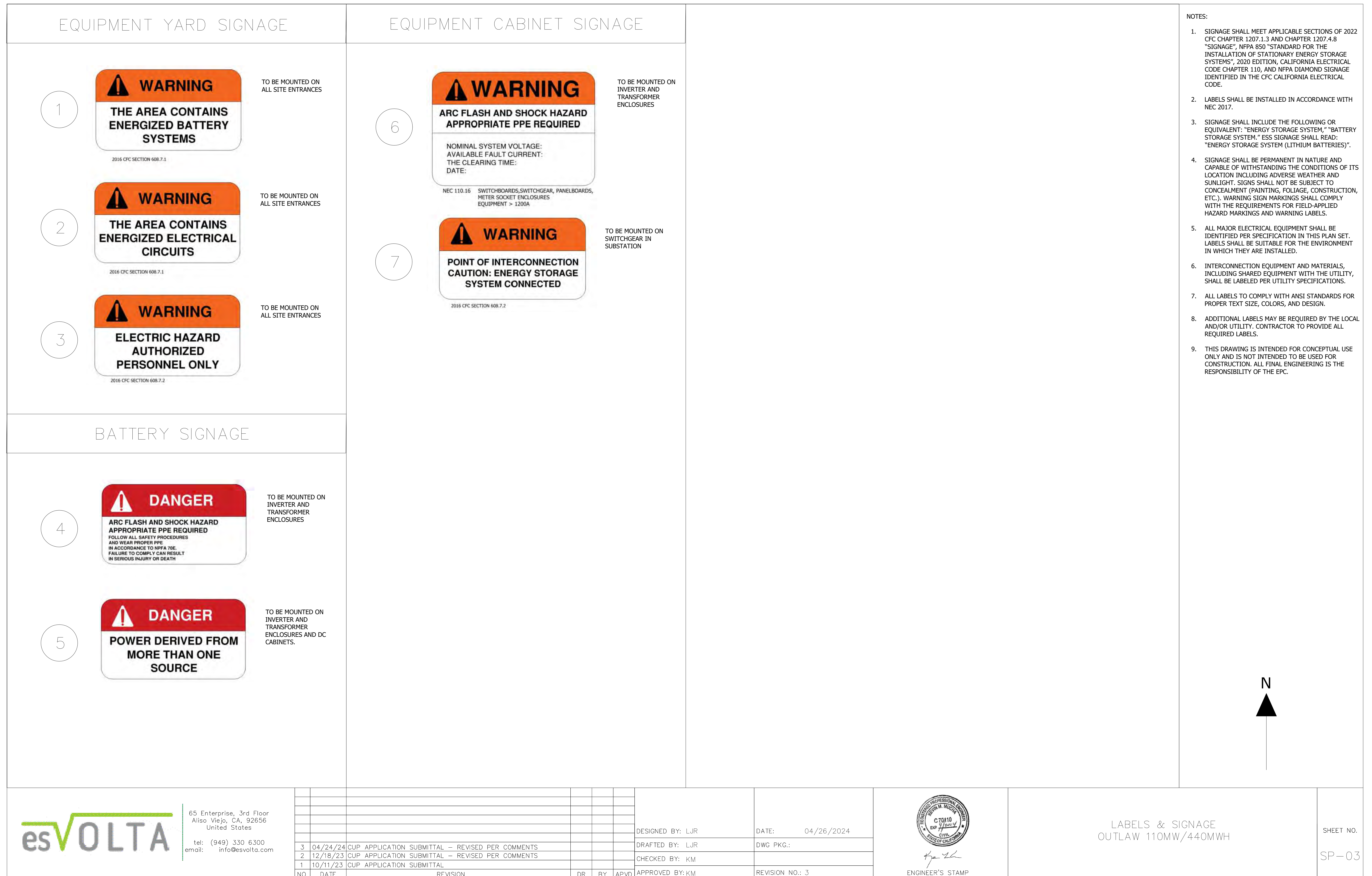


ENGINEER'S STAMP

SITE PLAN (CONCEPTUAL)
OUTLAW 110MW/440MWH

SHEET NO.
SP-01

Figure PD-3. Battery Energy Storage Preliminary Site Plan



ST5015kWh-2500kW-2h-US

PowerTitan 2.0 Liquid Cooling Energy Storage System

NEW



Optimal Cost

- Intelligent liquid-cooled temperature control system to optimize the auxiliary power consumption
- Pre-assembled, no battery module handling on site, transportation of complete system



Safety and Reliable

- AI monitoring for cell health, with early warning
- Electrical safety management, overcurrent fast breaking and arc extinguishing protection
- The electrical cabinet and battery cabinet are separated to prevent thermal runaway



Efficient and Flexible

- High-efficiency heat dissipation, increase battery life and system discharge capacity
- Front single-door-open design, supporting back to back & side by side layout drawing
- System commissioning in advance, reduce commissioning work on site, accelerate COD process



Convenient O&M

- One-click system upgrade
- Intelligent automatic rehydration reduces manual rehydration
- Online intelligent monitoring to reduce manual inspections frequency



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Technical Data	ST5015kWh-2500kW-2h-US
DC side	
Cell Type	LFP 3.2 V / 314 Ah
Battery Configuration	416S12P
Nominal Capacity	5015 kWh
Nominal Voltage Range	1123.2 V - 1497.6 V
AC side	
Nominal AC power	210 kVA * 12
AC Current Distortion Rate	< 3 % (Nominal Power)
DC Component	< 0.5 %
Nominal AC voltage	690 V
Termination (LV)	352 A * 3 Phase * 6
AC Voltage Range	621 V - 759 V
Power Factor	> 0.99 (Nominal Power)
Adjustable Range of Reactive Power	- 100 % - 100 %
Nominal Frequency	60 Hz
Topology	Transformerless
System Parameter	
Container Size (W * H * D)	6058 mm * 2896 mm * 2438 mm 238.5" * 114.0" * 96.0"
Container Weight	42500 kg 93696.5 lbs
Degree of Protection	Type 3R
Operation Temperature Range	- 30 °C - 50 °C (> 45 °C De-rating)
Operation Humidity Range	0 % - 100 % (Non-condensing)
Maximum Altitude	3000 m 9842.5 ft
Temperature Control Method	Intelligent Liquid Cooling
Fire Suppression System	NFPA 68 compliance vent panel, smoke and heat detectors, Mini FACP (Default) Sprinkler, sound beacon, NFPA 69 compliance ventilation system, Flammable Gas detector (Optional)
Communication Interface	Ethernet
Communication protocol	Modbus TCP
Compliance and Reports	UL9540A, NFPA 855, NFPA 68, NFPA69 (with optional purchase)
Certification	IEEE1547:2018, UL1973,UL1741SB, UL9540

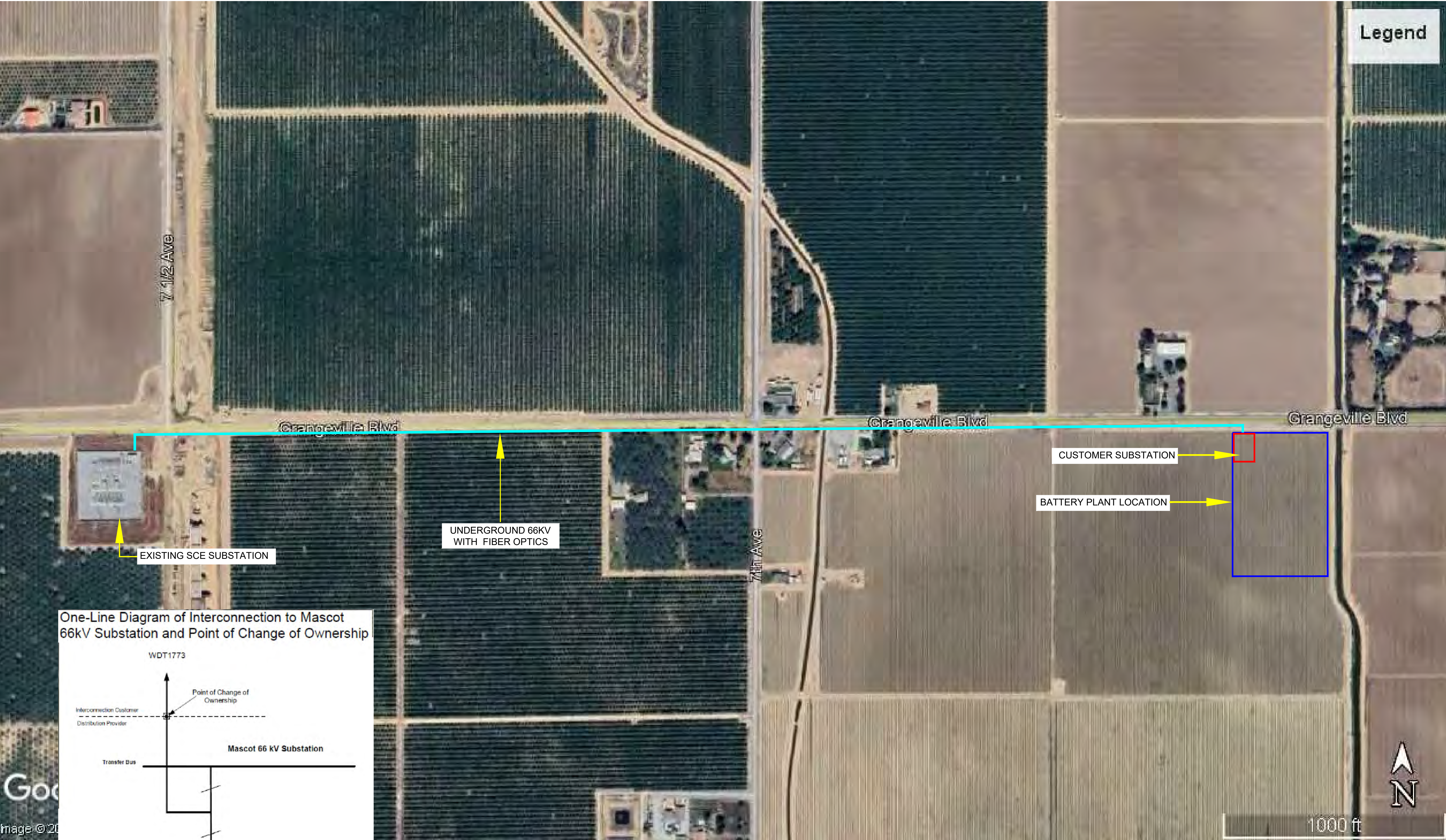


Figure PD-5a. Gen-Tie Preliminary Design and Route Alignment



POWER APPLICATIONS AND RESEARCH SYSTEMS, INC.
SAN FRANCISCO, CALIFORNIA
WWW.PARSENERGY.COM

esVOLTA



ENGINEER'S STAMP

DRAWN BY	CHECKED BY	ENGINEER & NO.
DRAWN	CHECKED	ENGINEER

NO.	DATE	REVISIONS
1	06/12/24	MOVE ROUTE TO SOUTH
0	08/23/23	INITIAL DESIGN

PROJECT NAME:	OUTLAW STORAGE HANFORD, CA 110MWs, 440MWhrs
SITE PLAN	

C101
JOB NUMBER

3. ENVIRONMENTAL DETERMINATION

3.1. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project involving at least one impact that is "Potentially Significant" as indicated by the checklist on the following pages.

	Aesthetics	X	Agriculture and Forestry Resources
X	Air Quality	X	Biological Resources
X	Cultural Resources		Energy
X	Geology/Soils		Greenhouse Gas Emissions
X	Hazards and Hazardous Materials	X	Hydrology/Water Quality
	Land Use/Planning		Mineral Resources
	Noise		Population/Housing
	Public Services		Recreation
X	Transportation	X	Tribal Cultural Resources
	Utilities/Service Systems		Wildfire
	Mandatory Findings of Significance		

3.2. DETERMINATION:

On the basis of this initial evaluation:

_____ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

 X I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the proposed proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

_____ I find that the proposed project MAY have a significant effect on the environment and an ENVIRONMENTAL IMPACT REPORT Is required.

_____ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measure based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

_____ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been adequately analyzed in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable legal standards, and (b) have been avoided or

mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measure that are imposed upon the proposed project, nothing further is required.

Signature  Date 7/16/2024

4. EVALUATION OF ENVIRONMENTAL IMPACTS

4.1. AESTHETICS

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?			X	
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c. In nonurbanized areas, substantially degrade the existing visual character or quality 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?			X	
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

AESTHETICS SETTING

The 10-acre Outlaw Energy Storage Project site is in active agricultural production (vineyard). The Project operational area has modern lattices built for the cultivation of grapes with no other structures present. Vegetation within the Project site consists of wine grapes, and invasive grasses.

The lands surrounding the Outlaw Energy Storage Project site consist mainly of agricultural lands and dispersed residences located along Grangeville Boulevard. An agricultural residence and equipment yard are located in the northwestern corner of the Project site parcel at the intersection of Grangeville Blvd. and 7th Avenue. Another residence and agricultural operations are located along the west boundary of the Project site parcel. Agricultural irrigation canals run north-south through the eastern and western portions of the Project site parcel. A Union Pacific Railroad line traverses the southern portion of the Project site parcel. Surrounding uses are

agricultural. The Outlaw Energy Storage Project site may be visible in the distance from the immediate residences but is not visible from residences located farther from the site boundaries.

The nearest population centers include the City of Hanford located 4 miles west, City of Kingsburg located 10 miles north, City of Lemoore located approximately 11 miles southwest and the City of Visalia located 15 miles east. The Outlaw Energy Storage Project site is not visible from any of the nearest communities.

There are no scenic highways or eligible scenic highways in the project vicinity. Transportation corridors in the project area include Grangeville Boulevard which runs along the northern site boundary from east to west and connects the cities of Hanford and Visalia; State Route 198 (SR 198) located 0.9 miles to the south, which runs east-west and connects the cities of Hanford and Visalia; and SR 43 located 1.4 miles to the west, which runs north-south from Selma in the north to Interstate 5 in the Bakersfield area. SR 99 is located 8.6 miles to the east and runs north-south through the Central Valley. The California High Speed Rail (HSR) Hanford Viaduct runs north-south along 7½ Avenue, 1 mile west of the Project site parcel. This HSR segment is under construction and will allow high speed trains to cross over Grangeville Boulevard and SR 198.

Other visually prominent features in the project vicinity include the Kings River approximately 6 miles northwest of the project site.

The foothills and mountains of the Coast Ranges are visible in the distance southwest of the project site. The Kettleman Hills rise to an elevation of about 1,300 feet at a distance of approximately 35 southwest miles from the project site. Beyond these foothills, the first ridge of the Coast Ranges reaches elevations of approximately 5,000 feet at a distance of about 40 miles northwest. At these distances, the foothills and mountains make up a very small portion of the overall field of view from the project site.

REGULATORY SETTING

State of California

California Scenic Highway Program

California's Scenic Highway Program was created in 1963 to preserve and protect scenic highway corridors from change which would diminish the aesthetic value of lands adjacent to highways. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. A highway may be designated as "scenic" depending on how much of the natural landscape can be seen by travelers, the

scenic quality of the landscape, and the extent to which development intrudes upon the travelers' enjoyment of the view.

Within Kings County, there is one highway segment that is designated by the state as an eligible scenic highway. This segment comprises an 8-mile stretch of SR-41 extending southwest of SR-33 to the Kern County line and then into San Luis Obispo County. None of the roadways in the project vicinity are designated or proposed scenic routes (Caltrans 2023). There are no County or City-designated or proposed scenic highways or routes in the project vicinity.

Kings County

2035 Kings County General Plan

The Open Space Element of the 2035 Kings County General Plan describes the important scenic resources of the County. The key landscape features include the Kings River to the north and east, and the foothills and mountains in the western portion of the County. As noted, the project site is 6 miles south of the Kings River. At this distance, the project site is not integral to, nor does it contribute to, the scenic value of the river or its riparian corridor (Kings County 2020c).

The following General Plan policies related to aesthetics are relevant to the Outlaw Energy Storage Project:

Open Space Element

B. Scenic Resources

OS GOAL B1	Maintain and protect the scenic beauty of Kings County.
OS OBJECTIVE B1.1	Protect and enhance views from roadways which cross scenic areas or serve as scenic entranceways to cities and communities.
OS OBJECTIVE B1.2	Preserve roadside landscapes which have high visual quality and contribute to the local environment.
OS Policy B1.2.1	Review new development and utility projects for compatibility and potential for impacting scenic viewsheds along highly traveled scenic routes.
OS OBJECTIVE B1.3	Protect the scenic qualities of human-made and natural landscapes and prominent view sheds.

OS Policy B1.3.1 Require new development to be designed so that it does not significantly impact or block view of Kings County's natural landscape or other important scenic features. Discretionary permit applications will be evaluated against this requirement as part of the development review process. New developments may be required, as appropriate to:

- Minimize obstruction of views from public lands and rights-of-way.
- Reduce visual prominence by keeping development and structures below ridgelines.
- Limit the impact of new roadways and grading on natural settings. Such limits shall be within design safety guidelines.

OS Policy B1.3.2 Protect the visual access to Kings River and other prominent watercourses by locating and designing new development to minimize visual impacts and obstruction of views of scenic watercourses from public lands and rights-of- way.

Resource Conservation Element

G. Energy Resources

RC Policy G1.2.5 Site new large-scale alternative energy facilities where they can be served by existing electrical transmission lines or where such lines can be located and designed to minimize visual, environmental, and agricultural disturbances.

Land Use Element

D. Community Districts

LU Policy D1.3.4 Preserve the existing nighttime environment by limiting the illumination of areas surrounding new development. New lighting that is part of residential, commercial, industrial, or recreational development shall be oriented away from sensitive uses and

should be hooded, shielded, and located to direct light pools downward and prevent glare.

ENVIRONMENTAL EVALUATION

a. Would the project have a substantial adverse effect on a scenic vista?

Less-than-Significant Impact. The Outlaw Energy Storage Project site consists of essentially level agricultural land that is typical of the valley floor, with no topographic variation or features to provide visual interest or vantage points for panoramic views. The nearest locally significant scenic resource is the Kings River, of which the nearest natural channel and adjacent riparian corridor is located approximately 6 miles north from the Outlaw Energy Storage Project site, and not within view of the project site. The only potential scenic vistas in the region are of the Kettleman Hills and Coast Ranges located approximately 38 to 40 miles to the west and southwest from the project site. However, these mountain ranges are not visible from the project site or the vicinity.

The Outlaw Energy Storage Project will not exceed 10 feet in height, except for equipment within the collector substation which will have vertical pole features and other electrical equipment (comparable to a typical electrical substation) that will not exceed 25 feet in height. These project components would not block publicly accessible views of the western hills from SR- 43, which is approximately 1.5 miles west of the project site at its nearest point. The project battery equipment would not affect views of the foothills and mountains to the southwest. Therefore, potential impacts of the Outlaw Energy Storage Project on scenic vistas would be less than significant.

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

No Impact. There are no State or County-designated or proposed scenic highways or routes in the vicinity of the Outlaw Energy Storage Project site, nor are there any recognized scenic resources or vistas in the immediate area (Caltrans 2020, Kings County 2020c). Additionally, there are no rock outcroppings or significant trees on the project site or in the surrounding area. Similarly, there are no historic buildings on the Outlaw Energy Storage Project site or in the vicinity that are listed in the Kings County General Plan Resource Conservation Element (Kings County 2020b) or elsewhere. In summary, there are no known scenic resources that would be substantially damaged by the construction of the Outlaw Energy Storage Project, and there would be no impact to such scenic resources.

- c. 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 point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?**

Less-than-Significant Impact. The Outlaw Energy Storage Project would replace a 10-acre portion of the agricultural field with the relatively low profile structural elements of a battery energy storage facility. The Project would not introduce a new dominant visual element that is substantially out of scale with its surroundings.

Although the project setting is predominantly rural and agricultural, there are existing structural elements in the immediate vicinity, including several residences within one mile radius of the Project site. In addition, there is an existing Southern California Substation, agricultural irrigation canal and regional rail line located within the project vicinity. Therefore, the project would not introduce new structural elements to the area.

As discussed under 'Environmental Setting' above, the visual quality of the project site and its surroundings is relatively low. The land itself is flat and the area is not part of a recognized scenic resource. The number of visual receivers in the area who would experience the visual changes resulting from the project is also low. The only public road that passes alongside the project site is Grangeville Boulevard, which runs along the northern project boundary. Motorists traveling along Grangeville Boulevard would have near-ground views of battery containers and may have a glimpse of the temporary project construction and maintenance activities. The next nearest public roads, 7th Avenue and SR-43 to the west, with potential views of the battery storage facility, are located approximately 1,100 feet and 1.2 miles west from the nearest project boundary, respectively. From this distance, the battery containers of the completed facility could be visible while traveling along some parts of the roads. However, the impact would be minimal due to the low profile of site and conclusion of maintenance activities once the project is operational.

The Outlaw Energy Storage Project would result in a visual change of the project site from agricultural field to battery storage field. While this would represent a visual change to the project site, it would not result in a substantial visual change to the surrounding area which already includes several scattered residences throughout the rural area, joined by an existing electrical substation and High Speed Rail construction in the project vicinity. Given the

relatively low visual quality of the site and its surroundings, and the very low number of visual receivers who would experience the change in visual setting, the introduction of a non-agricultural land use as represented by the Outlaw Energy Storage Project, within a visual setting that includes considerable existing and approved structural elements, would not substantially degrade the visual character or quality of public views of the site and its surroundings. Therefore, the visual impacts associated with the Outlaw Energy Storage Project would be less than significant.

d. Would the project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

The topics of lighting and glare are discussed separately below.

Lighting

Less-than-Significant Impact. Under existing conditions, the project vicinity is subject to night lighting mainly from headlights of vehicles occasionally traveling on Grangeville Boulevard. The Outlaw Energy Storage Project will include sufficient lighting to maintain site safety and security. Security lighting required to illuminate the battery storage equipment during nighttime hours will be located inside the operational area perimeter, shielded, and focused inward toward the battery storage system equipment. Permanent light fixtures will be designed to blend with the existing structural features and comply with applicable County requirements.

During construction, staging areas would have security lighting. Temporary night lighting would be needed if and when construction activity extends into the nighttime hours. As with lighting during facility operations, temporary lighting for construction would be sufficient to provide illumination needed for safe operations and would be directed away from facility boundaries to avoid offsite glare.

Potentially sensitive receptors to unwanted illumination from the Project primarily include existing residences along Grangeville Boulevard approximately 500 feet and 1,600 feet northwest, and 1,900 feet west from the project site. Motorists travelling along Grangeville Boulevard at night may notice the additional light sources associated with the project. Lighting within the Outlaw Energy Storage Project would be directed away from the roadway such that the illumination would not pose a safety hazard to passing traffic on Grangeville Boulevard or other local streets.

In summary, the Outlaw Energy Storage Project would introduce a new source of permanent and temporary nighttime lighting to the project area. There are residential receptors in the immediate project vicinity, but the lighting introduced by the project would have minimal impact due to its compliance with County standards. Motorists on Grangeville Boulevard who would pass by the project site at night would notice an increase in permanent night lighting, but the overall effect would not be significant. Therefore, the lighting impacts resulting from the Outlaw Energy Storage Project would be less than significant.

Glare

Less-than-Significant Impact. Glare is an intense light effect resulting primarily from the reflection of sunlight off reflective surfaces when the angle of the sun to the surface is such that sunlight is reflected toward the receiver, causing potential discomfort or distraction of the receiver, or potential impairment of vision under extreme conditions. A source of potential glare from the project includes reflective building materials. The battery storage equipment would be housed in non-reflective container units, and other external components would be constructed with non-reflective treatments. These design measures will ensure that residences and travelers in the vicinity of the project site are not subject to glare impacts. Therefore, the potential for glare effects from the project to adversely affect daytime views or cause visual impairment would be less than significant.

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4.2. AGRICULTURE AND FOREST RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?		X		
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?				X
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?				X
d. Result in the loss of forest land or conversion of forest land to non-forest use?				X
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

AGRICULTURAL SETTING

The 154-acre Project site parcel and surrounding parcels consist of agricultural fields and supporting features such as irrigation canals and piping, unimproved farm roads, and electric power lines. The site is currently a functioning vineyard that cultivates grapes for wine

production. The Outlaw Energy Storage Project would occupy 10 acres within the northeastern corner of the 154-acre parcel. The battery storage operational area would occupy approximately 8.5 acres and the remainder would serve as buffer space separating the operations from the agricultural operation.

Regional Geomorphology

San Joaquin County is within the Great Valley Geomorphic Province, an asymmetrical synclinal trough, approximately 50 miles wide and 400 miles long. The region is an unusual lowland in that sediments within the basin are relatively under formed, while the surrounding rock units are highly deformed. Little geologic variation exists within the Great Valley, with surficial deposits consisting primarily of unconsolidated Quaternary sediments. The Great Valley is flanked on the east by the west-sloping Sierran bedrock surface, which continues westward beneath alluvium and older sediments. The Western border is underlain by east-dipping Cretaceous and Cenozoic strata that form a deeply buried synclinal trough. The San Joaquin Valley comprises the southern portion of the Great Valley, while the Sacramento Valley is present in the northern portion. Oil fields follow anticlinal uplifts that mark the southwestern border of the San Joaquin Valley and its southernmost basin (Bartow 1991). The San Joaquin Valley comprises the southern portion of the Great Valley, while the Sacramento Valley is present in the northern portion (Bartow 1991). Additional information regarding Project area geology is provided in Section 4.7 Geology and Soils.

NRCS Soil Survey

Soil characteristics for the Project site are listed in Table AG-1.

Table AG-1. Agricultural Capability of Soils

Soil Unit	NRCS Map Unit Symbol	Acres in Outlaw Site (Approx.)	NRCS Land Capability		Storie Index Rating*	NRCS Soil Limitations
			Irrigated	Non-Irrigated		
Kimberlina fine sandy loam, saline-alkali	130	10 (entire site)	IIs-6	VIIIs	60	S = soil limitations within the rooting zone such as salinity.

Sources: NRCS 1986, CDOC 2020

* Storie Index rating does not consider availability of water supply for irrigation.

NRCS Land Capability Classification

Under the soils classification system of the NRCS, soils are classified according to eight broad 'Land Capability' classes, with Class I and II soils being the most fertile and well suited for cultivation, and Class VII and VIII soils having severe limitations for cultivation. According to the U.S. Department of Agriculture (USDA) Web Soil Survey, the Project Area is comprised of Kimberlina Fine Sandy loam (130), with 0 to 2 percent slopes. The Kimberlina series consists of moderately deep, well-drained soils that formed in alluvium derived from igneous and sedimentary rock (USDA 2023).

This soil type has a Land Capability Class rating of IIs-6 (irrigated) and VIIs (non-irrigated). Class VII soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to pasture, grazing, forestland, or wildlife habitat. The letter "s" indicates that the soil has soil limitations in the root zone such as salinity. Site soils are described as very deep, well-drained, saline-alkali soils. Runoff is very slow, permeability is moderately slow, and erosion hazard is slight (NRCS 1986).

Storie Index Ratings

The second land capability system applied by NRCS, called the Storie Index, is specific to California. The Storie Index rates the suitability of soils for general intensive agriculture. Soils with a Storie Index rating of 80 or greater are classified as Grade 1 or prime soils. The Project site has a Storie Index rating of 60.

Irrigation Water Supply Constraints

The Project site is located within the Tulare Lake Subbasin and is sited within the Mid Kings River Groundwater Sustainability Agency (GSA). Historically, irrigation water for the project site has been largely provided by imported surface water from the Kings River delivered through the Kings County Water District (KCWD) and pumping groundwater. KCWD receives surface water supplies from the State Water Plan (SWP), the Kings River, the Kaweah River, and Section 215 Central Valley Project (CVP) water.

In January 2020, the Tulare Lake Subbasin Board of Directors adopted the Groundwater Sustainability Plan (GSP) for the 535,869 acre subbasin, which the 97,400 acre Mid-Kings River GSA resides within. The GSP determined that the long-term sustainable yield across the subbasin for agricultural pumping is 229,220 acre-feet per year (TLSB 2020; TLSB 2022). This number is less than the recent average annual agricultural pumping volume. The sustainability

goals of this subbasin are designed to close this gap over the next twenty years by understanding the interaction between existing and future conditions, analyzing and identifying the effects of existing management actions on the subbasin, implementing the GSP and its associated measures, collaborating between agencies, and assessing interim milestones at five year intervals (TLSB 2020). Additional background information regarding Project area water resources is provided in Section 4.10, Hydrology and Water Quality.

REGULATORY SETTING

Farmland Mapping and Monitoring Program

The California Department of Conservation (CDOC) administers and maintains the statewide Farmland Mapping and Monitoring Program (FMMP), under which farmland is mapped by several categories including Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Grazing Land. The first three of these categories are identified as “Farmland” in CEQA Guidelines Appendix G (see item ‘a’ under Environmental Evaluation below). The Project site is mapped as “Farmland of Statewide Importance” and is included among the categories that define “Farmland” in CEQA Guidelines Appendix G (CDOC 2020).

Williamson Act

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting the use of those lands to agricultural or compatible uses. There are two types of contracts available, including Land Conservation contracts, which have a term of 9 years, and Farmland Security Zone (FSZ) contracts, which have a term of 18 years. In return for placing their lands under these contracts, the restricted parcels are assessed at reduced valuations and therefore are subject to lower property taxes.

The Williamson Act stipulates that local governments adopt rules governing the administration of agricultural preserves, including rules related to compatible uses, provided the rules are consistent with the following principles of compatibility (Gov. Code § 51231).

Gov. Code § 51238.1(a) Uses approved on contracted lands shall be consistent with all of the following principles of compatibility:

- (1) The use will not significantly compromise the long-term productive agricultural capability of the subject contracted parcel or parcels or on other contracted lands in agricultural preserve.*
- (2) The use will not significantly displace or impair current or reasonably*

foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in agricultural preserves. Uses that significantly displace agricultural operations on the subject contracted parcel or parcels may be deemed compatible if they relate directly to the production of commercial agricultural products on the subject contracted parcel or parcels or neighboring lands, including activities such as harvesting, processing, or shipping.

- (3) *The use will not result in the significant removal of adjacent contracted land from agricultural or open-space use.*

The Kings County Assessor's records indicate that the Project site is not subject to Land Conservation or Farmland Security Zone contracts under the Williamson Act.

Kings County Priority Agricultural Land Model

The Kings County Community Development Agency has developed a model that considers additional factors in defining the value of farmlands in order to rank County farmlands on a priority basis. Factors considered in the model include soil classification, crop value, availability of water resources, the need for open space buffers between urban areas, and the planned orderly growth of communities. The resulting mapping of Priority Agricultural Land, as mapped in the General Plan Resource Conservation Element (Figure RC-13) shows the Outlaw Project site mapped as "Low-Medium Priority" (Kings County 2010b).

2035 Kings County General Plan

The Land Use Map of the 2035 Kings County General Plan Land Use Element shows the land use designation for the Project site as Agriculture (AG-20). This land use designation falls under the broader General Plan category of Agricultural Open Space. In addition, General Plan Resource Conservation Element Policy G1.2 is established to "Promote the development of sustainable and renewable alternative energy sources, including wind, solar, hydroelectric and biomass energy" (Kings County 2010a).

Kings County Development Code

The Project site is zoned "AG-20 General Agricultural-20". As provided in Article 4 of the Kings County Development Code, electrical energy storage facilities located within 1 mile of an existing public utility substation are permitted in this zoning district subject to the granting of a Conditional Use Permit by the Kings County Planning Commission (Kings County 2020b).

Kings County Right-to-Farm Ordinance

The Kings County Code of Ordinances Section 14-36.1, the “Notice of Disclosure and Acknowledgment of Agricultural Land Use Protection and Right to Farm Policies of the County of Kings” (Right-to-Farm), requires that approvals of rezonings, land divisions, zoning permits, and residential building permits include a condition that notice and disclosure be provided, which is to be recorded with the property title, that specifically acknowledges and notifies all future owners that they are in proximity to agricultural uses, and lists the types of operations and possible nuisances or inconveniences associated with farming such as equipment and animal noises; farming activities conducted on a 24-hour, 7-day a week basis; odors from manure, fertilizers, pesticides, chemicals, or other sources; the aerial and ground application of chemicals and seeds, dust; flies and other insects; and smoke. The ordinance states that the County does not consider normal farming operations involving these activities and effects to be a nuisance, and that current owners and future purchasers should be prepared to accept such annoyances or discomfort from normal, usual, and customary agricultural operations, facilities, and practices. This Right-to-Farm disclosure and acknowledgement establishes the primacy of agricultural operations over other land uses and would reduce the potential for conflict which could adversely affect the continued viability of such adjacent agricultural operations (Kings County 2002).

ENVIRONMENTAL EVALUATION

- a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

Less-than-Significant Impact with Mitigation Incorporated. The project would convert 10 acres of agricultural land to a non-agricultural use. Under CDOC’s Farmland Mapping and Monitoring Program (FMMP), the 10-acre battery site is mapped “Farmlands of Statewide Importance,” which is defined as lands which are similar to Prime Farmland but have minor shortcomings, and which have been in irrigated agriculture sometime during the prior four years. The Battery Storage Project would likely occupy the site until approximately 2050. At the end of the productive life of the energy storage facility, the facility would likely be decommissioned.

As of 2017, Kings County had a total of 615,958 acres of land in farms (USDA, 2017). The project’s displacement of 10 acres of agriculturally productive land would represent less than

0.002 percent of the agriculturally productive land in Kings County. The project's proposed location in the northeast corner of the 154-acre parcel would not interfere with the agricultural productivity of the greater parcel, or adjacent parcels. This would represent a less than significant impact to Farmland.

The following mitigation measure would further reduce Project impacts to agricultural resources to less-than-significant levels.

Mitigation Measure AG-1: Soil Reclamation Plan. *Prior to the issuance of a building permit, the applicant shall submit, for review and approval by the Kings County Community Development Agency, a Soil Reclamation Plan (Plan) for the restoration of the site at the end of the project's useful life. The Plan shall contain an analysis of general pre-construction conditions of the project site, and the site shall be photographically documented by the applicant prior to the start of construction. The Plan shall contain specific measures to restore the soil to approximate its pre-project condition, including (1) removal of all above-ground and below-ground project fixtures, equipment, and non-agricultural driveways, (2) tilling to restore the sub-grade material to a density and depth consistent with its pre-project condition, (3) revegetation using a Kings County-approved grasses and forbs seed mixture designed to maximize revegetation with noninvasive species shall be broadcast or drilled across the project site, and (4) application of weed-free mulch spread, as needed, to stabilize the soil until germination occurs and young plants are established to facilitate moisture retention in the soil. Whether the project area has been restored to pre-construction conditions shall be assessed by Kings County staff. Additional seedlings and applications of weed-free mulch shall be applied to areas of the project site that have been determined to be unsuccessfully reclaimed (i.e., restored to pre-project conditions) until the entire project area has been restored to conditions equivalent to pre-construction conditions. All waste shall be recycled or disposed of in compliance with applicable law. The applicant shall verify the completion of reclamation within 18 months after expiration of the project use permit with the Planning Division staff.*

Mitigation Measure AG-2: Financial Assurance. *Prior to the issuance of a building permit, the applicant shall post a performance or cash bond, submit a Certificate of Deposit, submit a letter of credit, or provide such other financial assurances acceptable to the County, in an amount provided in an Engineer's Cost Estimate, approved by the Kings County Community Development Agency, to ensure completion of the activities under the*

Soil Reclamation Plan. Every 5 years from the date of completion of construction of the project, the applicant shall submit an updated Engineer's Cost Estimate for financial assurances for the Plan, which will be reviewed every 5 years by the Kings County Community Development Agency to determine if the amount of the assurances is sufficient to implement the Plan. The amount of the assurances must be adjusted if, during the five-year review, the amount is determined to be insufficient to implement the Plan.

By requiring that the entire project site be restored to its pre-project baseline conditions following decommissioning of the project, pursuant to the Soil Reclamation Plan specified in Mitigation Measure AG-1, as ensured with the accompanying Financial Assurance stipulated in Mitigation Measure AG-2, the impact from the potential permanent conversion of would be reduced to a less-than-significant level.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

County Zoning

No impact. The Project site is zoned "General Agricultural – 20 Acre minimum (AG-20)." As provided in Article 4 of the Kings County Development Code, electrical energy storage facilities are permitted in this zone district subject to a granting of a Conditional Use Permit by the Kings County Planning Commission. The gen-tie between the battery storage system site and the SCE Mascot Substation, approximately 0.95 miles west, would satisfy the additional zoning requirement for the electrical energy storage facility to be within 1 mile of an existing public utility substation. Therefore, the Outlaw Battery Storage Project would be consistent with the County's agricultural zoning for the site upon the granting of the subject Conditional Use Permit for the project.

Williamson Act

No Impact. The Outlaw Project site is not subject to a Land Farmland Security Zone Contract under the Williamson Act.

In summary, the proposed Project use is consistent with the AG-20 zone district requirements subject to the granting of Conditional Use Permits for solar generating facilities. Therefore, the Outlaw Battery Storage Project would result in no impact with respect to conflicts with the Williamson Act as set forth in the Government Code.

- c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)?**

No Impact. Neither the Outlaw Battery Storage Project site nor other lands in the vicinity are zoned forest land, timberland, or Timberland Production under the cited statutes. No portion of the Project site is zoned for forestland or timberland. As such, the proposed Project would have no impact with respect to conflict with existing zoning for such land, or in terms of causing the rezoning of such lands.

- d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?**

No Impact. There are no forest lands on the Outlaw Battery Storage Project site or in the site vicinity. As such, the proposed Project would have no impact in terms of loss or conversion of forest land.

- e. 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 or conversion of forest land to non-forest use?**

No Impact. The Outlaw Project would not induce conversion of other farmlands to non-agricultural uses by way of providing excess infrastructure capacities that could facilitate development on adjacent or nearby lands, or by way of introducing a land use that is incompatible with agricultural production. The project would involve no other changes that could result in the conversion of farmland to non-agricultural use.

As noted in item 'd)' above, there are no forest lands on the project site or in the project vicinity; therefore, the Project would not involve other changes that could result in the conversion of forest land to non-forest uses.

In summary, the Outlaw Battery Storage Project would involve no other changes to the existing environment which could result in the conversion of Farmland or forest land, and therefore would have no potential impact.

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4.3. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?			X	
b. 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?			X	
c. Expose sensitive receptors to substantial pollutant concentrations?			X	
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

AIR QUALITY SETTING

Geography

Kings County is located within the boundaries of the San Joaquin Valley Air Basin. The San Joaquin Valley Air Basin is bounded by the Sierra Nevada Mountains in the east, the Coast Ranges to the west, and the Tehachapi Mountains in the south. At the north end is the Sacramento Valley, which comprises the northern half of California's Central Valley. The intervening terrain is flat. San Joaquin Valley is often described as a bowl-shaped valley. The relationship between geography and air quality is described in the following Section on meteorology.

Meteorology

The San Joaquin Valley has a Mediterranean climate, characterized by hot dry summers and mild rainy winters. During the year, the temperature may range from 20 to 115 degrees Fahrenheit with summer highs usually in the 90s and winter lows occasionally below freezing. Average annual rainfall is about 20 inches with snowfall being very rare. The prevailing winds are moderate in strength and vary from moist breezes from the south to dry land flows from the north. The mountains surrounding the San Joaquin Valley create a barrier to airflow, which can trap air pollutants in the valley when meteorological conditions are right and a temperature

inversion exists. Air stagnation in the autumn and early winter occurs when large high-pressure cells lie over the valley. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduces the influx of outside air and allows pollutants to become concentrated in the air. The surface concentrations of pollutants are highest when these conditions are combined with increased levels of smoke or when temperature inversions trap cool air, fog, and pollutants near the ground.

REGULATORY SETTING

Federal

The Clean Air Act (CAA) establishes the statutory framework for regulation of air quality in the United States. Pursuant to this act, the United States Environmental Protection Agency (USEPA) has established various regulations to achieve and maintain acceptable air quality, including the adoption of National Ambient Air Quality Standards (NAAQS), mandatory State Implementation Plan or maintenance plan requirements to achieve and maintain NAAQS, and emission standards for both stationary and mobile sources of air pollution. The NAAQS were established in 1970 for six pollutants: carbon monoxide (CO), ozone, particulate matter that is less than 10 microns in diameter and fine particles that are less than 2.5 microns in diameter (PM10 and PM2.5), nitrogen dioxide (NO2), sulfur dioxide (SO2), and lead. These pollutants are commonly referred to as criteria pollutants because they are considered the most prevalent air pollutants known to be hazardous to human health. The USEPA designates a region that is meeting the air quality standard for a given pollutant as being in “attainment” for that pollutant; regions not meeting the federal standard are designated as being in “nonattainment” for that pollutant. If a region is designated as nonattainment for a NAAQS, the federal CAA requires the state to develop a State Implementation Plan to demonstrate how the standard will be attained, including the establishment of specific requirements for review and approval of new or modified stationary sources of air pollution. The CAA Amendments of 1990 directed the USEPA to set standards for toxic air contaminants and required facilities to sharply reduce emissions. Table AQ-1 summarizes state and federal ambient air quality standards (AAQS).

State

The California Air Resources Board (CARB) is the state agency responsible for California air quality management. It establishes California Ambient Air Quality Standards (CAAQS), mobile source emission standards, and GHG regulations, as well as oversight of regional air quality districts and preparation of implementation plans, including regulations for stationary sources of

air pollution. The CAAQS are generally more stringent than federal NAAQS, except for the 1-hour NO₂ and SO₂ standards, and include more pollutants than the NAAQS (see Table AQ-1). California specifies four additional criteria pollutants: visibility reducing particles; sulfates and hydrogen sulfide; and vinyl chloride. Similar to USEPA, CARB designates counties in California as being in attainment or non-attainment for the CAAQS.

Table AQ-1: Ambient Air Quality Standards and Attainment Status for the San Joaquin Valley Air Basin

Pollutant	Averaging Time	CAAQS Concentration	CAAQS Status	NAAQS Concentration	NAAQS Status
Ozone	8 hours	0.07 ppm	N	0.07 ppm	N ¹
	1 hour	0.09 ppm	N	—	—
Carbon Monoxide	8 hours	9 ppm	A/U ²	9 ppm	A/U
	1 hour	20 ppm		35 ppm	
Nitrogen Dioxide	1 hour	0.18 ppm	A	0.100 ppm	A/U
	Annual Arithmetic Mean	0.03 ppm		0.053 ppm	
Sulfur Dioxide	24 hours	0.04 ppm	A	—	A/U
	1 hour	0.25 ppm		0.075 ppm	
Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³	N	—	A
	24 hours	50 µg/m ³		150 µg/m ³	
Particulate Matter— Fine (PM _{2.5})	Annual Arithmetic Mean	12 µg/m ³	N	12 µg/m ³	N
	24 hours	—		35 µg/m ³	
Sulfates	24 hours	25 µg/m ³	A	—	—
Lead	Rolling 3-Month Average	0.15 µg/m ³	A	0.15 µg/m ³	U
Hydrogen Sulfide	1 hour	0.03 ppm	U	—	—
Vinyl Chloride (chloroethene)	24 hours	0.01 ppm	A	—	—
Visibility Reducing Particles	Statewide	0.23 per kilometer	U	—	—

Source: SJVAPCD Ambient Air Quality Standards and Valley Attainment Status website accessed October 2023.

A=Attainment; N=Non-attainment; U=Unclassified

ppm = parts per million; µg/m³ = micrograms per cubic meter

— = No standard has been adopted for this averaging time.

1. Federal Extreme classification for Ozone indicates the design value of the area is above 0.163 ppm.

2. EPA designated areas as “unclassifiable/attainment” if they met the standard or are expected to meet the standard despite a lack of monitoring data.

The Air Toxic “Hot Spots” Information and Assessment Act identifies toxic air contaminant hot spots where emissions from specific sources may expose individuals to an elevated risk of adverse health effects, particularly cancer or reproductive harm. Toxic air contaminants are also referred to as hazardous air pollutants. The Act requires that a business or other establishment identified as a significant source of toxic emissions provide the affected population with information about health risks posed by the emissions.

Regional

The BESS is located within the jurisdiction of the SJVAPCD. The SJVAPCD is the regional air agency charged with preparing, adopting, and implementing emission control measures and standards for stationary sources of air pollution pursuant to delegated state and federal authority. Because the BESS would not involve construction of new stationary sources, there are no permitting regulations relevant to the BESS. The SJVAPCD has published CEQA guidelines for analysis and mitigation of impacts from projects within its jurisdiction, and also established thresholds of significance for construction impacts as well as impacts from operation of non-permitted equipment and activities.

Under the California Clean Air Act, the SJVAPCD is required to develop an air quality plan to achieve and/or maintain compliance with federal and state non-attainment criteria pollutants within its air district. The SJVAPCD has developed attainment plans to achieve and/or maintain compliance with the federal and state ozone, PM10, and PM2.5 standards.

Local

Air Quality Element

C. Air Quality Management

AQ GOAL C1 Use Air Quality Assessment and Mitigation programs and resources of the SJVAPCD and other agencies to minimize air pollution, related public health effects, and potential climate change impacts within the County.

AQ OBJECTIVE C1.1 Accurately assess and mitigate potentially significant local and regional air quality and climate change impacts from proposed projects within the County.

AQ Policy C1.1.1: Assess and mitigate project air quality impacts using analysis methods and significance thresholds recommended by the SJVAPCD and require that projects do not exceed established SJVAPCD thresholds.

AQ Policy C1.1.2: Assess and mitigate project greenhouse gas/climate change impacts using analysis methods and significance thresholds as defined or recommended by the SJVAPCD, KCAG or California Air Resources Board (ARB) depending on the type of project involved.

AQ Policy C1.1.3: Ensure that air quality and climate change impacts identified during CEQA review are minimized and consistently and fairly mitigated at a minimum, to levels as required by CEQA.

AQ Policy C1.1.5: Assess and reduce the air quality and potential climate change impacts of new development projects that may be insignificant by themselves but, taken together, may be cumulatively significant for the County as a whole.

F. Hazardous Emissions and Public Health

AQ GOAL F1 Minimize exposure of the public to hazardous air pollutant emissions, particulates and noxious odors from freeways, major arterial roadways, industrial, manufacturing, and processing facilities.

AQ OBJECTIVE F2.1 Reduce emissions of PM₁₀, PM_{2.5} and other particulates from sources with local control potential or under the jurisdiction of the County.

AQ Policy F2.1.2: Require all access roads, driveways, and parking areas serving new commercial and industrial development are constructed with materials that minimize particulate emissions and are appropriate to the scale and intensity of use.

ENVIRONMENTAL EVALUATION

a. Conflict with or obstruct implementation of the applicable air quality plan?

Less-than-Significant Impact. The Project would not conflict with or obstruct implementation of applicable air quality plans or regulations. The SJVAPCD's guidance document (SJVAPCD 2015) does not include methodologies for assessing the effect of a project on consistency with clean air plans developed by the SJVAPCD. Regional clean air plans developed by SJVAPCD rely on local land use designations to develop population and travel projections that are the basis of future emissions inventories. Air pollution control plans are aimed at reducing these projected future emissions. The project land uses would not alter population and vehicle related emissions projections contained in regional clean air planning efforts in any measurable way and would not conflict with achievement of the control plans aimed at reducing these projected emissions. Therefore, the project would not conflict with or obstruct implementation of efforts

outlined in the region's air pollution control plans to attain or maintain ambient air quality standards. This would be a less-than-significant impact.

In 2005 the SJVAPCD adopted the Indirect Source Review (ISR) Rule in order to fulfill the District's emission reduction commitments in its PM10 and Ozone attainment plans. The District has determined that implementation and compliance with the ISR would reduce the cumulative PM10 and NOX impacts of growth anticipated in the air quality plans to a less-than-significant level. As discussed under item 'b)' below, the project proponent will be required to file an application for ISR Review, including preparation of an Air Impact Assessment (AIA), to confirm that the project will meet its emissions reduction requirements. The AIA will be used to determine the specific ISR reductions that are to be achieved through on-site and/or off-site measures. Upon its implementation of ISR emission reduction measures, the project would fulfill its share of achieving the District's emission reduction commitments in the PM10 and Ozone attainment plans. Therefore, the project would result in a less-than-significant impact in this regard since it would not conflict with or obstruct implementation of the applicable air quality plans.

The SJVAPCD would be consulted to confirm applicable air quality regulations are incorporated into the BESS, if necessary. In general, SJVAPCD Regulations require certain stationary sources to obtain an air permit and/or to comply with compliance rules prior to commencing construction. For example, construction-related activities for the combined battery facility improvements and 1-mile gen-tie would disturb greater than 1 acre of surface area. Therefore, a SJVAPCD-approved Dust Control Plan or Construction Notification form would be obtained in accordance with District Regulation VIII. SJVAPCD Regulation VIII does not require a permit, but it includes the following measures to control fugitive dust (SJVAPCD 2015):

- Apply water to unpaved surfaces and areas
- Use non-toxic chemical or organic dust suppressants on unpaved roads and traffic areas
- Limit or reduce vehicle speed on unpaved roads and traffic areas
- Maintain areas in a stabilized condition by restricting vehicle access
- Install wind barriers
- During high winds, cease outdoor activities that disturb the soil
- Keep bulk materials sufficiently wet when handling
- Store and handle materials in a three-sided structure

- When storing bulk materials, apply water to the surface or cover the storage pile with a tarp
- Don't overload haul trucks. Overloaded trucks are likely to spill bulk materials
- Cover haul trucks with a tarp or other suitable cover. Or, wet the top of the load enough to limit visible dust emissions
- Clean the interior of cargo compartments on emptied haul trucks prior to leaving a site
- Prevent trackout by installing a trackout control device
- Clean up trackout at least once a day. If along a busy road or highway, clean up trackout immediately
- Monitor dust-generating activities and implement appropriate measures for maximum dust control.

Implementation of a Dust Control Plan with these measures would further ensure that project construction would not conflict with or obstruct implementation of the applicable air quality plans.

The installed BESS equipment would not emit criteria air pollutants. However, project operations would entail occasional maintenance and inspection activity, as needed. Maintenance and inspection activities are assumed to entail 2 worker vehicle round trips per week originating from the Project region. Emissions from these trips were calculated and are well below applicable thresholds (Appendix A, Table 2.4).

In addition to routine inspection and maintenance events, periodic augmentations will occur over the course of the Project's lifetime. An augmentation could include replacement of the lithium-ion batteries within existing battery enclosures and/or the phased installation of new battery enclosures within the site boundary, and connection of these enclosures to the existing on site equipment. Augmentation installations will be spaced out periodically over multiple years. At the time that each augmentation event takes place, the majority of the infrastructure will already be in place; therefore, the additional construction effort will be substantially less than the initial construction effort (e.g., each augmentation event would require no more than 20% of the initial construction effort, and likely much less than this amount). At the end of the Project life, a decommissioning plan would be implemented, including physical removal of the built facilities.

Emissions from inspection and maintenance events would be comparable to worker vehicle trips during construction. Emissions from periodic augmentation events and the decommissioning process would be comparable to, but less intensive than, the short-term construction emissions,

and thus would be subject to the same air quality regulations as during the more intensive initial construction phase. Therefore, the Project's construction and operational emissions would not conflict with or obstruct implementation of the SJVAPCD air quality plans. Potential impacts related to air quality plan implementation would be less than significant.

b. 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?

Less-than-Significant Impact. An air quality assessment was performed in accordance with applicable SJVAPCD guidelines. Air quality impacts for a range of pollutants associated with onsite construction activities for the combined battery facility and gen-tie, including use of off-road and on-road vehicles and fugitive dust, were calculated using the California Emissions Estimator Model (CalEEMod) version 2022.1.1.21. CalEEMod was developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with California air districts to calculate air and GHG emissions associated with land use projects. The program analyzes construction (short-term) emissions by utilizing both default values for specific geographic areas and typical land use projects as well as Project-specific values such as construction schedules and equipment rosters. CalEEMod input data, including the estimated use of construction equipment and waste hauling, as well as model outputs, are provided in Appendix A.

Primary air emissions associated with the Project include emissions due to construction-related fugitive dust, tailpipe exhaust from heavy construction equipment, and worker vehicles commuting to and from the site. Air emissions evaluated include CO, nitrogen oxides (NOX), Reactive Organic Gases (ROG), Sulfur oxide (SOx), and PM10 and PM2.5. Emission calculations are based on reasonable worst-case estimates of pollutant emissions to present a conservative environmental analysis.

Construction Emissions. Maximum estimated construction emissions within SJVAPCD air basin are presented in Table AQ-2 along with the SJVAPCD thresholds of significance.

Table AQ-2 Construction Emissions Compared Against SJVAPCD Thresholds

Pollutant	Emissions (tpy)	Thresholds (tpy) ¹	Above Thresholds? (Yes/No)
NO _x	2.13	10	No
ROG	0.26	10	No
CO	2.26	100	No
SO _x	<0.005	27	No
PM ₁₀	0.76	15	No
PM _{2.5}	0.35	15	No

tpy = tons per year

¹ Source: SJVAPCD 2015 . Guidance for Assessing and Mitigating Air Quality Impacts.

As shown in Table AQ-2 emissions are below applicable SJVAPCD thresholds of significance for mass emission thresholds and would not result in a cumulatively considerable net increase of any criteria pollutant, including pollutants for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Therefore, potential impacts related to criteria pollutants during construction would be less than significant.

Operations Emissions. The battery storage facility would be operated remotely and would be unstaffed. The installed battery storage equipment and gen-tie would not produce criteria air pollutants or GHG emissions. However, project operations would entail occasional maintenance and inspection activity, as needed. Maintenance and inspection activities are assumed to entail 2 worker vehicle round trips per week originating from the Project region. Emissions from these trips were calculated and are well below applicable thresholds (Appendix A, Table 2.4).

In addition to routine inspection and maintenance events, periodic augmentations will occur over the course of the Project's lifetime. An augmentation could include replacement of the lithium-ion batteries within existing battery enclosures and/or the phased installation of new battery enclosures within the site boundary, and connection of these enclosures to the existing on site equipment. Augmentation installations will be spaced out periodically over multiple years. At the time that each augmentation event takes place, the majority of the infrastructure will already be in place; therefore, the additional construction effort will be substantially less than the initial construction effort (e.g., each augmentation event would require no more than 20% of the initial construction effort, and likely much less than this amount). At the end of the Project life, a decommissioning plan would be implemented, including physical removal of the built facilities.

Emissions from inspection and maintenance events would be comparable to worker vehicle trips during construction. Emissions from periodic augmentation events and the decommissioning process would be comparable to, but less intensive than, the short-term construction emissions,

and thus would be subject to the same air quality regulations as during the more intensive initial construction phase.

Thus, project-related emissions over the life of the project are similar in nature to the initial construction emissions but would only occur periodically and at a much reduced scale.

As noted above, emissions from routine inspection and maintenance trips were calculated and are well below applicable thresholds; these estimates are presented in Appendix A, Table 2.4. Given the absence of stationary source emissions, project-related emissions over the life of the project associated with periodic augmentation events were qualitatively estimated by assuming that individual augmentation installation events will require to up to 20% of the total initial construction emissions estimate. This is considered a conservative approach because the majority of the infrastructure, including most of the earthwork and civil construction, will already be in place at the time that the augmentation installation occurs. Therefore, potential impacts related to criteria pollutants during operations would also be less than significant.

c. Expose sensitive receptors to substantial pollutant concentrations?

Less-than-Significant Impact. Sensitive receptor locations include schools, hospitals, and residential dwellings. The nearest sensitive receptors located approximately 500 feet northeast and northwest of the Project site boundary (north side of Grangeville Blvd.). The nearest school is Lee Richmond School approximately 3.5 miles west of the Project site. The nearest hospital is Adventist Health Hanford approximately 5 miles southwest of the site. Although the residence is in close proximity to the Project site, construction emissions are well below thresholds and would be of short duration in nature. Therefore, sensitive receptors would not be exposed to substantial pollutants concentrations.

As noted above, the installed BESS equipment would not emit criteria air pollutants. However, project operations would entail occasional maintenance and inspection activity, periodic augmentation events, and decommissioning and removal of facilities at the end of the Project life. These activities would be comparable to short-term construction activity but would be less intensive than the initial construction effort. Therefore, battery storage operations would not expose existing sensitive receptors to substantial pollutant concentrations.

Given that the estimated project emissions are well below significance thresholds as shown in Table AQ-2, any potential impacts from exposure to substantial pollutant concentrations during project construction and operations would be less than significant.

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less-than-Significant Impact. Typical odor nuisances include hydrogen sulfide, ammonia, chlorine, and other sulfide-related emissions. These odor-causing pollutants would not be generated during construction or operation of the battery storage facility. An additional potential source of odor is diesel engine emissions. During construction, diesel exhaust produced by off-road construction equipment could generate odors; however, several pieces of construction equipment would need to operate concurrently in a relatively small area to generate a plume of diesel exhaust that could cause objectionable odors for a substantial number of people. These circumstances are not expected to occur during Project activities because construction equipment would not all operate at the same time. No odor-generating activities are anticipated during operations. Because few sources of odor would exist, the battery storage facility would not result in other emissions adversely affecting a substantial number of people. Therefore, impacts due to other emissions would be less than significant.

REFERENCES—AIR QUALITY

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4.4. BIOLOGICAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
c. Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			X	
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?			X	

BIOLOGICAL SETTING

The following discussion of biological resources is based on a Biological Resources Technical Report prepared by ERM. The full report with additional detail, including Project maps and Site photographs, is provided in Appendix B.

Literature Search and Results – Biological Resources

A records search using the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) application Rarefind 5 online edition (CDFW CNDDB, v 5.3.0), California Native Plant Society (CNPS) Rare Plant Inventory (RPI) and U.S. Fish and Wildlife Service's (USFWS) Information for Consultation and Planning (IPAC) tool (USFWS IPaC, v.2023) was conducted on 6 February 2023, and updated in April 2024, to identify

sensitive species or habitat known to occur within the Project vicinity. A 10-mile search radius was used for the CNDDDB record search and a nine-quadrangle search was used for the RPI search. A preliminary review of aquatic resources was conducted using the National Wetland Inventory and the National Hydrography Dataset. Current and historic aerial photographs (Google Earth Pro 2022) and U.S Geological Survey topographic mapping (USGS 1984) were also reviewed. For the purposes of this assessment, special status species are defined as those that are federally or state-listed or candidates for listing, state fully protected, species of special concern, and CNPS Rare Plant Rank (CRPR) List 1, 2 or 3.

Literature search results are summarized in Table BIO-1. The record search identified two CDFW Sensitive Natural Communities, Valley Sacaton Grassland (*Sporobolus airoides*) and Northern Claypan Vernal Pool, as occurring within 10 miles of the Project Site. Valley Sacaton Grassland is a mid-height (to 3 feet) tussock-forming grassland dominated by *Sporobolus airoides*. Northern Claypan Vernal Pool habitat consists of depressions seasonally flooded or saturated with saline to fresh water on alkaline and/or saline silica-cemented hardpan soils which impede water infiltration. These seasonal wetlands often support endemic species restricted to vernal pool habitat.

The record search also identified 27 special-status species known to occur within the vicinity of the Project Site. Of those, 12 are federally or state endangered and threatened species and one is a candidate for listing. Bald eagle (*Haliaeetus leucocephalus*) is also identified as a fully protected species by CDFW and federal Bald and Golden Eagle Protection Act (BGEPA). Blunt-nosed leopard lizard (*Gambelia silus*) is also identified as a fully protected species by CDFW.

No USFWS-designated Critical Habitat overlaps with the site. The 14 other special status species identified for evaluation include 10 rare plants, one avian species of special concern, one amphibian species of special concern, one reptile species of concern and one mammal species of special concern. No CNDDDB species or habitat records were identified within the Project Site.

The Project is not located within a landscape wildlife movement corridor based upon the Missing Linkages: Restoring Connectivity to the California Landscape (Penrod, Hunter and Marrifield 2001), California Essential Habitat Connectivity (Spencer 2010), Core Reserves and Corridors (Department of Environmental Design 2010) and Wildlife Corridors – San Joaquin Valley (Information Center for the Environment 2006).

Table BIO-1: Sensitive Species* Evaluated with Potential to Occur

Taxonomic Group	Species	Status*	Habitat Requirements	Potential to Occur
Invertebrates	Monarch butterfly (<i>Danaus plexippus</i>)	FC	Open fields and meadows with milkweed.	No Potential. No milkweed plants were observed within the Site. Annual grassland was dominated by non-natives. No known winter roosts nearby and Site is outside of the coastal roosting winter range.
	Vernal pool fairy shrimp FT (<i>Branchinecta lynchi</i>)		Vernal pools and similar ephemeral wetlands, grassed or mud bottomed pools, or basalt flow depression pools in unplowed grasslands. Occurs mostly in vernal pools (79%) although it also inhabits a variety of natural and artificial seasonal wetland habitats, such as alkali pools, ephemeral drainages, stock ponds, roadside ditches, vernal swales, and rock outcrop pools.	No Potential. The Site lacks vernal pools and ephemeral wetlands.
	Vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	FE	Natural, and artificial, seasonally ponded habitat types including: vernal pools, swales, seasonal wetlands, ephemeral drainages, stock ponds, reservoirs, ditches, backhoe pits, and ruts caused by vehicular activities. Found in extremely shallow (2-15 cm) water or greater than 15 cm, and within waterbodies of various sizes.	No Potential. The Site lacks w seasonally ponded habitat.
	Conservancy fairy shrimp (<i>Branchinecta conservatio</i>)	FE	Occupies relatively large, turbid freshwater vernal pools called playa pools	No Potential. The site lacks playa pool habitat.
Birds	Bald Eagle (<i>Haliaeetus leucocephalus</i>)	FP, SE, BGEPA	Bald eagles occur year-round in California but are primarily winter visitors. This species nests in large trees in the vicinity of larger lakes, reservoirs, and rivers, with wintering habitat somewhat more variable. Foraging habitat usually features large concentrations of waterfowl or fish.	No Potential. The site does not provide suitable nesting or foraging habitat.
	Burrowing owl (<i>Athene cunicularia</i>)	SSC	Grasslands, prairie, plains, and savannah. Nests in underground burrows, such as those dug by prairie dogs, ground squirrels, foxes, woodchucks, and badgers.	No Potential. The site lacks small mammal burrows that are necessary for breeding. The closest known CNDDB occurrence is within 4.66 miles of the site. Additionally,

Taxonomic Group	Species	Status*	Habitat Requirements	Potential to Occur
				vineyard does not provide the open habitat with low vegetation that burrowing owls require (Shuford and Gardali 2008).
	Swainson's hawk (<i>Buteo swainsoni</i> ; "SWHA")	ST	Savanna, open pine-oak woodland and cultivated lands with scattered trees. In the Central Valley of California, nests in tree groves and isolated trees in riparian and agricultural areas. Forages in grasslands and scrub habitats as well as agricultural fields, especially alfalfa.	Low Potential for Foraging. Three adult SWHA were observed during the June 22, 2023, reconnaissance-level survey. One adult SWHA was observed on the ground in a fallow field approximately 2,000 feet southwest of the Site. Two adult SWHAs were observed soaring above an agricultural field southeast approximately 2,500 feet from the Site. Potential suitable nesting habitat consists of Eucalyptus trees and planted cultivar trees within the surrounding areas (off-Site). The Site provides low quality foraging habitat. The closest known CNDDDB nest occurrence is approximately 700 feet north of the Site and was recorded in 2012.
	Tricolored blackbird (<i>Agelaius tricolor</i>)	SE	Cattail or tule marshes; forages in fields, farms. Breeds in large freshwater marshes, in dense stands of cattails or bulrushes. At all seasons (including when breeding), does most of its foraging in open habitats such as farm fields, pastures, cattle pens, large lawns.	No potential. Suitable wetland breeding habitat is absent. Nearest recorded breeding population is located almost 10 miles south of the site.
Fish	Delta smelt (<i>Hypomesus transpacificus</i>)	FT, SE	Bays, tidal rivers, channels, and sloughs.	No Potential. The Site lacks suitable waterbody features that are hydrologically connected to tidal rivers and channels.

Taxonomic Group	Species	Status*	Habitat Requirements	Potential to Occur
Mammals	Fresno kangaroo rat (<i>Dipodomys nitratoide exilis</i>)	FE, SE	Found in grassland and alkali desert scrub communities. Primarily in alkali sink communities from 200 to 300 feet in elevation	No Potential. The site has been used for agricultural use since the 1930s and is highly disturbed and lacks alkali sink-open grassland habitat that the species requires.
	San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	FE, ST	Occurs in grasslands, scrublands, and oak woodlands in the San Joaquin Valley and adjacent foothills. Below 300 meters (1,000 feet) elevation. The kit fox is primarily found in association with Valley Sink Scrub, interior Coast Range Saltbush Scrub, Upper Sonoran Subshrub Scrub, Annual Grassland, and other grassland vegetation communities. Within these communities, optimal habitat for the San Joaquin kit fox is sparsely vegetated communities on gentle slopes. Plant communities such as Northern Hardpan Vernal Pool, Northern Claypan Vernal Pool, Alkali Meadow, and Alkali Playa are often smaller and more widely scattered; and in general, do not provide good denning habitat for kit foxes because all have moist or waterlogged clay or clay-like soils.	No Potential. This species occurs in arid habitat with sparse or low vegetation with gentle slopes less than 15%. Only slopes of 10% or less are suitable for natal dens. There are multiple records of the species within 10 miles of the site with the closest (2.2 miles) dating from 1975 and the most recent from 2006 at approximately 5 miles from the site. The site does not exhibit suitable kit fox dens. Along the Melga Canal, there is moist soil, and slopes greater than 20% (not suitable denning conditions). Settler's Ditch exhibits similar slopes and would not be suitable for natal dens. One 10-inch burrow was identified on the bank of Melga Canal within the ordinary high water mark making it potentially suitable for temporary sheltering during foraging but not suitable for breeding. Based on the County's Recommended Biological Review Criteria the site is not suitable for foraging because it is located more than 1 mile from a known kit fox den.
	Tipton kangaroo rat (<i>Dipodomys nitratoide nitratoide</i>)	FE, SE	Inhabits friable soils that escape seasonal flooding in saltbush scrub and sink scrub. Preferred dominant plant species include woody shrubs such as saltbush, iodine bush, goldenbush, and honey mesquite. Digs burrows in elevated soil mounds at the bases of shrubs. Limited to the Tulare Basin of southern San Joaquin Valley. Below 300 meters (1,000 feet) elevation.	No Potential. Roosting habitat is absent and the nearest CNDDDB record is almost 10 miles from the Project site.

Taxonomic Group	Species	Status*	Habitat Requirements	Potential to Occur
	Western mastiff bat (<i>Eumops perotis californicus</i>)	SSC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban. Roosts in crevices in cliff faces, high buildings, trees, and tunnels. When roosting in rock crevices, needs vertical faces to drop off to take flight	No Potential. Roosting habitat is absent and the nearest CNDDDB record is almost 10 miles from the Project site.
	Buena Vista Lake ornate shrew (<i>Sorex ornatus relictus</i>)	FE, SSC	Occurs in marshlands and riparian areas in the Tulare Basin. Prefers moist soil. Uses stumps, logs and litter for cover.	No Potential. The Site has been used for agricultural use since the 1930s and is highly disturbed. Marsh and riparian habitat is not present.
Reptiles and Amphibians	Blunt-nosed leopard lizard (<i>Gambelia silus</i>)	FE, SE	Occurs in expansive sparsely vegetated areas in alkali and scrub habitats at 30 to 900 meters (100 to 3,000 feet) elevation. Does not occur in areas with steep slopes, dense vegetation, or seasonal flooding. Uses small mammal burrows for permanent shelter and may construct shallow tunnels under exposed rocks or earth berms for shelter where small mammals are scarce. Known only from the San Joaquin Valley and adjacent foothills.	No Potential. The Site has been used for agricultural use since the 1930s and is highly disturbed. Alkali and scrub habitat preferred by the species is not present.
	California tiger salamander – central California DPS (<i>Ambystoma californiense</i> pop. 1)	FT, ST	Grassland, savanna, or open woodland habitats in vacant or mammal-occupied burrows throughout most of the year. Lays eggs on submerged stems and leaves, in shallow ephemeral or semipermanent pools and ponds that fill during heavy winter rains or in permanent ponds.	No Potential. The Site lacks abundant small burrows of small mammals, which this species relies upon for hibernation and shelter. Melga Canal lacks suitable breeding habitat for this species due to lack of emergent vegetation to attach their eggs.
	Western spadefoot (<i>Spea hammondi</i>)	SSC	This species lives in a wide range of habitats; lowlands to foothills, temporary pools, low gradient creeks, grasslands, shrubland/chaparral, savanna, playa/salt flat, cropland, woodland. grasslands, open chaparral, pine-oak woodlands. It prefers shortgrass plains, sandy or gravelly soil (e.g., alkali flats, washes, alluvial fans). It is fossorial and breeds in	No Potential. The Site lacks sandy and gravelly soils that species prefer.

Taxonomic Group	Species	Status*	Habitat Requirements	Potential to Occur
			temporary rain pools and slow-moving streams.	
	Western pond turtle (<i>Emys marmorata</i>)	SSC	Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking.	No Potential. The site lacks suitable habitat. The Adjacent Melga Canal and Settlers Ditch do not provide suitable hydrology, vegetation or basking sites.
Plants	Alkali-sink goldfields (<i>Lasthenia chrysantha</i>)	1B	Found in vernal pools and alkali flats.	No Potential. Vernal pools and alkali flats are absent from the site. The site has been used for agricultural uses since the 1930s and is highly disturbed.
	Brittlescale (<i>Atriplex depressa</i>)	1B.2	Alkaline, Clay; Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland and Vernal pools at 1 to 320 meters (5 -1.050 feet) in elevation. Known from Alameda, Colusa, Contra Costa, Fresno, Glenn, Kings, Merced, Solano, Tulare, and Yolo Counties.	No Potential. The site lacks suitable habitat and has been used for agricultural use since the 1930s and is highly disturbed.
	California alkali grass (<i>Puccinellia simplex</i>)	1B.2	Vernally mesic alkaline flats, sinks, and lake margins in chenopod scrub and grassland areas below 3,100 feet (930 meters) elevation. Known from the Mojave Desert, Central Valley, and San Francisco Bay areas of California. Also occurs in Utah.	No Potential. The site lacks suitable habitat and has been used for agricultural use since the 1930s and is highly disturbed.
	Earlimart orache (<i>Atriplex cordulata</i> var. <i>erecticaulis</i>)	1B.2	Valley and foothill grassland at 40 to 100 meters (130 to 330 feet) in elevation. Known from Fresno, Kern, Kings, and Tulare Counties.	No Potential. The site lacks suitable habitat and has been used for agricultural use since the 1930s and is highly disturbed.
	Heartscale (<i>Atriplex cordulata</i> var. <i>cordulata</i>)	1B.2	Sometimes alkaline Chenopod scrub. meadows and seeps and Valley and foothill grassland (sandy) at 0 to 560 meters (10-2,590 feet) in elevation. Known from Alameda, Butte, Colusa, Contra Costa, Fresno, Glenn, Kern, Madera, Merced, San Joaquin, Solano, Stanislaus, Tulare, and Yolo Counties.	No Potential. The site lacks suitable habitat and has been used for agricultural use since the 1930s and is highly disturbed.

Taxonomic Group	Species	Status*	Habitat Requirements	Potential to Occur
	Mud name (<i>Nama stenocarpa</i>)	2B.2	Marshes and swamps (lake margins, riverbanks) at 5 – 500 meters (15 – 1,640 feet) in elevation. Known from Imperial, Kings, Los Angeles, Orange, Riverside, San Diego	No Potential. The site lacks suitable habitat and has been used for agricultural use since the 1930s and is highly disturbed. No suitable habitat is present.
	Lesser saltscale (<i>Atriplex minuscula</i>)	1B.1	Alkaline sinks or sandy alkaline soils in grasslands at 15 to 200 meters (50 to 700 feet) elevation. Known only from Butte, Fresno, Madera, Merced, and Tulare Counties.	No Potential. The site lacks suitable habitat and has been used for agricultural use since the 1930s and is highly disturbed.
	Recurved larkspur (<i>Delphinium recurvatum</i>)	1B.2	Alkaline Chenopod scrub. Cismontane woodland and Valley and foothill grassland at 3 to 790 meters (0 -1,835 feet) in elevation. Known from Alameda, Butte, Contra Costa, Fresno, Kern, Kings, Madera, Merced, Monterey, San Benito, San Joaquin, San Luis Obispo, Santa Barbara, Solano, Sutter, Tulare, and Yuba Counties.	No Potential. The site lacks suitable habitat and has been used for agricultural use since the 1930s and is highly disturbed.
	Sanford's arrowhead (<i>Sagittaria sanfordii</i>)	1B.2	Marshes and swamps (shallow freshwater) at 0 – 650 meters (0 – 2,135 feet) in elevation. Known from Butte, Del Norte, El Dorado, Fresno, Kings, Los Angeles, Madera, Marin, Mariposa, Merced, Napa, Orange, Sacramento, San Bernardino, San Joaquin, San Mateo, Santa Clara, Shasta, Solano, Sutter, Tehama, Tulare, Ventura, and Yuba Counties.	No Potential. The site lacks suitable habitat and has been used for agricultural use since the 1930s and is highly disturbed.
	Subtle orache (<i>Atriplex subtilis</i>)	1B.2	Alkaline, Valley and foothill grassland at 40 – 100 meters (130 – 330 feet) in elevation. Known from Butte, Fresno, Kern, Kings, Madera, Merced, Stanislaus, and Tulare Counties.	No Potential. The site lacks suitable habitat and has been used for agricultural use since the 1930s and is highly disturbed.

Source: USFWS IPaC; CNDDDB. *Sensitive Species include state or federally listed threatened, endangered or candidate species, state-listed species of special concern, or fully protected species, and native plants with a California native plant ranking with CNPS.

¹FE=Federal Endangered; FP = Fully Protected; FT=Federal Threatened; FC=Federal Candidate; ST=State Threatened; SE=State Endangered; BGEPA = Bald and Golden Eagle Protection Act, SSC = CDFW species of special concern in California, FP = CDFW fully Protected in California, CRPR 1B.1 = Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California. CRPR 1B.2 = Plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California

² No Potential: Habitat is clearly unsuitable for the species requirements (outside the range, unsuitable elevation, soil, topography, plant community, land history, disturbance regime, etc.). Low Potential: Few habitat components that meet the species' requirements are present; habitat is largely unsuitable or of very poor quality. Species is unlikely to

occur. Moderate Potential: Some of the habitat components meeting the species' requirements are present. Species has moderate potential to occur. High Potential: All of the habitat components meeting the species' requirements are present. Species has high potential to occur. Present: Species is known to occur from recent occurrence records or surveys.

Literature Search and Results – Aquatic Resources

The site is located within the Guernsey Slough sub-watershed (Hydrologic Unit Code-12 18030012200) of the Tulare-Buena Vista Lakes watershed. An agricultural channel (Settlers Ditch) runs north-south along North 7th Avenue within the western portion of the proposed gen-tie route. Settlers Ditch is an earthen lined ditch that is artificially irrigated as indicated by manually operated gates. Therefore, Settlers Ditch is not likely to be regulated under the Clean Water Act.

A second aquatic feature, the Melga Canal, runs north-south along the eastern boundary of the proposed battery storage facility parcel. This canal diverts flows from Kings River South north of the Study Area for agricultural use, including irrigation water for the Project Site parcel. Surface flows in the Melga Canal travel southward to the Tulare Lake Canal, which is tributary to the Tule River, which rejoins the Kings River, and ultimately discharges to Tulare Dry Lake. None of these aquatic features have been designated Traditional Navigable Waters, nor do they discharge to designated Traditional Navigable Waters. Therefore, Tulare Dry Lake is likely to qualify as an intrastate isolated water without a surface water connection to a Traditional Navigable Waters, in which case, Melga Canal would also be considered isolated and non-jurisdictional waters of the U.S. and would not be regulated under the Clean Water Act (33 CFR § 328.3). Additionally, artificially irrigated areas that would revert to dry land if the irrigation ceased (33 CFR § 328.3 (b)(4)) do not qualify as waters of the U.S. Should the surface flows in the canal be manually controlled, the canal would likely not qualify as Water of the U.S.

Field Survey Methods and Results

General reconnaissance-level field surveys were conducted by ERM biologists on 22 June 2023 and 15 April 2024. The surveys covered the proposed 10-acre battery storage parcel and the 1-mile gen-tie route. Notes were taken on general site conditions, vegetation, aquatic resources, and suitability of habitat for various special status species. In addition, indicators of animal presence such as nests, scat, feathers, tracks, and burrows/digs were documented if present as well as wetland indicators such as hydrophytic vegetation, wetland hydrology, and hydric soils if present.

Baseline Habitat Conditions

Habitat on-site consists of bare ground, cultivated crops (vineyard), and ruderal/disturbed areas. Upland ruderal/disturbed areas make up the majority of the site. Where vegetation is present in intermittent patches in the road shoulders it consists of non-native perennial ryegrass (*Lolium perenne*, FAC), cheese weed (*Mallow parviflora*, UPL), pepperweed (*Lepidium latifolium*, FAC), Russian thistle (*Salsola tragus*, FACU), foxtail barley (*Hordeum murinum*, FACU), prostrate knotweed (*Polygonum aviculare*, FAC), London rocket (*Sisymbrium irio*, UPL), red stemmed filaree (*Erodium cicutarium*, UPL), riggut brome (*Bromus diandrus*, UPL), pineapple weed (*Matricaria discoidea*, FACU) and wild oats (*Avena fatua*, UPL), and native saltgrass (*Distichlis spicata*, FAC), fiddleneck (*Amsinckia menziesii*, UPL) and tarplant (*Centromadia pungens*, FAC). The vineyard area is characterized by highly disturbed soil mapped as Kimberlina fine sandy loam, saline-alkali, Bermuda grass (*Cynodon dactylon*, FACU), and grape vine plants (*Vitis vinifera*). Kimberlina fine sandy loam, saline-alkali, is listed as hydric where it occurs in sloughs.

Melga Canal is located adjacent to but outside the eastern boundary of the site. During the 2023 site visit, the habitat surrounding the site consists of active, cultivated crops (tomato) to the east, and (corn) to the north. During the 2024 site visit the agricultural field to the north was bare and appeared to have been recently disced in preparation for planting. The agricultural field to the east supported barley. Vineyards surround the crops in the southern and western directions. The geography of the site is flat, with no considerable sloping or hills.

No sensitive vegetation communities occur on site. Four red-tailed hawks (*Buteo jamaicensis*) were observed foraging over the Study Area, and multiple mourning doves (*Zenaida macroura*) and European starlings (*Sturnus vulgaris*) were observed perching within the Study Area and passing over.

Potential Habitat for Special Status Species

Based on the desktop review and the on-site evaluations, the site contains no suitable habitat for special-status plants and potentially suitable, albeit low quality, foraging habitat for one special status wildlife species. The majority of the special status species identified during the desktop review have no likelihood of occurrence due to habitat conditions on-site (e.g., the site has been used for agricultural use since the 1930s and is highly disturbed).

Swainson's Hawk

Although Swainson's hawk was not observed on site, three adult Swainson's hawks were observed during the field survey on 22 June 2023. One adult Swainson's hawk was observed on the ground in a fallow field approximately 2,000 feet southwest of the site. Two adult Swainson's hawks were observed soaring above an empty agricultural field southeast approximately 2,500 feet from the site. Two residential buildings along Grangeville Boulevard, north of the site, include planted cultivar trees and Eucalyptus trees that provide potential Swainson's hawk nesting habitat and there are records of Swainson's hawk nesting in that habitat in 2012. Swainson's hawk was not observed at the 2012 nesting site or elsewhere within or in the vicinity of the Project site during the 15 April 2024 site visit, which coincided with Swainson's hawk breeding season. The vineyard on the site provides low quality foraging habitat, however, due to the lack of trees, there is no suitable nesting habitat (Craig, et al 2008).

San Joaquin Kit Fox

San Joaquin kit fox (*Vulpes macrotis mutica*) has low potential to occur on-site for sheltering during foraging only. Suitable habitat for this species consists of arid habitat with sparse or low vegetation and gentle slopes less than 15%. Only slopes of 10% or less are suitable for natal dens. One abandoned burrow was observed on the east facing bank of the Melga Canal outside the project boundary. The burrow is approximately 10 inches by 10 inches and is within the range of kit fox burrow sizes according to the United States Fish and Wildlife Service Recovery Plan. No evidence of active use was observed during the survey. At the burrow, there was moist soil due to the position of the burrow within the ordinary high water mark of the canal, and slopes greater than 20%, which are not preferred denning conditions. Therefore, the den would not be suitable for breeding.

Burrowing Owl

Burrowing Owl (*Athene cunicularia*) has low potential to occur on-site for sheltering during foraging or migration only. One abandoned burrow was observed in the vicinity of the Melga Canal. The burrow was approximately 10 inches by 10 inches and is within the range of burrow sizes utilized by burrowing owl. Active burrows may be littered with prey remains, scat, and regurgitated pellets. No evidence of active use was observed during the survey. At the burrow, there was moist soil due to position of burrow within the ordinary high water mark of the canal. Therefore, the den would not be suitable for breeding.

Migratory Birds

Ground and shrub nesting birds could utilize the project site for nesting.

Wetlands and Aquatic Resources

Based on a desktop review and field verifications, there are no wetland indicators present within the Site.

Melga Canal is an agricultural ditch located along the eastern boundary of the proposed battery storage facility parcel. The ditch is outside of the proposed battery storage facility development footprint and separated from the planned development area by an existing dirt road. Melga Canal exhibits a predominantly unvegetated bed and bank with periodic surface flows and may qualify as a streambed pursuant to the California Fish and Game Code Section 1600. Where vegetation occurred at the margins of the ordinary high water mark during the 2023 site visit, it consisted primarily of upland species including horseweed (*Erigeron bonariensis*, FACU), Johnsongrass (*Sorghum halepense*, FACU) and stinkwort (*Dittrichia graveolens*, UPL) with a few small, intermixed patches of pepperweed. During the 2024 site visit, the fringe vegetation included seep monkeyflower (*Erythranthe guttata*, OBL), nut sedge (*Cyperus erogrostis*, FACW), and curly dock (*Rumex crispus*, FAC) with horseweed, pepperweed, ripgut brome and cudweed (*Gnaphalium luteo-album*, UPL) emerging higher on the banks. Based on the predominance of hydrophytic species observed on the margins of the inundated portion of the canal, the canal may support narrow strips of wetland. Melga Canal exhibited surface inundation during both site visits.

Based on the presence of indicators of an ordinary high water mark, Melga canal could be regulated as Waters of the U.S. and Waters of the State pursuant to Clean Water Act and Porter Cologne Act. However, the current definition of waters of the U.S. does not include ephemeral features. Therefore, in addition to determining if the canal is manually controlled as described above, the hydrologic regime of the canal and the connectivity of its surface flows with a TNW would need to be further evaluated to make a final determination regarding the canal's regulatory status as a Water of the U.S.

Settlers Ditch is an agricultural ditch that crosses under Grangeville Blvd. within the proposed gen-tie trench alignment. Settlers Ditch exhibits similar characteristics to Melga Canal and, where it exhibits surface flows and bed and bank, may also qualify as a streambed pursuant to

the California Fish and Game Code Section 1600 and Waters of the State pursuant to the Porter Cologne Act. However, Settlers Ditch is artificially irrigated and not likely to be regulated under the Clean Water Act. Surface inundation was absent during both site visits.

REGULATORY SETTING

Federal and State Jurisdictional Waters

Jurisdictional waters include rivers, creeks, and drainages that have a defined bed and bank and which, at the very least, carry ephemeral flows. Jurisdictional waters also include lakes, ponds, reservoirs, and wetlands. Such waters may be subject to the regulatory authority of the U.S. Army Corps of Engineers (USACE), the California Department of Fish and Wildlife (CDFW), and/or the California Regional Water Quality Control Board (RWQCB). The USACE regulates the filling or grading of jurisdictional waters under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by “ordinary high water marks” on opposing channel banks.

The CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. The CDFW typically only asserts jurisdiction over ponds, lakes, and natural drainages or manmade features that replace natural drainages and, therefore, is unlikely to regulate alterations to the humanmade canals within the Outlaw Battery Storage Project site.

The RWQCB has jurisdiction over “Waters of State” under the Porter-Cologne Water Quality Control Act. Under the Act’s broad definition “Waters of State” encompass any surface or groundwater within the boundaries of the State.

Designated Critical Habitat

The USFWS often designates areas of “critical habitat” when it lists species as threatened or endangered. Critical habitat is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

Natural Communities of Special Concern

Natural communities of special concern are those that are of limited distribution, have significant biological diversity, or provide important habitat for special status species.

The California Department of Fish and Wildlife is responsible for the classification and mapping of all natural communities in California. Natural communities are assigned state and global ranks according to their degree of imperilment. Examples of natural communities of special concern in the vicinity of the project site include vernal pools, such as those found east of the Kings River, and various types of riparian forest, such as those found along the remaining natural channel of the Kings River to the northeast.

Habitat Conservation Plans

There are no Habitat Conservation Plans (HCP) or Natural Community Conservation Plans (NCCP) that cover the Project area. However, the Project falls within the planning area for the USFWS Recovery Plan for Upland Species of the San Joaquin Valley (USFWS 1998). This multispecies recovery plan provides a framework for recovery efforts within the San Joaquin Valley. The recovery plan uses an ecosystem-level strategy to address recovery and conservation of 11 listed species and 23 additional special status species. The discretionary strategy includes several elements that relate to the management of public land:

- The primary focus of recovery should be on publicly owned lands;
- Conservation efforts should focus on fewer larger blocks of land rather than smaller more numerous parcels;
- Blocks of conservation lands should be connected by natural land or land with compatible uses that allow for movement between blocks;
- Emphasis should be placed on the San Joaquin kit fox as an umbrella species. Since most other species require less habitat, fulfilling the management and habitat needs of the San Joaquin kit fox will also meet the needs of many other species;
- The giant kangaroo rat and San Joaquin kangaroo rat are keystone species in their communities. Protection of these keystone species should be a high priority since they provide an important or essential function for many other listed and special status species;

- Uses and actions on public land, such as livestock grazing, oil, gas, and mineral exploration and extraction, hunting, and recreation should occur so as to minimize degradation of habitat for special status species;
- Use specialty preserves or small reserves to manage species with highly restricted geographic ranges or specialized habitat requirements or that are vulnerable to traditional land uses;
- Target existing natural lands occupied by special status species over unoccupied natural land and retired farm land for conservation;
- Coordinate carefully agricultural land retirement with endangered species recovery for species where sufficient occupied natural land does not exist, but where it is needed to increase population size or promote movement between populations;
- Enhance landscape features that allow successful survival and movement from population centers on the valley floor to the valley perimeter for species such as the kit fox that can live in or move through the farmland matrix; and
- Implementing the recovery plan should be complementary to existing and future habitat conservation plans.

The lack of suitable habitat for target species on the Project site makes it a poor option for conservation and it is not identified in the recovery plan as an area targeted for protection.

Kings County

2035 Kings County General Plan

The following General Plan policies related to biological resources are relevant to the Outlaw Energy Storage Project:

Resource Conservation Element

D. Natural Plant and Animal Habitats

RC GOAL D1	Preserve land that contains important natural plant and animal habitats.
RC OBJECTIVE D1.1	Require that development in or adjacent to important natural plan area and animal habitats minimize the disruption of such habitats.

RC Policy D1.1.1:	Evaluate all discretionary land use applications in accordance with the screening procedures contained in the Biological Resources Survey located in Appendix C. If the results of the project screening indicates the potential for important biological resources to exist on the site a biological evaluation (consistent with Appendix C) shall be performed by a qualified biologist. If the evaluation indicates that the project could have a significant adverse impact, mitigation shall be required or the project will be redesigned to avoid such impacts. Mitigation shall be provided consistent with the California Environmental Quality Act (CEQA), and applicable state and federal guidelines as appropriate. Mitigation may include habitat improvement or protection, acquisition of other habitat, or payment to an appropriate agency to purchase, improve, or protect such habitat.
RC Policy D1.1.2:	Require project applicants to consult with the California Department of Fish and Game and the United States Fish and Wildlife Service and to obtain appropriate authority for any such take pursuant to Endangered Species Act requirements if new development or other actions are likely to result in incidental take of any threatened or endangered species.
RC GOAL D2	Maintain the quality of existing natural wetland areas as required by the California Department of Fish and Game, the United States Fish and Wildlife Service and the United States Army Corp of Engineers.
RC OBJECTIVE D2.1	Maintain compatible land uses in natural wetland habitats designated by state and federal agencies.
RC Policy D2.1.1:	Follow state and federal guidelines for the protection of natural wetlands. Require developers to obtain authorization from the appropriate local, state, or federal agency prior to commencement of any wetland fill activities.

RC Policy D2.1.2: Use the California Environmental Quality Act (CEQA) process to assess wetland resources, and require mitigation measures for development which could adversely impact a designated wetland.

E. Threatened and Endangered Species

RC GOAL E1 Balance the protection of the County's diverse plant and animal communities with the County's economic needs.

RC OBJECTIVE E1.1 Require mitigation measures to protect important plant and wildlife habitats.

RC OBJECTIVE E1.1 Require mitigation measures to protect important plant and wildlife habitats.

RC Policy E1.1.1: Complete the inquiry process outlined in Appendix C in the initial project review for development permits to determine whether the project is likely to have a significant adverse impact on any threatened or endangered species habitat locations, and to assure appropriate consideration of habitat preservation by development. Maintain current copies of California Department of Fish and Game and United States Fish and Wildlife Service maps showing locations of known threatened and endangered species habitat. If shown to be necessary, require the developer to consult with the California Department of Fish and Game, the United States Fish and Wildlife Service, and the United States Army Corps of Engineers as to potential impacts, appropriate mitigation measures, and required permits.

RC Policy E1.1.2: Require as a primary objective in the review of development projects the preservation of healthy native oaks and other healthy native trees.

RC Policy E1.1.3: Maintain to the maximum extent practical the natural plant communities utilized as habitat by threatened and endangered species (see Appendix C for a listing and map of these plant communities).

ENVIRONMENTAL EVALUATION

- a. **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

Less-than-Significant Impact with Mitigation Incorporated. Potential impacts to sensitive vegetation communities and special status species are described below.

Sensitive Vegetation Communities

The proposed Project would not impact special status vegetation communities as none are present onsite.

Special-Status Species

The proposed Project would not impact special-status plant species as none have potential to occur onsite.

The site potentially provides potentially suitable, low quality foraging habitat for Swainson's hawk. The species has potential to breed nearby and forage on the site. Construction of the proposed Project is not expected to directly impact Swainson's hawk, if present, because any individuals foraging on site would be expected to move out of the way of equipment.

Construction noise and lighting could result in indirect impacts to Swainson's hawk if nesting adjacent to the proposed Project. If construction lighting illuminates a nesting site, it could increase the probability of nest predation, and noise that exceeds 60 dBA $L_{eq(hourly)}$ at the nest site could interfere with communication by masking calls made between adults and with juveniles. These potential indirect impacts could be significant. Implementation of mitigation measures BIO-1 and BIO-2 (described below) would avoid or reduce potential impacts to these species to less than significant levels.

For Swainson's hawk with a mean home range of approximately 40 km², 10 acres of potentially suitable foraging habitat would equate to approximately 0.1 percent of a pair's territory (Babcock 1995). The loss of 0.1 percent of low-quality foraging within a single territory would not be expected to significantly impact survival of the pair or its young. Therefore, these potential impacts would be less than significant.

Operation of the gen-tie line is not anticipated to impact these species because it will be placed underground. Operation of the battery storage system requires minimal staffing and does not produce emissions that could impact wildlife.

During Project operations, a potential source of noise associated with the facility could be from the battery enclosure ventilation fans and battery storage module heating, ventilation, and cooling systems. As discussed in Section 4.13, Noise, when these systems operate at full power, the ventilation fans and cooling systems cycle on and off. As with construction, increases in baseline noise levels and lighting could adversely affect Swainson's hawk if they nested adjacent to the proposed Project. BESS operational equipment would be located approximately 100 feet south of the street frontage at Grangeville Boulevard and extend southward toward the interior of the parcel.

A detailed noise analysis was prepared for the facility (Catalyst 2024). This report is provided in Appendix D and its results are detailed in Section 4.13, Noise. The noise analysis predicted the noise levels at the nearest receptors from construction, and from operation of the proposed Project onsite stationary sources (i.e., concurrent operation of battery enclosures, HVAC units, PCS units, and substation transformer). As detailed in Section 4.13, the modeled noise levels at the nearest residential receptor property line (a distance of 106 feet from the Project property line) would be less than 50 dBA L_{eq} , and would thus conform with Kings County development standards.

Based on the noise analysis, noise levels at the nearest historic nesting location are not anticipated to exceed the traditionally accepted 60 dBA threshold used for evaluating noise impacts of nesting birds, as well as more conservative estimates that suggest a threshold as low as 50 dBA may be more appropriate depending upon species and noise sources. Therefore, potential long term, indirect impacts to Swainson's hawk, if present, would be less than significant.

Migratory birds could be impacted by construction if active nests were destroyed or abandoned due to construction activities. These impacts could be significant.

Implementation of the following mitigation measures would avoid or reduce potential impacts to these species to less than significant levels:

Mitigation Measure BIO-1: Swainson's Hawk Pre-Construction Survey

Prior to construction, a qualified biologist shall conduct focused SWHA surveys, following the SWHA Survey Protocol (SWHA TAC 2000), during the appropriate survey season.

Mitigation Measure BIO-2: General Protection Measures

- a. Prior to construction, a qualified biologist shall conduct an education program for construction personnel. Topics to be discussed would include occurrence and distribution of Swainson's hawk, take avoidance measures being implemented during the Project, reporting requirements if incidental take occurs, and applicable definitions and prohibitions under the California Endangered Species Act. A fact sheet conveying this information shall be prepared for distribution to Project personnel.*
- b. Prior to construction, a qualified biologist shall conduct pre-construction surveys for nesting birds (including raptors) on and closely adjacent to the Project Site no more than 10 days prior to any ground disturbance, if ground disturbance is to occur during the breeding season (February 1 to August 31). These surveys shall be based on the accepted protocols (for example, the current Swainson's hawk protocol) for the target species.*
 - i. If an active nest is detected, a 200-foot work avoidance buffer shall be implemented for non-raptors, a 500-foot work avoidance buffer shall be implemented for raptors, other than Swainson's hawk, and a ½ mile buffer shall be implemented for Swainson's hawk.*
 - ii. Alternatively, a qualified biologist shall continuously monitor identified nests for the first 24 hours prior to any construction related activities to establish a behavioral baseline. Once work commences, the biologist shall continuously monitor all nests to detect any behavioral changes when work is initiated, when work activities increase in intensity or when work moves closer to the nest location. If behavioral changes are not observed, then a 100-foot work avoidance buffer shall be implemented for non-raptors, a 250-foot work avoidance buffer shall be implemented for raptors other than Swainson's hawk, and a ¼ mile buffer shall be implemented for Swainson's hawk. Continue monitoring nests as described above. If behavior changes are detected then implement the full 200-foot, 500-foot and ½ mile buffers described above.*

- iii. *In the event an active SWHA nest is detected, and a 1/4-mile no-disturbance buffer is not feasible, then the Project Applicant shall consult with CDFW regarding additional avoidance and minimization measures or obtaining an Incidental Take Permit (ITP), pursuant to Fish and Game Code section 2081 subdivision (b) if take is unavoidable.*
- c. *Project-related vehicles shall observe a daytime speed limit of 20 miles per hour throughout the site in all Project areas, except on county roads and State and Federal highways. Nighttime construction shall be minimized to the extent possible. However, if it does occur, then the speed limit shall be reduced to 10 miles per hour. Off-road traffic outside of designated Project areas shall be prohibited.*
- d. *To prevent inadvertent entrapment of wildlife during the construction phase of the Project, all excavated, steep-walled holes or trenches more than 2 feet deep shall be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals.*
- e. *All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the Project Site.*
- f. *No firearms shall be allowed on the Project Site, excluding law enforcement personnel.*
- g. *No pets, such as dogs or cats, shall be permitted on the Project Site.*
- h. *All spills of hazardous materials shall be cleaned up immediately.*
- i. *In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape.*
- j. *Use of rodenticides and herbicides in project areas should be restricted.*
- k. *Should any vertical tubes, such as solar mount poles, chain link fencing poles, or any other hollow tubes or poles be utilized on the Project Site, the poles shall be capped immediately after installation to prevent entrapment of birds.*
- l. *Shield and direct lighting to minimize potential impacts to suitable Swainson's hawk nesting habitat located in the immediate vicinity of the Proposed Project.*
- m. *The Fresno Field Office of CDFW shall be notified in writing within three working days in case of the accidental death of or injury to Swainson's hawk or burrowing owl during*

project-related activities. Notification must include the date, time, location of the incident or of the finding of a dead or injured animal, and any other pertinent information.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No Impact. The Project site is in active use for agricultural production. The Project site is heavily disturbed and does not contain riparian or other natural habitat areas, and the Project would not encroach upon or physically alter the nearby agricultural canals or other water features. The battery storage operational footprint would be physically separated from Melga Canal by the existing agricultural road, and any potential runoff from the facility or perimeter road would be retained within the facility boundaries with perimeter controls.

The proposed gen-tie line would cross over or under the Grangeville Road culvert below grade at Settlers Ditch. No discharge of fill or modification of bed and bank would occur to either Melga Canal or Settlers Ditch. Therefore, the Project would have no impact on riparian habitat or other sensitive natural community.

c. Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less-than-Significant Impact. No wetlands or areas supporting hydrophytic dominated plant communities and/or primarily well-draining soil types that are conducive to wetland characteristic development were identified onsite. Therefore, no impacts to wetlands would occur.

The nearest water features to the Project Site are Melga Canal, which runs north-south along the eastern boundary of the battery storage site; and Settlers Ditch, which runs north-south along North 7th Avenue within the western portion of the proposed generation-tie (gen-tie) trench alignment. These agricultural canals are hydrologically connected to properties upstream and downstream from the Site. These features are mapped in the NHD and NWI databases and are potentially jurisdictional under CFGC Section 1600 and Porter Cologne Water Quality Control Act.

Melga Canal is within the boundary of the planned battery storage facility parcel, but it is separated from the battery storage operational area by a perimeter agricultural access road.

Construction runoff would be controlled and retained onsite through the use of construction Best Management Practices (BMPs). During operations, any potential runoff from the facility or perimeter road would be retained within the facility boundaries with perimeter controls. Thus, the open sections of Melga Canal would not be directly impacted by the Project. As discussed further in Section 4.10, Hydrology and Water Quality, Mitigation Measure HYD-1 would further reduce potential impacts to this feature by requiring implementation of construction BMPs to contain runoff from construction disturbance.

Settlers Ditch spans under Grangeville Blvd. via a concrete culvert. The gen-tie would be constructed in a buried trench along the south shoulder of Grangeville Blvd. in this area. Where Settlers Ditch crosses under Grangeville Blvd., the gen-tie would either trench over the road culvert or bore under the road culvert pending detailed design. In either case, the open sections of Settlers Ditch would not be directly impacted by the project.

If modification of the open ditch is required, then a California Department of Fish and Game Streambed Alteration Agreement could be required. No State Water Resource Control Board or Regional Water Quality Control Board Clean Water Act Section 401 Certification or State Waste Discharge Requirement or U.S. Army Corps of Engineers Clean Water Act Section 404 Permit would be required because the ditch is artificially irrigated.

As the Project site does not contain jurisdictional wetlands or other waters, the proposed Project would not result in the filling, removal, or hydrologic interruption of any jurisdictional wetlands or waters, and the Project would not require federal or state permits related to work in jurisdictional waters or streambeds.

Therefore, the Project would not directly impact jurisdictional wetlands or other waters. With the implementation of standard construction and design measures, any potential indirect impacts to jurisdictional waters would be less than significant.

As discussed further in Section 4.10, Hydrology and Water Quality, Mitigation Measure HYD-1 would require implementation of construction BMPs to contain runoff from construction disturbance. Once the trench is completed, the area will be repaved and there would be no potential for runoff or discharge into the ditch.

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less-than-Significant Impact. The proposed Project is not located within a documented

wildlife movement corridor. The nearest identified wildlife corridor is associated with St. John's River and Cross Creek approximately 2 miles east of the proposed Project.

The Project site is heavily disturbed from ongoing agricultural activities, does not support native vegetation communities, and does not contain features that would be conducive to use as a wildlife movement corridor or travel route, such as sources of water or shelter. However, it is likely that some species use the canal channels and ditches on and adjacent to the Project site as movement corridors, including San Joaquin kit fox. The Project site likely has some small value for the regional movements of some wildlife species; however, the canal system has greater value when placed in a regional context. Battery storage development would not affect existing canals and ditches. These agricultural ditches would continue to be operated and managed as they are under current conditions. It is expected that wildlife that currently uses the canals for movement would continue to use the canal system to move through the area after the Project is constructed. These features would not be affected by Project construction or operations. Therefore, potential impacts related to wildlife movement, habitat connectivity, or wildlife nursery sites would be less than significant.

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The Resource Conservation Element of the *2035 Kings County General Plan* contains several goals and policies pertaining to biological resources. The resource conservation goals of the Kings County General Plan relating to biological resources are summarized as follows: 1) protect the Kings River and associated riparian habitat; 2) preserve land that contains important natural plant and animal habitats; 3) maintain the quality of natural wetland areas; and 4) protect and manage riparian environments as valuable resources. The corresponding policies require biological assessments of proposed development projects, including coordination with the resource agencies and compliance with their permitting requirements, and mitigation for potential impacts to biological resources (Kings County 2010b). The Outlaw Battery Storage Project would assure consistency with the General Plan goals and policies on biological resource protection through completion of this environmental review pursuant to CEQA, including project incorporation of mitigations recommended by qualified biologists and the resource agencies.

The Project site does not have trees, and no tree removal is proposed; therefore, tree preservation policies or ordinances are not applicable.

Thus, the Outlaw Battery Storage Project would be consistent with the relevant General Plan goals and policies and would have no impact in terms of conflicts with those policies.

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Less-than-Significant Impact. The Outlaw Battery Storage Project site is not covered by an existing Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP), or other conservation plan adopted at the local, regional, state, or federal level. However, the USFWS has adopted the Recovery Plan for Upland Species of the San Joaquin Valley which covers 34 species of plants and animals that occur in the San Joaquin Valley. The majority of these species occur in arid grasslands and scrublands of the San Joaquin Valley and the adjacent foothills and valleys. The plan includes information on recovery criteria, habitat protection, umbrella and keystone species, monitoring and research program, adaptive management, and economic and social considerations. The only species addressed in the recovery plan that potentially occurs in the project vicinity is the San Joaquin kit fox, although no sightings of this species have been recorded in the immediate vicinity of the Outlaw Battery Storage Project site, as discussed above. The Recovery Plan does not identify the project area or any other lands in the vicinity as areas that should be protected as Specialty Reserve Areas, Wildlife-Compatible Farmland to be Maintained, or Areas Where Connectivity and Linkages Should be Promoted (USFWS 1998). Because the San Joaquin kit fox has a small potential to occur on the site, the mitigation measures identified above in Mitigation Measure BIO-2 would mitigate any potential project impacts to kit fox. Therefore, potential impacts related to implementation of the Recovery Plan for Upland Species of the San Joaquin Valley would be less than significant.

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4.5. CULTURAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?		X		
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		X		
c. Disturb any human remains, including those interred outside of dedicated cemeteries?		X		

CULTURAL SETTING

The Project Area falls within the California Central Valley Level III ecoregion. This region is flat, and consists of intensively farmed plains with long, hot, dry summers and mild winters, which distinguish it from neighboring ecoregions that are either hilly or mountainous, covered with forest or shrub, and generally non-agricultural. The California Central Valley Level III ecoregion includes the flat valley basins of deep sediments adjacent to the Sacramento and San Joaquin Rivers, as well as the fans and terraces around the edge of the valley (Griffith et al. 2016). Specifically, the Project is within the Granitic Alluvial Fans and Terraces ecoregion in the Level IV Ecoregion. This ecoregion consists of nearly level to very gently sloping alluvial fans and basins. Elevations range from 100 to 500 feet. Natural vegetation included grasslands and valley oak on the fans, cottonwood and willow along streams, and emergent wetland species in basins. Almost the entire region is now cropland, hay and pastureland, and some urban and suburban uses (Griffith et al. 2016).

The elevation of the Project Area is approximately 250 feet above mean sea level. The climate ranges from 38 to 64 degrees Fahrenheit in the winter, to 88 to 104 degrees Fahrenheit in the summer. The City of Hanford receives an average of 8 inches of rain per year (Western Regional Climate Center 2016).

Biology

During the Early Holocene, San Joaquin Valley vegetation consisted of pine, oak, sagebrush, and greasewood in the uplands and greasewood on salt flats near the lakes (West et al. 2007). Approximately 7000 years before present (BP), the greasewood died out and a more drought-

tolerant shrub community spread throughout the valley. Tule marshes resulted from lowering water levels. This drier period lasted until about 4000 BP. Wetter conditions prevailed for the next 2,000 years. By approximately 1000 BP, the climate warmed and became more arid (West et al. 2007). Early Europeans described large tule swamps and prairies throughout much of the Central Valley (Moratto 1984). Vegetation would have also included swamp-growing coarse grasses, tules, and cattails, which were useful to early valley residents. These items could provide food, house materials, and fiber. Outside of the waterways, valley vegetation was largely a Lower Sonoran grassland. Game in this grassland included tule elk, antelope, and deer (Moratto 1984).

Prior to the early 1800s, riparian forest grew along San Joaquin Valley watercourses. Riparian vegetation along rivers in the San Joaquin Valley was not as diverse or as large as that along the Sacramento River and its tributaries (West et al. 2007). Trees found along waterways included sycamore, cottonwood, box elder, and Oregon ash trees. Wild grapes, California blackberries, and blue elderberries also grew within the riparian corridor (Moratto 1984). Much of the water in the San Joaquin Valley is a result of Sierra snowmelt; and prior to the modern era, much of the valley contained several shallow lakes and wetlands. The largest lake was Tulare Lake, located in the southern San Joaquin Valley (West et al. 2007).

Most of the riparian forests in the San Joaquin Valley are now gone or much reduced, as a result of the rapid development of agriculture throughout the valley (Warner and Hendrix 1984). The tule marshes and floodplains were reclaimed for agriculture; and levees, which also impacted the forests, were built to prevent flooding (Warner and Hendrix 1984).

Geography and Soils

San Joaquin County is within the Great Valley Geomorphic Province, an asymmetrical synclinal trough, approximately 50 miles wide and 400 miles long. The region is an unusual lowland in that sediments within the basin are relatively under formed, while the surrounding rock units are highly deformed. Little geologic variation exists within the Great Valley, with surficial deposits consisting primarily of unconsolidated Quaternary sediments. The Great Valley is flanked on the east by the west-sloping Sierran bedrock surface, which continues westward beneath alluvium and older sediments. The Western border is underlain by east-dipping Cretaceous and Cenozoic strata that form a deeply buried synclinal trough. The San Joaquin Valley comprises the southern portion of the Great Valley, while the Sacramento Valley is present in the northern

portion. Oil fields follow anticlinal uplifts that mark the southwestern border of the San Joaquin Valley and its southernmost basin (Bartow1991).

According to the U.S. Department of Agriculture Web Soil Survey, the Project Area is comprised of Kimberlina Fine Sandy loam (130), with 0 to 2 percent slopes. The Kimberlina series consists of moderately deep, well-drained soils that formed in alluvium derived from igneous and sedimentary rock (U.S. Department of Agriculture-Natural Resources Conservation Service 2023).

Current Land Use

The Project Area is a portion of an active vineyard that is adjacent to other agricultural fields and rural residential structures that fall outside of the Project Area. Landcover types that were identified during the site visit included grapevines and annual grasses.

Precontact Setting

The general trend throughout California prehistory has been an increase in population density over time, coupled with greater sedentism and the use of a greater diversity of food resources. There is abundant evidence that humans were present in the Americas for at least the past 11,500 years. There is also fragmentary, but growing, evidence that humans were present long before that date. Linguistic and genetic studies suggest that human colonization of the Americas might have been possible 20,000 to 40,000 years ago. The evidence of this earlier occupation is not yet conclusive, but it is beginning to be accepted by archaeologists. The Meadowcroft Rockshelter in Pennsylvania, and Monte Verde in Chile, for instance, are two early sites that have produced apparently reliable dates as early as 12,500 years BP. These earliest known remains indicate very small, mobile populations, apparently dependent on hunting large game animals as the primary subsistence strategy.

In attempts to develop a chronology for the San Joaquin Valley, archaeologists have been confronted with numerous challenges for the past 100 years. Archaeologists have faced difficulties in documenting and analyzing the cultural resource records due to the level of destruction of surface cultural resource sites as a result of agricultural practices, levee building, erosion, and extensive looting. In the early 1970s, Frederickson (1973) proposed three basic periods for the Central and San Joaquin Valley: Paleo-Indian, Archaic, and Emergent. Rosenthal et al. (2007) further refined these time periods based on newly calibrated radiocarbon (cal) dates.

Paleoindian (11,550–8550 cal B.C.)

The Paleoindian period has a relatively faint cultural resource footprint in California. The earliest sites in the San Joaquin Valley are Fluted Point Tradition and Western Pluvial Lakes Tradition sites found at Tracy, Tulare, and Buena Vista Lakes. These sites are few in number and remain undated by scientific means, but the assemblage types indicate probable ages of 11,500 to 7,500 years old (Moratto 1984). Human bone tested from the Witt site at Tulare Lake yielded dates of 11,379 to 15,802 cal BP (Rosenthal et al. 2007). No sites of this antiquity are known to exist within the Project Area.

Lower Archaic (8550–5550 cal B.C.)

Similar to the Paleoindian era, the Lower Archaic occupation sites are represented by isolated finds such as stemmed points, crescents, and early concave base projectile points. Many of these isolates occur along the shores of Tulare Lake. Located on the southwestern shore of Buena Vista Lake, Site CA-KER-116 and Witt Site (CA-KIN-32) are two of the best known sites in the southern San Joaquin Valley. The sites had deep buried components that contained crescents and a Western Stemmed Series points dating back 9175 to 8450 BP (Fredrickson 1973; Hartzell 1992). These points along with faunal remains show that hunting ungulates such as deer, elk, and pronghorn was a major subsistence focus of the Lower Archaic. Milling Features are rare, so little is known about plant usage. Evidence of regional interaction can be seen through the presence of marine shell beads and obsidian from the eastern Sierra Nevada Mountains.

Middle Archaic (5550–550 cal B.C.)

The beginning of the Middle Archaic saw a substantial shift in climate with the advent of warmer and drier conditions. Tulare Lake diminished in area and this period of desiccation saw many other Central Valley lakes dramatically reduce in size and ultimately vanish. More distinct cultural adaptations for the valley floor and foothills are visible in sites that date to the Middle Archaic. Artifact assemblages for the foothill tradition are composed of flaked stone dart points and cobble tools similar to those of the Lower Archaic. Tabular pendants, incised slate, and perforated stone plummets are rather rare, but nevertheless, have wide distribution. Middle Archaic foothill sites are also characterized by rock-filled hearths and ovens, and “cairn capped” graves (Rosenthal et al. 2007:153).

Sites of the valley tradition in the later Middle Archaic are well represented in the archaeological record. The “archetypal Middle Archaic Expression” (Rosenthal et al. 2007: 154) is the

Windmill Pattern, but the genesis, spatial distribution, and variation across the regional landscape is not clearly defined at this time. Situated in riverine, marshland, or valley floor settings, as well as on small knolls above prehistoric seasonal floodplains, this adaptation suggests permanent, year-round habitations and was accompanied by a complex, sophisticated material culture. Windmill Pattern sites contain ventrally extended burials that are oriented to the west. These sites contain large amounts of mortuary artifacts with indications of social hierarchy and often include large projectile points and a variety of fishing gear such as net weights, bone hooks, and spear points. In addition, evidence of trade and interaction is inferred from the presence of non-local utilitarian and ceremonial items. Faunal remains imply a hunting economy that included both large and small mammals.

The beginnings of other technologies such as cordage, twined basketry, basketry awls, simple pottery and other baked clay objects, stone plummets, bird bone tubes, and shell beads appear in the Middle Archaic. The presence of exotic items, such as obsidian and shell ornaments, suggests an active exchange system.

Upper Archaic (550 cal B.C.–cal A.D. 1100)

The Upper Archaic is characterized by onset late Holocene. the environment of the San Joaquin Valley became cooler, wetter, and more stable. The amount of differing artifact styles, which included Rose Spring Projectile Points, saddle and saucer Olivella beads, stone beads and cylinders, and ceremonial blades, suggests a wide range of cultural diversity at this time. Evidence from residential sites such as CA-KER-116 display a diverse array of architectural features including house floors and significant deposits of refuse materials representing both land and water associated subsistence activities. Milling features are present at time and indicate the exploitation of resources like seeds and nuts.

Emergent Period (cal A.D. 1100–Historic)

The archaeological record for this period is the most complete and diverse. Intensification of plant procurement and a decrease in hunting marks this most recent cultural period. The bow and arrow are introduced and replaces the former dart and atlatl. Cottonwood style arrow points, similar to those found to the east in the Great Basin, are recognized by about 700 years ago (ca. A.D. 1300) and cultural traditions ancestral to those recorded ethnographically are readily identifiable.

Stone beads and cylinders, clamshell disks, tubular smoking pipes, arrow-shaft straighteners, flat-bottomed mortars, cylindrical pestles, and small side-notched arrow points mark the cultural

inventory of typical archaeological sites from this era. Burial posture is tightly flexed on the side or supine with a moderate amount of associated mortuary related offerings. Protohistoric and historic era sites contain Euro–American trade items, such as glass beads, brass buttons, and other introduced non-native artifacts. Specialized sites of local shell bead manufacturing are now recognized in the Southern San Joaquin Valley Region as indicated by the presence of bead blanks and manufacturing debris (Hartzell 1992).

Ethnographic Setting

The proposed Project Area is within the traditional areas of the South Valley Yokuts. The Southern Valley Yokuts are members of the Penutian language group. The Southern Valley Yokuts inhabited from the Lower Kings River to Tehachapi Mountains. Specifically, the City of Hanford was once occupied by the Tachi Yokuts. The Tachi lived in large permanent villages along water sources such as creeks, springs, and sloughs, as well as flat ridges and terraces. These permanent villages were made up of two types of structures:

- Simple single-family dwellings with oval floor plans constructed of large tule mats over a wooden frame.
- Multifamily dwellings, these structures had large, slanted roofs and were sectioned off for individual families.

Many Tachi occupation, hunting, and gathering sites have been found along the shore of Tulare Lake (Heizer 1978). The Tachi relied heavily on Tulare Lake for their subsistence. They followed a mixed subsistence strategy, which emphasized fishing, hunting waterfowl, along with collecting shellfish, roots, and seeds. The Tachi, like a majority of the Southern Valley Yokuts, relied heavily on tule for many of their everyday tools including baskets, canoes, trays, and cooking bowls. The Southern Valley Yokuts encountered the Spanish in 1772, however, very few succumbed to missionization (Heizer 1978). However, following the U.S. annexation of California, the Southern Valley Yokut tribes were the target of state-sponsored extermination in 1852. They were removed from their lands and moved to the Tule River Reservation, which was officially established in 1873. Some members of the Tachi settled near Lemoore on the northern banks of Lake Tulare. This area would officially become the Santa Rosa Reservation in 1934 (Tachi Yokut Tribe 2023).

Historic Setting

In 1542, Juan Rodriguez Cabrillo explored the California coast by ship. Much of the early exploration of California was conducted this way, and the interior of California, including the

Sacramento Valley, remained unexplored by Europeans until the beginning of the Spanish Period. In California, the historic era is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

Spanish/Mission Period

The Spanish/Mission period in California began with the establishment of Spanish Colonial military outposts, the first of which was Mission San Diego de Alcalá, built in 1769. It was not until March 1772 that the first formal European expedition, led by Pedro Fages, entered the Central Valley. Fages went in search of the first Europeans to actually enter the Central Valley, Spanish deserters. The other purpose of the Fages expedition was to find an overland route to Point Reyes, and the company kept to the shoreline until they reached the mouth of the San Joaquin River and first observed the valley (Smith 2004). Shortly after the Fages expedition returned to Monterey, Father Francisco Garcés entered the Central Valley and made the first scientific observations of the valley, which included native villages, wide rivers, large tule swamps, and huge herds of tule elk.

Rancho Period

In 1821, Mexico gained independence from Spain; and in 1848, the U.S. formally obtained California in the Treaty of Guadalupe Hidalgo (Cleland 1964). The period from 1821 to 1848 is referred to as the Mexican Rancho Period. The Decree of Secularization, passed in 1834, ended the Mission Period in California. The following years were marked by the proliferation of cattle ranching throughout the region, as the Mexican Governor granted vast tracts of land to Mexican (and some American) settlers. The mission lands were then opened for grants by the Mexican government to citizens who would colonize the area and develop the land, generally for grazing cattle and sheep (Lech 2004).

American Period

Following the signing of the Treaty of Guadalupe Hidalgo in 1848, the U.S. took possession of California. The treaty bound the U.S. to honor the legitimate land claims of Mexican citizens residing in captured territories. The Land Act of 1851 established a Board of Land Commissioners to review these records, adjudicate claims, and charged the Surveyor General with surveying confirmed land grants. To investigate and confirm titles of California, American officials acquired the provincial records of the Spanish and Mexican governments that were located in Monterey. Those records, most of which were transferred to the U.S. Surveyor

General's Office in San Francisco, included land deeds and sketch maps (Gutierrez and Orsi 1998).

From 1852 to 1856, a Board of Land Commissioners determined the validity of grant claims. Often, the Commissioners rejected submitted land claims and the land became public domain and fair game for squatters. Ranch titles represented little as collateral. Although the claims of some owners were eventually substantiated, many of the owners lost their land through bankruptcy or the inability to meet the exorbitant interest on their legal debts. Many of the original rancho owners eventually lost their land to the U.S. Unsurveyed land boundaries created a loophole through which squatters could occupy plots on the fringes of land grants and eventually come to own those plots through squatters' rights (Gutierrez and Orsi 1998).

The cattle industry in California reached its greatest prosperity during the first years of the American Period. Mexican Period land grants had created large, pastoral estates in California, and a high demand for beef during the Gold Rush led to a cattle boom that lasted from 1849 to 1855. In 1855, however, the demand for California beef began to decline as a result of sheep imports from New Mexico, cattle imports from the Mississippi and Missouri valleys, and the development of stock breeding farms. When the beef market collapsed, the California ranchers were unprepared. Many had borrowed heavily during the boom, mortgaging their land at interest rates as high as 10 percent per month. The collapse of the cattle market meant that many of these ranchos were lost through foreclosure, and others were sold to pay debts and taxes (Cleland 1964).

During the American Period, in addition to cattle and sheep ranches, a growing number of farms appeared. A rural community cultural pattern existed in the study area from approximately 1870 to 1930. This pattern consisted of communities made up of population aggregates that lived within well-defined geographic boundaries, shared common bonds, and cooperated to solve shared problems. They lived on farmsteads, tied together by a common school district, church, post office, and country store, and frequently, irrigation districts.

The City of Hanford

The City of Hanford is located west of the Project Area. The city was named for railroad executive James Madison Hanford, and was founded in 1877, after the Southern Pacific Railroad was built through a sheep camp from which a town soon sprang up (Brown and Richmond 1940). The introduction of the railroad in this area allowed for the expansion of

agriculture and animal husbandry. Hanford is an important commercial and cultural center in the region and serves as the county seat.

Survey Methodology and Results

Literature Search

A literature search was performed by ERM cultural resource specialists for the Outlaw Battery Storage Project site at the California Historical Resources Information System (CHRIS) Southern San Joaquin Valley Information Center at the California State University in Bakersfield on 6 June 2023. A 0.5-mile buffer zone around the Project Area was included in this search. The literature and records review included a review of all recorded archaeological sites as well as all known cultural resource surveys and excavation reports. The National Register of Historic Places, the California Register, California Historical Landmarks, California Points of Historical Interest, and the Directory of Properties in the Historic Property Data File for Kings County, as well as historic topographic and aerial maps, were all examined. State and local listings were consulted for the presence of historic buildings, structures, landmarks, points of historical interest, and other cultural resources. A review of the State Historic Preservation Office's (SHPO) Build Environment Resource Directory (BERD) was conducted to determine the eligibility status of the resources present within the Project Area.

Historic Map Review

ERM reviewed historic maps General Land Office (GLO) records held online by the Bureau of Land Management (BLM) and United States Geologic Survey (USGS) historic topographic maps. The following maps were reviewed:

- 1855 GLO Plat Map
- 1927 Remnoy California USGS 15-Minute Quadrangle.
- 1954 Remnoy California USGS 15-Minute Quadrangle

Field Methods

Fieldwork methodology is based on survey requirements and the nature of expected resources and archaeological characteristics. The survey scope required ERM to identify all resources greater than 50 years in age within the 10-acre Project Area, even if very small (i.e., fewer than five artifacts or features) are present. Modern land surface conditions, the landform context,

existing geomorphic data, and the potential for buried sites within all proposed disturbance areas were considered.

An intensive systematic pedestrian surface survey of the Project Area was performed by ERM on 22 June 2023. The topography of the Project Area is relatively level and systematic survey methods using parallel transects spaced at 15-meter intervals were used. Subsurface exposures, including rodent burrows and canal or ditch cut banks, were closely examined. A smartphone was used to navigate via Google Earth and to capture photographs. Table CR-1 lists the previous cultural resources studies within 0.5 miles of the Project site. Table CR-2 lists the previously recorded resources within 0.5 miles of the Project site.

Table CR-2: Previous Cultural Resource Studies within 0.5-Mile of the Project Area

Report Number	Title	Year	Author
KI-00028	Cultural Resources Inventory Report for the Proposed Mojave Northward Expansion Project	1995	Hatoff, Brian; Voss, Barb; Waechter, Sharon; Benté, Vance; and Wee, Stephen
KI-00109	Historic Property Survey Report: Cross Valley Rail Corridor Project Between the Cities of Visalia and Huron Tulare, Kings, and Fresno Counties, California	2002	Love, Bruce and Tang, Bai "Tom"
KI-00110	Archaeological Survey Report: Cross Valley Rail Corridor Project Between the Cities of Visalia and Huron Tulare, Kings, and Fresno Counties, California	2002	Love, Bruce and Tang, Bai "Tom"
KI-00111	Historic Study Report/Historical Resources Evaluation Report: Cross Valley Rail Corridor Project Between the Cities of Visalia and Huron Tulare, Kings, and Fresno Counties, California	2002	Love, Bruce and Tang, Bai "Tom"
KI-00179	Cultural Resource Assessment for the Proposed Southern California Edison Company Mascot Substation Project near the City of Hanford Kings County, California	2009	Parr, Robert E.
KI-00315	Fresno to Bakersfield Project Section-Final Historic Architectural Survey Report Addendum No. 5 (Primary Re-Exam Area)	2016	California High-Speed Rail Authority and the Federal Railroad Administration

Table CR-3: Previously Recorded Resources within 0.5-Mile of the Project Area

Site Number	Site Description	CRHP/NRHP Eligibility	Date
P-16-000122	Historic Structure, Site San Joaquin Valley Railroad, Southern Pacific Railroad	6Y Not Eligible	2001
P-16-000250	Historic Structure, Settlers Ditch	6Y Not Eligible	2003
P-16-000251	Historic Structure, Melga Canal	6Y Not Eligible	1998

Literature Review Results

The records search revealed that six cultural resource investigations have been conducted within the 0.5-mile study area; however, none of the previous investigations covered the Project

Area. The studies revealed the presence of historic linear features, and sites associated with railroad activities in the vicinity of the Project Area.

The records search determined that three previously recorded historic-period cultural resources are within 0.5-mile of the Project Area (Table CR-2). No prehistoric cultural resources have been previously identified. Two of the historic-period resources are agricultural irrigation canals that are still in use. The remaining resource is associated with the Southern Pacific Railroad and includes sections of industrial lead and secondary tracks. All three of the resources (P-16-000250, P-16-000251, and P16-000122) have been evaluated and deemed not eligible for the NRHP or CRHR (Parr 2009). A Review of the SHPO determined that P-16-000250 has been deemed not eligible for NRHP designation as of 2003.

Historic Map Review Results

The earliest map found of the Project Area was the 1855 GLO survey map; no features are shown within the vicinity of the Project Area (BLM 1855). Historic Remnoy 7.5-minute quadrangles (USGS 1927, 1954) show the alignment of P-16-000250 (Settlers Ditch) along the gen-tie route, along with P-16-000251 (Melga Canal) adjacent to the eastern boundary of the Project Area. Additionally, the United States Geological Survey maps depict several structures adjacent to the northern portion of the Project Area and along the gen-tie route. A review of the Kings County Historical Sites Map in the 2035 Kings County General Plan indicates that no historical sites are documented within the Outlaw Battery Energy Storage Site or its immediate vicinity (Kings County Community Development Agency, 2010).

Survey Results

ERM completed a systematic pedestrian cultural resource survey of the Project Area for the proposed 10-acre BESS site and associated 1.0-mile gen-tie route on 22 June 2023. The Project Area is an active agriculture field with modern lattices built for the cultivation of grapes with no other structures present (see Appendix C, Figures 5 through 14). A historic-period irrigation canal (P-16-000251) runs north-south along the eastern portion of the Project Area and will not be impacted by the proposed project. Vegetation within the Project Area consisted of wine grapes and invasive grasses. Site soil consisted of loose silty loam due to the soil being recently tilled. All portions of the Project Area were accessible at the time the survey was conducted and there is a well-maintained dirt access road along the eastern boundary of the Project Area. The grapevine rows of the proposed Project Area have in-use modern irrigation

systems that are comprised of plastic tubes with small permeations to slowly irrigate the rows. Ground visibility within the Project Area and gen-tie route was nearly 100 percent.

The survey within the Project Area involved walking north-south oriented transects spaced no more than 15 meters apart. The systematic pedestrian cultural resource survey of the 1.0-mile-long gen-tie route involved walking east to west along the length of the gen-tie route. Soils along the gen-tie route consisted of silty loam mixed with fill from the construction of the road. The Project Area was relatively clean with very little trash or debris located within the 10-acre BESS site. One previously recorded resource—Settlers Ditch (P-16-000250), a 30-foot-wide historic era irrigation ditch—runs north-south through the eastern portion of the project site parcel and crosses under Grangeville Blvd. via a modern concrete culvert. The southern end of the culvert has a modern water control gate and is marked with the date 12 December 1981. The northern end of the culvert had no visible water control gate and was filled with standing water, trash, and vegetation debris. The banks and bottom of the ditch appear to be lined with rock that is covered with a dense layer of silt and annual grasses. Ground visibility within the Project Area and gen-tie route was nearly 100 percent. No newly identified cultural resources were encountered within the Project Area.

REGULATORY SETTING

State of California

A historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historic Resources (CRHR). Historical resources as defined in subdivision (k) of Section 4020.1, and included as such in a local register, or deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1, are presumed to be historically or culturally significant for purposes of this section, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant. 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, or not deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1, shall not preclude a lead agency from determining whether the resource may be a historical resource.

Pursuant to Section 15064.5 (Determining the Significance of Impacts to Archaeological and Historical Resources of the State California Environmental Quality Act), a resource shall be considered to be historically significant if it meets the criteria for listing on the CRHR (PRC Section 5024.1, Title 14 California Code of Regulations (CCR), Section 4852), including the following:

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States (U.S.) (Criterion 1).
- It is associated with the lives of persons important to local, California, or national history (Criterion 2).
- It 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 (Criterion 3).
- It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation (Criterion 4).

In addition to the above criteria, a resource must retain integrity to be considered historically significant. Integrity is the authenticity of the physical identity that is evidenced by the survival of characteristics that existed during the resource's period of significance. Historical resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Rehabilitation or restoration does not necessarily discount a resource from eligibility. Integrity must also be evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR, if it maintains the potential to yield significant scientific or historical information or specific data.

An adverse effect on a cultural resource is defined as follows:

- Substantial adverse change in the significance of a historical resource by physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings.
- Demolishes or materially alters those physical characteristics of a historical resource that convey its significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR, or inclusion in a local register.

Section 7052 of the State Health and Safety Code establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives. Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historical or archaeological interest located on public or private lands, but specifically excludes the

landowner. Section 5097.5 of the PRC defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands.

California Register of Historical Places

As provided in PRC Section 5020.4, the California Legislature established the CRHR in 1992. The CRHR is used as a guide by state and local agencies, private groups, and citizens to identify the state historical resources and to include which properties are to be protected, to the extent prudent and feasible, from substantial adverse change. The CRHR, as instituted by the PRC, automatically includes all California properties already listed in the National Register of Historic Places (NRHP). It also includes those formally determined to be eligible for listing in the NRHP (Categories 1 and 2 in the State Inventory of Historical Resources), as well as specific listings of the State Historical Landmarks and in the State Inventory of Historical Resources, as well as specific listings of State Historical Landmarks and State Points of Historical Interest. The CRHR may also include other types of historical resources that meet the criteria for eligibility, including the following:

- Individual historic resources
- Resources that contribute to a historic district
- Resources identified as significant in historic resource surveys

Resources with a significance rating of Categories 3 through 5 in the State Inventory (Categories 3 and 4 refer to potential eligibility for the NRHP; Category 5 indicates a property with local significance). The CRHR follows the NRHP in using the 50-year threshold. A resource is usually considered for its historical significance after it reaches the age of 50 years. This threshold is not absolute but was selected as a reasonable span of time after which a professional evaluation of historical value and importance can be made. The cultural investigation of the Project Area was conducted pursuant to CEQA, PRC Chapter 2.6, Sections 21083.2 and 21084.1; and the Title 14 CCR, Chapter 3, Article 5, Section 15064.5.

Kings County

2035 Kings County General Plan

The 2035 Kings County General Plan contains the following goals, objectives, and policies related to cultural resources that are relevant to the Outlaw Battery Storage Project:

Resource Conservation Element

Archaeological, Cultural, and Historical Resources

RC GOAL I1	Preserve significant historical and archaeological sites and structures that represent the ethnic, cultural, and economic groups that have lived and worked in Kings County.
RC OBJECTIVE I1.1	Promote the rehabilitation or adaptation to new uses of historic sites and structures.
RC Policy I1.1.3	Encourage the protection of cultural and archaeological sites with potential for placement on the National Register of Historic Places and/or inclusion in the California Inventory of Historic Resources.
RC Policy I1.1.4	Refer applications that involve the removal, destruction, or alteration of proposed or designated historic sites or County landmarks to the Kings County Museum Advisory Committee or its successor for recommended mitigation measures.
RC OBJECTIVE I1.2	Identify potential archaeological and historical resources and, where appropriate, protect such resources.
RC Policy I1.2.1	Participate in and support efforts to identify significant cultural and archaeological resources and protect those resources in accordance to Public Resources Code 5097.9 and 5097.993.
RC Policy I1.2.2	Continue to solicit input from local Native American communities in cases where development may result in disturbance to sites containing evidence of Native American Activity and/or to sites of cultural importance.
RC Policy I1.1.5	The County will respectfully comply with Government Code §6254.(r) and 6254.10 by protecting confidential information concerning Native American cultural resources. For example, adopting internal procedures such as keeping confidential archaeological reports away from public view or discussion in public meetings.

RC Policy I1.1.6

The County shall work in good faith with the Santa Rosa Rancheria Tachi Yokut Tribe ("Tribe"), the developer and other parties if the Tribe requests return of certain Native American artifacts from private development projects (e.g., for interpretive or educational value). The developer is expected to act in good faith when considering the Tribe's request for artifacts. Artifacts not desired by the Tribe shall be placed in a qualified repository as established by the California State Historical Resources Commission (see Guidelines for the Curation of Archaeological Collections, May 1993). If no facility is available, then all artifacts shall be donated to the Tribe.

No historical sites are noted within the Outlaw Battery Storage Project site or its immediate vicinity (see 2035 General Plan Resource Conservation Element – Figure RC-24 - Kings County Historical Sites).

ENVIRONMENTAL EVALUATION

- a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?**
- b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?**

Less-than-Significant Impact with Mitigation Incorporated. One cultural resource—Settlers Ditch (P-16-000250)—is within the proposed Project Area and associated gen-tie route. Settlers ditch is not eligible for the NRHP and not deemed a historic resource. The proposed work activities would not have any effect on any previously recorded resources within the Project Area. Therefore, no further cultural resource investigations are recommended.

The Outlaw Battery Storage site includes no historic properties determined to be eligible or potentially eligible for inclusion on the NRHP or the CRHR. However, there is a low-to-moderate potential for the discovery of significant subsurface materials from the historic era within the Project site, and it is possible that isolated historical materials may be encountered during subsurface excavation.

Construction activity could result in the inadvertent exposure of historical resources that could be eligible for inclusion on the CRHR. Potential Project impacts to historic resources would be

reduced to a less-than-significant level through the implementation of the following mitigation measures.

Mitigation Measure CR-1: Curation Agreement. Prior to the issuance of the building permits, a Curation Agreement, as approved by the Santa Rosa Rancheria Tachi Yokut Tribe, shall be in place and provided to the Kings County Community Development Agency.

Mitigation Measure CR-2: Protection of Cultural Resources. In order to avoid the potential for impacts to historic and prehistoric archaeological resources, the following measures shall be implemented, as necessary, during construction of the Outlaw Battery Storage Project:

Cultural Resources Alert on Project Plans. Project plans shall include a note indicating that there is a potential for exposing buried cultural resources during ground disturbing activities.

Pre-Construction Briefing. The Santa Rosa Rancheria Cultural Staff shall be retained to provide pre-construction Cultural Sensitivity Training to construction staff regarding the discovery of cultural resources and the potential for discovery during ground disturbing activities. Training shall include information on potential cultural material finds and the procedures to be enacted if resources are found.

Stop Work Near any Discovered Cultural Resources. A professional archaeologist shall be retained on an “on-call” basis during ground disturbing construction for the project to review, identify and evaluate cultural resources that may be inadvertently exposed during construction. Contact information for the on-call archaeologist shall be provided to the Community Development Agency prior to the issuance of building permits. If previously unidentified cultural resources are discovered during construction of the project, the project proponent shall cease work within 100 feet of the resources, and Kings County Community Development Agency (CDA) shall be notified immediately. The archaeologist shall review and evaluate any discoveries to determine if they are historical resource(s) and/or unique archaeological resources under CEQA.

Mitigation for Discovered Cultural Resources. If the professional archaeologist determines that any cultural resources exposed during construction constitute a historical resource and/or unique archaeological resource, he/she shall notify the project proponent and other appropriate parties of the evaluation and recommended mitigation measures to mitigate the impact to a less-than-significant level. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing and data recovery, among other options. Treatment of any significant cultural resources shall be undertaken

with the approval of the Kings County CDA. The archaeologist shall document the resources using DPR 523 forms and file said forms with the California Historical Resources Information System, Southern San Joaquin Valley Information Center. The resources shall be photo-documented and collected by the archaeologist for submittal to the Santa Rosa Rancheria's Cultural and Historical Preservation Department. The archaeologist shall be required to submit to the County for review and approval a report of the findings and method of curation or protection of the resources. Further grading or site work within the area of discovery shall not be allowed until the preceding steps have been taken.

Native American Monitoring. Prior to any ground disturbance, the project proponent shall offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground disturbing activities during both construction and decommissioning. Tribal participation would be dependent upon the availability and interest of the Tribe.

Disposition of Cultural Resources. Upon coordination with the Kings CDA, any prehistoric archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.

c. Disturb any human remains, including those interred outside of dedicated cemeteries?

Less-than-Significant Impact with Mitigation Incorporated. Subsurface excavation for the Outlaw Battery Storage Project could potentially result in the disturbance of buried human remains. This potential impact would be reduced to less-than-significant levels through implementation of the following recommended measure.

Mitigation CR-3: Burial Treatment Plan: *Prior to the issuance of building permits, the project proponent and the Santa Rosa Rancheria Tachi Yokut Tribe, with the assistance of the archaeologist, shall make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Section 15064.5(d)). The agreed upon Burial Treatment Plan shall address the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. The agreed-upon Burial Treatment Plan shall be provided to the Kings County Community Development Agency prior to the issuance of building permits.*

Mitigation Measure CR-4: Protection of Buried Human Remains. *In order to avoid the potential for impacts to buried human remains, the following measures shall be implemented, as necessary, in conjunction with the construction of each phase of the Outlaw Battery Storage Project:*

Pursuant to State Health and Safety Code Section 7050.5(e) and PRC Section 5097.98, if human bone or bone of unknown origin is found at any time during on- or off-site construction, all work shall stop within 25 feet of the discovery, the Kings County Coroner shall be notified immediately, and the resource should be protected in compliance with applicable state and federal laws. If the remains are determined to be Native American, the Coroner shall notify the California State Native American Heritage Commission, who shall identify the person believed to be the Most Likely Descendant (MLD) pursuant to PRC Section 5097.98. The project proponent and MLD, with the assistance of the archaeologist, shall make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Sec. 15064.5(d)). The agreed upon treatment shall address the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. California PRC allows 48 hours for the MLD to make their wishes known to the landowner after being granted access to the site. If the MLD and the other parties do not agree on the reburial method, the project will follow PRC Section 5097.98(e) which states that ". . . the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."

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4.6. ENERGY

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				X

ENERGY SETTING

In 2003, the California Public Utilities Commission (CPUC), California Energy Commission (CEC), and California Power Authority (CPA) jointly adopted an “Energy Action Plan” (EAP) that established goals for California’s energy future and set forth a commitment to achieve these goals through specific actions. Revised and updated in 2005 and 2008, the EAP identifies priorities for meeting the State’s energy needs, including energy efficiency and greater reliance on renewable sources of power.

Energy consumption is closely related to greenhouse gas (GHG) emissions, so reductions in overall energy consumption, particularly from non-renewable sources, also reduce GHG emissions. In an effort to avert the consequences of climate change, the California State Legislature enacted the California Global Warming Solutions Act (AB 32) in 2006. AB 32 established a state goal of reducing GHG emissions to 1990 levels by 2020 (a reduction of approximately 25 percent from forecast emissions levels) and required the California Air Resources Board (CARB) to establish a comprehensive program to implement this goal. In 2016, the legislature passed SB 32 which extended the goals of AB 32 and set a 2030 goal of reducing 2030 emissions by 40 percent from 2020 levels.

One of the key implementation programs under AB 32 is the Renewables Portfolio Standard (RPS) which has undergone several iterations mandating that renewable generation sources comprise an ever increasing share of electrical utilities’ total power generation by certain target dates. Qualifying renewable generation sources include solar, wind, small hydro, geothermal, and biomass. In September 2018, Governor Brown signed SB 100, which increased the

required renewables content of electricity generation to 50 percent by 2025 and 60 percent by 2030, and which puts California on the path to implement a zero-carbon electricity grid by 2045.

In June 2021, the CPUC approved a decision ordering utilities to procure 11.5 gigawatts of new zero-emitting electricity resources to come online between 2023 and 2026 (CPUC 2021).

REGULATORY SETTING

The following General Plan policies related to energy are relevant to the Outlaw Energy Storage Project.

Kings County

The 2035 Kings County General Plan includes the following objective and policies on energy that are relevant to the Outlaw Battery Storage Project:

2035 Kings County General Plan

Resource Conservation Element

G. Energy Resources

RC OBJECTIVE G1.3	Conserve energy to lower energy costs and improve air quality.
RC Policy G1.3.1	Encourage developers to be innovative in providing landscaping that modifies microclimates, thus reducing energy consumption.
RC Policy G1.3.3	Participate, to the extent feasible, in local and State programs that strive to reduce the consumption of energy.
RC Policy G1.3.4	Coordinate with local utility providers to provide public education on energy conservation programs.

ENVIRONMENTAL EVALUATION

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

Less-than-Significant Impact. Project construction would involve the short-term consumption of electricity for operation of tools, machinery, and lighting, and consumption of fuels for construction equipment, material truck deliveries, and vehicle trips generated by construction workers traveling to and from the project site. These temporary energy demands would be typical of other similar projects throughout the state and would not result in inefficient or

unnecessary consumption of energy resources beyond typical industrial-type construction. The primary form of energy used during construction is petroleum-based fuels, primarily diesel. Natural gas is typically not used during construction-related activities, and the relatively small amounts of electricity used for power tools and lighting in building construction would not result in wasteful or unnecessary electricity demands. Fuel consumption estimates are discussed further in Section 4.3 Air Quality.

Energy would also be used in the manufacture of the batteries and associated equipment, although most of the battery storage facility components would be recyclable. As required by the CALGreen Code, 65 percent of construction waste would be diverted from the waste stream, allowing for reuse of these materials, and thus saving energy that would otherwise be consumed in extraction, transport, and processing of virgin materials (CBSC 2022).

New construction within Kings County must adhere to modern building standards, including California Code of Regulations Title 24, which outlines energy efficiency standards to ensure that new buildings do not wastefully, inefficiently, or unnecessarily consume energy.

Compliance with these requirements would ensure that construction and operation of the Outlaw Battery Storage Project would not result in wasteful, inefficient, or unnecessary use of energy.

The primary purpose of the Project is to supplement SCE's power supply by receiving electricity through the existing power grid system, including power generated from solar and wind sources, and storing the energy until it is needed during peak demand periods. The facility would also support electricity grid resiliency in the event of an emergency or disaster. Battery energy storage operations are thus beneficial in terms of electrical grid efficiency because this technology enables the storage and dispatch of electricity generated from intermittent renewable power sources (e.g., wind and solar) during demand periods when such generation may not otherwise be available.

The battery storage facility would operate 24 hours a day, 7 days a week. The facility would be unstaffed with periodic travel to and from the site for inspection and maintenance visits. The Project would typically generate approximately a few inspection trips per month during the first year of facility operation for equipment maintenance purposes. Vehicle trips may be reduced to one trip every other month after the Project's first year of operation. Potential impacts related to energy would be less than significant.

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. At the local level, there are several policies contained in the 2035 Kings County General Plan that directly address renewable energy or energy efficiency. In the Resource Conservation Element, RC Policies G1.2.1 through G1.2.6 promote the use of renewable energy sources such as solar, wind, and biomass projects, and provide guidance for their appropriate placement and project review. RC Policies G1.3.1 through G1.3.4 address energy conservation and project design measures for reducing energy demand (Kings County 2010b). The Outlaw Battery Storage Project would advance the implementation of these policies because the technology charges (or collects energy) from the power grid, including surplus power generated from solar and wind sources, and stores the energy for later discharge when it is needed during peak demand periods. Battery energy storage operations are supportive of these County policies.

At the State level, there are numerous plans, policies, and regulations that directly and indirectly address renewable energy and energy efficiency. For energy efficiency in building construction, the applicable energy conservation requirements are contained in the California Building Standards Code and Energy Efficiency Standards, which have been incorporated into the Kings County Building Code. The Outlaw Battery Storage Project would incorporate the applicable energy efficiency standards in its construction, as enforced by the County Building Official. Battery energy storage operations are supportive of these State plans and policies.

Battery energy storage is needed to achieve California's clean energy goals. The proposed battery energy storage facility would help increase the proportion of renewables in the statewide energy portfolio, thereby furthering implementation of RPS by the target years. Therefore, the Outlaw Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The Project would have no impact related to conflicts with state or local plans for renewable energy or energy efficiency.

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4.7. GEOLOGY AND SOILS

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii. Strong seismic ground shaking?			X	
iii. Seismic-related ground failure, including liquefaction?			X	
iv. Landslides?				X
b. Result in substantial soil erosion or the loss of topsoil?			X	
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?			X	
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		

GEOLOGY AND SOILS SETTING

Site Geology

The Project area falls within the California Central Valley Level III ecoregion. This region is flat, and consists of intensively farmed plains with long, hot, dry summers and mild winters that distinguish it from neighboring ecoregions that are either hilly or mountainous, covered with

forest or shrub, and generally non-agricultural. The California Central Valley Level III ecoregion includes the flat valley basins of deep sediments adjacent to the Sacramento and San Joaquin Rivers, as well as the fans and terraces around the edge of the valley (Griffith et al. 2016). Specifically, the Project site is within the Granitic Alluvial Fans and Terraces ecoregion in the Level IV Ecoregion. This ecoregion consists of nearly level to very gently sloping alluvial fans and basins. Elevations range from 100 to 500 feet. Natural vegetation included grasslands and valley oak on the fans, cottonwood and willow along streams, and emergent wetland species in basins. Almost the entire region is now cropland, hay and pastureland, and some urban and suburban uses (Griffith et al. 2016).

Tectonics and Seismicity

There are no Alquist-Priolo Earthquake Fault Zones mapped in the Project vicinity (CGS 2023). However, there are several active faults in the Coast Ranges to the west, including the San Andreas Fault Zone, the Nunez Fault Zone, Great Valley Fault System, and the White Wolf Fault. (An “active fault” is defined as a fault that has had surface displacement within the Holocene age, i.e., within the last 11,700 years.)

The nearest segment of the San Andreas Fault is located about 65 miles southwest of the project site and it is estimated to be capable of producing a magnitude 7.7 earthquake along the nearest segments to the project area. The Great Valley Fault System, which runs parallel to and east of the San Andreas Fault Zone, is composed of blind thrust faults, which do not intersect the ground surface but can cause significant shaking and ground deformation. Another large fault that may pose potential geologic hazards for Kings County is the White Wolf fault located south of the County near Arvin and Bakersfield (CGS 2015).

The most recent large earthquake near Kings County was the Kettleman Hills earthquake of magnitude 6.0 in August 1985. The epicenter was located four miles from the Kings County border north of Avenal, and 30 miles southwest of the project site. It was preceded by the 1982 New Idria earthquake (M 5.4), approximately 50 miles west/northwest of the project site, the May 1983 Coalinga earthquake (M 6.5), approximately 45 miles southwest of the project site, and the June-July 1983 Nunez earthquakes (M 6.0), occurring in the Nunez Fault Zone, a 3-mile long fault zone located 2 miles northwest of Coalinga. The Nunez fault is a designated Alquist-Priolo Earthquake Fault Zone and is located about 48 miles west of the project site at its nearest point. All four of these earthquakes produced low level ground shaking and low local magnitude in Kings County (Kings County 2010e; Kings County OES 2012).

Geomorphology and Soils

San Joaquin County is within the Great Valley Geomorphic Province, an asymmetrical synclinal trough, approximately 50 miles wide and 400 miles long. The region is an unusual lowland in that sediments within the basin are relatively under formed, while the surrounding rock units are highly deformed. Little geologic variation exists within the Great Valley, with surficial deposits consisting primarily of unconsolidated Quaternary sediments. The Great Valley is flanked on the east by the west-sloping Sierran bedrock surface, which continues westward beneath alluvium and older sediments. The Western border is underlain by east-dipping Cretaceous and Cenozoic strata that form a deeply buried synclinal trough. The San Joaquin Valley comprises the southern portion of the Great Valley, while the Sacramento Valley is present in the northern portion. Oil fields follow anticlinal uplifts that mark the southwestern border of the San Joaquin Valley and its southernmost basin. The San Joaquin Valley comprises the southern portion of the Great Valley, while the Sacramento Valley is present in the northern portion (Bartow 1991).

The parent materials of the soils in the project area originate from marine sediments of the Coast Ranges formed millions of years ago when these lands were on the seabed. These formations, which primarily consist of fine-grained shales, were uplifted over time, and were then subject to erosional forces that transported these sediments downstream to the west side of the San Joaquin Valley where they formed large alluvial fans. These geomorphological processes resulted in the formation of two distinct landform types in the western San Joaquin Valley, including: 1) the upper and middle alluvial fans and fan terrace areas in the higher westerly elevations; and 2) the lower alluvial fans or fan skirts, interfan areas, and basin floors located in the lower lying eastern areas. The project area is located in a strata that forms a deeply buried synclinal trough. The San Joaquin Valley comprises the southern portion of the Great Valley, while the Sacramento Valley is present in the northern portion (Bartow 1991). This area is very permeable but largely above the water table. Older alluvium consists of poorly sorted lenticular deposits of clay, silt, sand, and gravel, which may be loosely consolidated to cemented. Older alluvium is moderately to highly permeable and yields large quantities of water to wells. The unit is a major aquifer in the subbasin. Flood basin deposits are relatively impermeable silt and clay with some moderately to poorly permeable sand layer. The groundwater is typically within 17 feet from the ground surface throughout the project site (CDWR 2006).

NRCS Soil Survey

According to the U.S. Department of Agriculture Web Soil Survey, the Project Area is comprised of Kimberlina Fine Sandy loam, saline alkali (Map Unit 130). This soil type typically has 0 to 2 percent slopes and consists of moderately deep, well-drained soils that formed in alluvium derived from igneous and sedimentary rock. The soils are slightly to moderately saline (NRCS 2023).

Site Elevation and Topography

The Project site is located at an elevation of approximately 250 feet above mean sea level (amsl) and is generally flat. Surface water at the Subject Property drains into soils throughout the Site and excess runoff is conveyed to an irrigation canal (Melga Canal) located along the eastern portion of the Project site. A Project-specific hydrological study was in preparation at the time of this writing.

The overall topographic trend of the surrounding area also slopes to the northwest. The nearest surface water body is Kings River, located approximately 6 miles north of the Project site.

REGULATORY SETTING

State of California

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zone Act) requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development on or near active fault traces to reduce the hazards associated with fault rupture and to prohibit the location of most structures for human occupancy across these traces. Cities and counties must regulate certain development projects within the zones, including the preparation of geologic investigations in order to demonstrate that development sites are not threatened by future surface displacement.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act is intended to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure/hazards caused by earthquakes. This act requires the State Geologist to delineate seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a seismic hazard zone, a geotechnical investigation of the site must be conducted, and appropriate

mitigation measures incorporated into the project design. There are no Seismic Hazard Maps that include the Outlaw Battery Storage Project site.

California Building Code

The 2022 California Building Code (CBC) is Part 2 of the California Building Standards Code (CBSC) which is codified as Title 24 of the California Code of Regulations (CCR). The CBC is based on the 2021 International Building Code and includes additional provisions and modifications specific to California and was updated in January 2023. The CBC pertains to building design and construction and is separate from other parts of the CBSC such as the electrical code, plumbing code, mechanical code, fire code, energy code, etc. In terms of providing seismic safety, the primary objective of the CBC standards is to ensure public safety and minimize property damage in the event of an earthquake. The 2019 version of the California Building Standards Code assigns a seismic design category (SDC) to each structure. The SDC is assigned as a means of capturing both the seismic hazard, in terms of mapped acceleration parameters (spectral values), site class (defining the soil profile), and the occupancy category (based on its importance or hazardous material contents). The SDC affects design and detailing requirements as well as the structural system that may be used and its height.

Kings County

2035 Kings County General Plan

The 2035 Kings County General Plan includes the following goals, objectives and policies related to geology, soils, and paleontology that are relevant to the Outlaw Battery Storage Project:

Health and Safety Element

A. Natural Hazards

HS GOAL A2	Minimize loss of life and personal property caused by geologic hazards.
HS OBJECTIVE A2.1	Regulate new construction to achieve acceptable levels of risk posed by geologic hazards.
HS Policy A2.1.4	Review all development proposals to determine whether a geotechnical soils report is required for new construction.

HS Policy A2.1.5	Consider the environmental review process for land use projects' seismic hazards, including subsidence, liquefaction, flooding, local soils, and geologic conditions.
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Resource Conservation Element

C. Soil Resources

RC GOAL C1	Encourage the conservation of soil resources that are critical to the long-term protection and sustainability of the County's agricultural productivity and economy.
RC OBJECTIVE C2.2	Ensure that land use decisions are compatible with the control of soil erosion and the maintenance of soil quality.
RC Policy A2.2.1	Require erosion control measures for any development involving construction or grading near waterways, or on land with slopes over ten percent. Require that improvements such as roads and driveways be designed to retain natural vegetation and topography to the extent feasible.
RC Policy A2.2.2	Continue to require the application of construction related erosion control measures, including Stormwater Pollution Protection Plans (SWPPP) for all new construction.

Kings County has no policies or regulations that specifically address paleontological resources.

Kings County Code of Ordinances

Development Code

Land Subdivisions are regulated by Article 23 of the Kings County Development Code. The Development Code requires that a preliminary soils report be prepared by a registered civil engineer for all subdivisions. If the preliminary soils report indicates the presence of critically expansive soils or other soil problems, a detailed soils investigation is required which recommends corrective action for any soils problems that are likely to result in structural damage. Article 23 of the Development Code provides that one of its objectives is to ensure that land developments incorporate proper grading and erosion control, and that the Public Works Director shall be responsible for evaluating the planned method of erosion and sedimentation control.

Kings County Building Code

The County Code of Ordinances, in Section 5-36, adopts and incorporates by reference the 2013 Edition of the California Building Code (CBC) as the Kings County Building Code, which is applicable to all building construction in Kings County. The CBC is described earlier in this section.

ENVIRONMENTAL EVALUATION

- a. **Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:**
- i. **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?**

Less-than-Significant Impact. The Outlaw Energy Storage Project site is not included in an earthquake fault zone designated by the California Geological Survey pursuant to the Alquist-Priolo Act (CGS 2023). In addition, the Health and Safety Element of the 2035 Kings County General Plan states “[t]he County has no known major fault systems within its territory” (Kings County 2010e). Since there are no known earthquake faults on or near the project site, potential impacts associated with the Project relative to surface rupture of an earthquake fault would be less than significant.

- ii. **Strong seismic ground shaking?**

Less-than-Significant Impact. Major faults capable of generating maximum credible earthquakes with magnitudes of 6.5 or greater are located within a 60-mile radius of the Project site. Ground shaking resulting from a large or moderate earthquake centered on faults in the Coast Ranges, approximately 60 miles west of the Project site, could cause dynamic loading resulting in stress to structures at the Project site. However, structures designed and built in accordance with the California Building Code are expected to respond well to these events. The CBC structural design standards provide for a high degree of seismic strength and resistance to lateral forces (strong shaking) in order to minimize risks to public safety and damage to property. The California Building Code has been adopted as the Kings County Building Code, which is implemented and enforced by the Kings County Building Official and Building Inspectors through building permit reviews, approvals, inspections, and final sign offs.

The following passage from page 8 of the Health and Safety Element of the 2035 Kings County General Plan is relevant to this discussion:

“Damage and injury resulting from geologic hazards can be reduced to acceptable levels through zoning and building permit review procedures and construction standards. New construction conforming to the standards of the California Building Code (CBC) will provide adequate protection.”

In summary, the potentially significant impacts due to ground shaking at the Outlaw Battery Storage Project site would be reduced to less-than-significant levels through implementation of the applicable seismic design standards of the California Building Code, as enforced by the Kings County Building Division.

iii. **Seismic-related ground failure, including liquefaction?**

Less-than-Significant Impact. Seismic ground failures can include liquefaction and seismically-induced differential settlement. Soil liquefaction is the phenomenon in which a saturated, cohesionless soil loses structural strength during an earthquake as a result of induced shearing strains, which essentially transforms the soil to a liquid state resulting in ground failure or surface deformation. Liquefaction can result in total and differential settlement of structures. Conditions required for liquefaction typically include fine, well- sorted, loose sandy soil, high groundwater, higher intensity earthquakes, and particularly long duration of ground shaking.

No regulatory mapping of liquefaction zones has been prepared by the California Geological Survey for the project area, with the nearest such mapping completed for Santa Clara County (CGS 2014b). All of the soils that cover the project site have high clay content, indicating a low susceptibility to liquefaction.

In addition, the “Health and Safety Element” of the *2035 Kings County General Plan*, it states “[t]he risk and danger of liquefaction and subsidence occurring within the County is considered to be minimal” (Kings County 2010e). Potential impacts to the Project due to liquefaction would be less than significant.

Seismic settlement can occur when saturated and unsaturated granular soils become rearranged during ground shaking resulting in a volume reduction and surface deformation. The magnitude of seismic settlement is a function of the relative density of the soil and the magnitude of cyclic shear stress caused by seismic ground motion. Seismic settlement has the greatest potential to occur in locations where loose granular materials such as sandy soils are

present above the groundwater table. The relatively fine sandy loam soils that cover the project site may have a potential for surface deformation resulting from seismic settlement. However, the potential for seismic settlement would be addressed through geotechnical studies that would identify soil engineering specifications to ensure that foundations and footings would be designed meet applicable standards to prevent settlements. As such, the potential impacts to the Project due to seismic settlement would be less than significant.

iv. **Landslides?**

No Impact. No regulatory mapping of landslide zones has been prepared by the California Geological Survey for the project area (CGS 2014a). The project area is not mapped as lying within a landslide hazard area by USGS landslide mapping (USGS 1997; USGS 2023). In addition, the “Health and Safety Element” of the *2035 Kings County General Plan* indicates that project area is defined as having a “low” susceptibility to landslides (Kings County 2010e). The nearly level terrain of the Project area has a very low potential for landslides. As such, the Outlaw Energy Storage Project would have no impacts related to landslides.

b. Would the project result in substantial soil erosion or the loss of topsoil?

Less-than-Significant Impact. Soils on the project site have moderate runoff potential with a correspondingly low hazard of water erosion (NRCS 1986; NRCS 2023). However, the seasonal high wind conditions (typically from March to June) result in high potential for wind erosion within the project area (Kings County 2010b).

Ground disturbance during construction could expose the soil to potential erosion from wind and rain. However, soil stabilization and erosion control measures would be employed during grading and construction to prevent erosion and stormwater runoff. The specific erosion controls to be implemented at the project site will be specified in a Project-specific Storm Water Pollution Prevention Plan (SWPPP), as required by the State Water Resources Control Board’s Construction Stormwater General Permit for all projects that disturb more than 1 acre. The SWPPP will specify Best Management Practices (BMPs) such as stormwater runoff control and hazardous waste management measures and will include monitoring and reporting procedures. Specific BMPs for the Project will be determined during the final engineering design stages for the project. The project SWPPP will be prepared by a certified Qualified SWPPP Developer (QSD), who will ensure that the SWPPP BMPs fully comply with the requirements of the Construction General Permit. Qualified SWPPP Practitioners (QSP) are responsible for inspections of construction sites to ensure the effectiveness of BMPs specified in the SWPPP.

As discussed further in Section 4.10, Hydrology and Water Quality, Mitigation Measure HYD-1 would further reduce potential impacts to this feature by requiring implementation of construction BMPs to contain runoff from construction disturbance.

With implementation of Mitigation Measure HYD-1 and measures that would be specified in the SWPPP, potential impacts related to erosion would be less-than-significant.

c. 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?

Less-than-Significant Impact. As discussed above, the project site is not susceptible to landslides, liquefaction, or seismic settlement. The potential for lateral spreading and land subsidence is discussed below.

Lateral spreading (or liquefaction-induced lateral spreading) can occur with seismic ground shaking on slopes where saturated soils liquefy and flow toward the open slope face. The Project site is relatively flat and does not include significant slopes. Additionally, the fine sandy loam soils of the Project area are not susceptible to liquefaction. Therefore, potential impacts from lateral spreading on or near the Outlaw Battery Storage Project site would be less than significant.

Ground subsidence is typically caused when overdrafts of a groundwater basin reduce the upward hydraulic pressure that supports the overlying land surface, resulting in consolidation/settlement of the underlying soils. Subsidence has the potential to damage local, state, and federal infrastructure, including reducing the freeboard and flow capacity of the California Aqueduct and irrigation delivery canals and pipelines, as well as causing structural damage to bridges, roads, flood control facilities and other structures. Large areas of the San Joaquin Valley, including the project area, have been subject to subsidence from groundwater use for many years. Mapping by the U.S. Bureau of Reclamation shows that from the years 1926 to 1970, the land at the project site subsided by more than 3 feet (USBR 2018). From 2008 to 2010, the land at the site subsided between 0.3 and 0.55 feet (CWF 2014).

As discussed in Section 4.10 Hydrology and Water Quality, groundwater pumping in the area can exceed the safe yield of the groundwater basin during drought years when severe curtailment in surface water deliveries from the Central Valley Project necessitates increased pumping of groundwater to make up for reductions in imported supplies. Over-pumping of groundwater and resulting subsidence is the cumulative result of water withdrawals from many

agricultural wells. The Outlaw Battery Storage Project would not use water during normal operations. The battery storage facility includes an emergency fire water storage tank, approved by the Kings County Fire Department, that would be refilled only as needed. Water for emergency fire-fighting purposes would be sourced from Project area groundwater wells. This use represents a negligible fraction of the groundwater that is typically used for agricultural irrigation over an equivalent area of farmland. Therefore, the Project would not contribute to regional groundwater pumping-induced land subsidence. The Project would be designed in conformance with California Building Code standards; these standards include consideration of potential land subsidence. These design measures would ensure that any subsidence that may be occurring regionally would not materially affect Project operations. Therefore, potential impacts related to land subsidence would be less than significant.

d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less-than-Significant Impact. Expansive soils are soils that are generally clayey; these soils typically swell when moistened and shrink when dry. The main soil unit mapped at the site is the Kimberlina fine sandy loam, saline-alkali which consists of well-drained fine sandy loam (USDA 2015). Figure HS-4 of the *2035 Kings County General Plan* “Health and Safety Element” does not identify the project site as having expansive soils (Kings County 2010e). Soils would be tested prior to construction to determine actual properties of onsite soil and to ensure proper engineering design of the battery storage footings, with appropriate use of engineered fill material, and over-excavation if appropriate. The proposed Project would be designed and constructed in compliance with the CBC Seismic Zone 4 design standards and incorporate geotechnical recommendations that ensure soil stability, thus reducing potential impacts related to geologic units or soils to a less than significant level.

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The Outlaw Battery Storage Project would be an unstaffed facility. No septic system, connection to municipal sewer, or other waste water disposal systems or sanitary facilities are required. Therefore, the Project would have no impacts related to waste water disposal.

f. Would the project directly or indirectly destroy a unique paleontological resource or

site or unique geologic feature?

Less-than-Significant Impact with Mitigation Incorporated. Battery storage facility construction would entail several shallow (less than 8 feet) excavations for equipment foundations, electrical conduit, and gen-tie undergrounding. The project site is not within an area of potential unique paleontological resources. Site geology and past land uses (intensive agriculture) suggest that the potential for encountering unique paleontological resources is very low. However, it is possible that site excavations could encounter unique paleontological resources; such impacts could be significant. Potential impact to paleontological resources would be reduced to a *less-than-significant* level through implementation of Mitigation Measure GEO-1 below.

Mitigation Measure GEO-1: Protection of Paleontological Resources. *In order to avoid the potential for impacts to paleontological resources, the following measures shall be implemented, as necessary, in conjunction with the construction of the Outlaw Energy Storage Project:*

- a. If paleontological resources are discovered during excavation activities at the project site, work within 100 feet of the find shall cease, and a qualified professional paleontologist shall be retained to evaluate the significance of the resources and make recommendations regarding the treatment, recovery, curation of the resources, as appropriate. Treatment of any significant paleontological resources shall be undertaken with the approval of the Kings County CDA.*

There are no unique geologic features that could be adversely affected by the Outlaw Battery Storage Project.

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4.8. GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

GREENHOUSE GAS SETTING

GHGs are global pollutants, unlike criteria pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere for time periods long enough to cause them to be dispersed around the globe and cause global effects. The atmospheric concentration of GHGs determines the intensity of global warming, with current levels already leading to dangerous increases in global temperatures, accompanied by sea level rise, severe weather, and other environmental impacts. Therefore, from the standpoint of CEQA, GHG impacts on global climate change are inherently cumulative. Prominent GHGs of primary concern from land use development projects include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Other GHGs such as hydrofluorocarbons, chlorofluorocarbons, and sulfur hexafluoride are of less concern because construction and operational activities associated with land use development projects are not likely to generate substantial quantities of these GHGs. GHG emissions are calculated and reported in CO₂ equivalents (CO₂e) for CO₂, N₂O, and CH₄ emissions from on-road and off-road activities.

REGULATORY SETTING

Federal

The Supreme Court decision in *Massachusetts et al. v. Environmental Protection Agency et al.* (Supreme Court Case 05 1120) found that the USEPA has the authority to list GHGs as pollutants and to regulate emissions of GHGs under the federal Clean Air Act. On 17 April 2009, USEPA found that CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons, and sulfur

hexafluoride may contribute to air pollution and may endanger public health and welfare. The USEPA has established reporting regulations that require specific facilities and industries to report their GHG emissions annually. 40 Code of Federal Regulations Part 98, Mandatory Reporting of Greenhouse Gases Rule, requires mandatory reporting of GHG emissions for facilities that emit more than 25,000 metric tons of CO₂e per year.

40 Code of Federal Regulations Part 52, Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, requires application of Prevention of Significant Deterioration and Title V requirements to facilities whose stationary source CO₂e emissions exceed 100,000 tons per year.

State

Executive Order S-3-05

State Executive Order S-3-05 established GHG reduction targets for the state of California. The targets called for a reduction of GHG emissions to 2000 levels by 2010; a reduction of GHG emissions to 1990 levels by 2020; and a reduction of GHG emissions to 80 percent below 1990 levels by 2050. The California Environmental Protection Agency secretary is required to coordinate development and implementation of strategies to achieve the GHG reduction targets.

Global Warming Solutions Act of 2006

In 2006, the California State Legislature signed the Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32). AB 32 provides the framework for regulating GHG emissions in California. This law requires the CARB to design and implement emission limits, regulations, and other measures such that statewide GHG emissions are reduced in a technologically feasible and cost-effective manner to 1990 levels by 2020.

In December 2008, CARB adopted its Climate Change Scoping Plan, which is the State's plan to achieve GHG reductions in California required by AB 32. In May 2014, CARB adopted the First Update to the Climate Change Scoping Plan. The update reports on progress and lays the groundwork for goals beyond 2020. In November 2017, CARB adopted California's 2017 Climate Change Scoping Plan, the strategy for achieving California's 2030 greenhouse gas targets.

Senate Bill 97

Senate Bill (SB) 97, enacted in 2007, amended the CEQA statute to establish that GHG emissions and their effects are a prominent environmental issue that require analysis and

identification of feasible mitigation under CEQA. GHG emissions were incorporated into the CEQA guidelines on 18 March 2010.

Senate Bill 375

In addition to policy directly guided by AB 32, the California Legislature in 2008 enacted SB 375, which provided for regional coordination in land use and transportation planning and funding to help meet the AB 32 GHG reduction goals. SB 375 aligns regional transportation planning efforts, regional GHG emissions reduction targets, and land use and housing allocations. SB 375 requires that regional transportation plans developed by the state's 18 metropolitan planning organizations incorporate sustainable communities strategies that achieve GHG emission reduction targets set by CARB and coordinate regional housing and transportation. The Kings County Association of Governments (KCAG) is the federally recognized metropolitan planning organization for Kings County. In 2018, as part of its mandate under SB 375, CARB set specific GHG emission reduction targets for cars and light trucks for each of the state's 18 metropolitan planning organizations from a 2005 base year. The GHG targets set for Kings County called for a 5 percent per capita reduction by 2020 and a 13 percent per capita reduction by 2035 (CARB 2023). SB 375 required that the KCAG demonstrate in their sustainable communities strategy that GHG emission reduction targets will be met for 2020 and 2035. The KCAG has prepared the 2022 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) for the County. Projects consistent with the KCAG's RTP/SCS would therefore support AB 32 and SB 32 GHG reduction goals.

Senate Bill 743

With the passing of SB 743 in 2013, the Governor's Office of Planning and Research amended the State CEQA Guidelines providing alternative criteria to level of service for evaluating transportation impacts. One of the goals of the new criteria is to promote the reduction of GHG. Local jurisdictions must implement SB 743 by 1 July 2020 or do additional transportation analysis on a project-by-project basis.

Executive Order B-30-15

In April 2015, Governor Brown signed Executive Order B-30-15 that added the intermediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030.

Senate Bill 32 and Assembly Bill 197

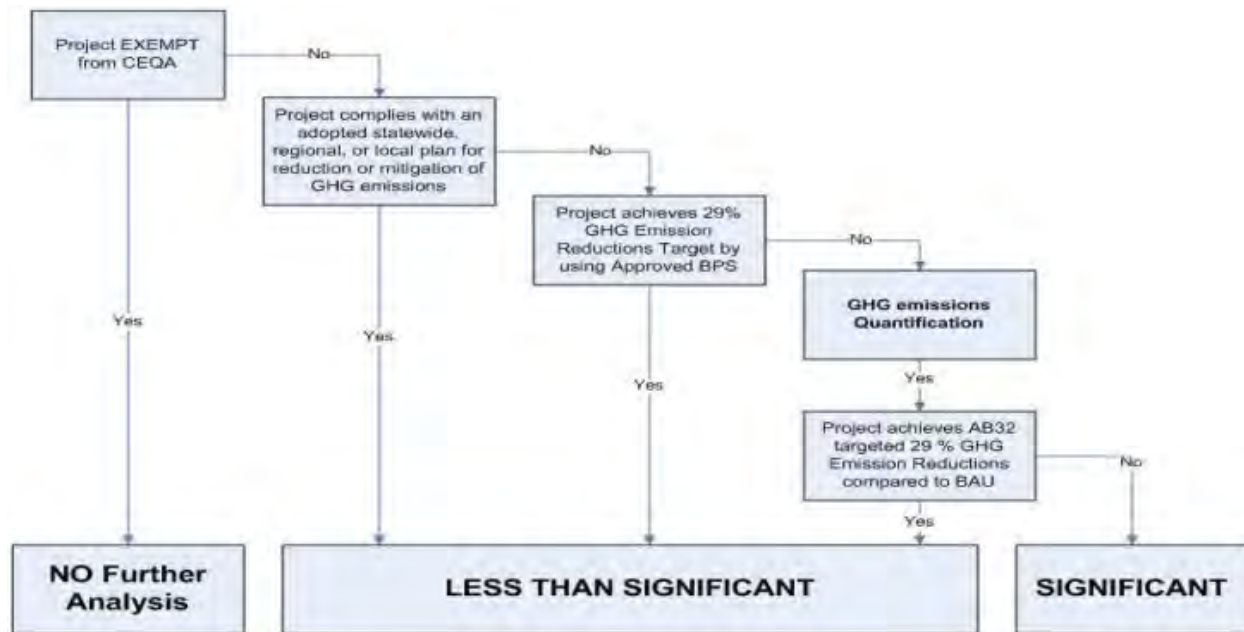
On 8 September 2016, Governor Brown signed SB 32 and AB 197, which codified the 2030 GHG emissions reduction target of 40 percent below 1990 levels and provided additional direction for updating the scoping plan.

Regional

CEQA requires lead agencies to establish specific procedures for administering its responsibilities under CEQA, including orderly evaluation of projects and preparation of environmental documents. The Proposed Project is located within the jurisdiction of SJVAPCD. In August 2008, the SJVAPCD's Governing Board adopted the Climate Change Action Plan (CCAP) in response to this CEQA requirement. The CCAP directed the SJVAPCD Air Pollution Control Officer to assist Lead Agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project specific GHG emissions on global climate change. To that end, on 17 December 2009, SJVAPCD adopted the following:

- District Policy: Addressing GHG Emission Impacts for Stationary Source Projects under CEQA when Serving as the Lead Agency
- Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA

The Policy is relevant when SJVAPCD is serving as the lead agency. The Guidance Document is for all land development projects. Both the Policy and Guidance provide the same process for determining project significance as shown in the below graphic.



Source: SJVAPCD 2009

SJVAPCD Process for Evaluating Significance

As shown in the graphic, if a project does not comply with an adopted statewide, regional, or local plan for reduction or mitigation of GHG emissions, the Guidance and Policy rely on the use of performance-based standards, otherwise known as Best Performance Standards (BPS), to assess significance of project-specific GHG emissions on global climate change during the environmental review process, as required by CEQA.

Use of BPS is a method of streamlining the CEQA process for determining significance and is not a required emission reduction measure. Projects implementing BPS would be determined to have a less than cumulatively significant impact. The BPS are specifically directed at reducing GHG emissions from stationary sources that require a permit from SJVAPCD, or from improved energy efficiency and reduced vehicle miles traveled associated with operations of development projects. The Proposed Project would not include a permitted stationary source of emissions and is not a typical development project that would involve buildings consuming large amounts of energy or result in a large increase in vehicle miles traveled as operations would require infrequent trips for maintenance. Therefore, the proposed BPS would not be applicable to the Proposed Project. For projects under CEQA not implementing BPS, SJVAPCD recommends quantifying project-specific GHG emissions and demonstrating that such emissions would be reduced or mitigated by at least 29 percent, compared to Business as Usual (BAU), including GHG emission reductions achieved since the 2002-2004 baseline period. Projects that would

reduce emissions by at least 29 percent compared to BAU are considered consistent with the AB 32 emissions reduction goal for 2020.

However, since the 2009 publication of SJVAPCD's GHG Guidance and Policy, the California Supreme Court has considered the CEQA issue of determining the significance of GHG emissions in its decision in *Center for Biology Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th 204 (referred to as the Newhall decision in recognition of the real party in interest). In the Newhall decision, the court questioned a common CEQA approach to GHG analysis for development projects that compared project emissions to the reductions from BAU that would be needed statewide to reduce emissions to 1990 levels by 2020, as required by AB 32. The court upheld the BAU method as valid in theory but concluded that the method was applied improperly in the case of the Newhall project. Specifically, the project's target was incorrectly deemed consistent with the statewide emission target of 29 percent below BAU for the year 2020. In brief, the court stated that the percent-below-BAU target developed by the AB 32 Scoping Plan is intended as a measure of the GHG reduction effort required by the state and it cannot necessarily be applied to the impacts of a specific project in a specific location. In addition, this quantitative approach is no longer valid because it is based on a reduction target year that has already passed and ignores additional reduction targets for year 2030 implemented by the climate Change Scoping Plan Update and SB 32, as described above.

Local

Kings County Association of Governments

The KCAG adopted the 2022 RTP/SCS in September 2022. Transportation and energy consumption are responsible for the majority of GHG emissions. To address these emissions, the RTP/SCS establishes a framework for improved circulation networks and energy conservation. Transportation policies aim to reduce vehicle miles traveled by offering more opportunities for alternative transportation modes, such as bicycling and transit use. In addition, policies promote transit-oriented development. In order to reduce emissions produced by energy usage, the RTP/SCS facilitates and encourages energy efficiency for both residential and commercial land uses along with programs to improve energy efficiencies in old and new buildings and decrease the use of fossil fuels by providing incentives for use of renewable energy.

Kings County

The 2035 Kings County General Plan Air Quality Element includes the following goals, objectives, and policies related to GHG emissions that are relevant to this Project.

C. Air Quality Management

Air Quality (AQ) GOAL C1	Use Air Quality Assessment and Mitigation programs and resources of the SJVAPCD and other agencies to minimize air pollution, related public health effects, and potential climate change impacts within the County.
AQ OBJECTIVE C1.1	Accurately assess and mitigate potentially significant local and regional air quality and climate change impacts from proposed projects within the County.
AQ Policy C1.1.2	Assess and mitigate project greenhouse gas/climate change impacts using analysis methods and significance thresholds as defined or recommended by the SJVAPCD, KCAG or CARB depending on the type of project involved.
AQ Policy C1.1.3	Ensure that air quality and climate change impacts identified during CEQA review are minimized and consistently and fairly mitigated at a minimum, to levels as required by CEQA.
AQ Policy C1.1.5	Assess and reduce the air quality and potential climate change impacts of new development projects that may be insignificant by themselves but, taken together, may be cumulatively significant for the County as a whole.
AQ OBJECTIVE E1.1	Related to increasing the use of renewable sources of energy within the County. The associated Policies are focused on making buildings more efficient.
AQ GOAL G1	Reduce Kings County's proportionate contribution of GHG emissions and the potential impact that may result on climate change from internal governmental operations and land use activities within its authority.

AQ OBJECTIVE G1.1 Identify and achieve GHG emission reduction targets consistent with the County's proportionate fair share as may be allocated by CARB and KCAG.

AQ Policy G1.1.1 As recommended in CARB's Climate Change Adopted Scoping Plan (December 2008), the County establishes an initial goal of reducing GHG emissions from its internal governmental operations and land use activities within its authority to be consistent with CARB's adopted reduction targets for the year 2020. The County will also work with KCAG to ensure that it achieves its proportionate fair share reduction in GHG emissions as may be identified under the provisions of SB 375 (2008 Chapter 728) for any projects or activities requiring approval from KCAG.

ENVIRONMENTAL EVALUATION

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less-than-Significant Impact. Construction of the battery storage facility would generate GHG emissions. Construction-related GHG emissions would result from construction equipment and worker vehicle trips. The reasonable maximum annual estimated GHG emissions associated with construction of the battery storage facility are shown in Table GHG-1 in metric tons per year (MT/yr) of CO₂e. Construction is anticipated to last 8 months. Estimated GHG emissions for the total duration of the construction phase are 408 MT of CO₂e.

Table GHG-1: GHG Construction Emissions (MT/yr of CO₂e)

Pollutant	Construction Emissions
CO ₂ e (MT/yr)	408

Note: Emissions calculated using the CalEEMod emissions estimation model.

For comparison purposes, the construction emissions are amortized over an anticipated 25-year life of the project. A project life of 25 years is used as a conservative estimate for long-term projects, resulting in an average annual emissions rate of approximately 16 MT/yr CO₂e related to construction.

Kings County does not have an established a quantitative “bright-line” significance threshold for construction or operations emissions. However, for context, the estimated construction phase emissions are well below the various quantitative significance thresholds applied in other regions of the state for comparable projects. Based on these emissions levels as compared to thresholds for similar projects in other regions of the state, potential GHG impacts would be less than significant.

Installed BESS equipment would not emit GHG emissions. However, project operations would entail infrequent maintenance inspections, as needed, and periodic augmentation of the battery facility within the site plan development footprint. These activities would generate GHG emissions associated with worker vehicle trips for occasional inspection and maintenance vehicles and from periodic use of off-road equipment for installation of new equipment components. GHG emissions from these activities would be comparable to short-term construction emissions.

Using the same methodology as described above for construction-related impacts, an additional average annual GHG emissions rate of approximately 13 MT/yr CO₂e is attributable to the combination of routine inspections and maintenance vehicle trips, and periodic augmentation construction efforts that are planned over the life of the project, with each augmentation effort equivalent to approximately 20% of the initial construction effort. Thus, the combined construction-phase and operations-phase activities would result in a combined average annual emissions rate of approximately 29 MT/yr CO₂e, and a cumulative total of approximately 734 MT CO₂e emissions over the life of the project.

As noted above, potential GHG impacts related to construction activity would be less than significant. Therefore, potential GHG emissions during the operational life of the project would also be less than significant.

b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less-than-Significant Impact. The project would not conflict with an applicable plan, policy, or regulation adopted to reduce GHG emissions. At the state level, although the Project’s GHG emissions would contribute incrementally to cumulative global climate change impacts, such impacts would be less than significant because they would be short-term during initial construction and during long term periodic maintenance activities. These emissions would not interfere with the long-term goal of SB 32 to reduce GHG emissions to 40 percent below 1990

levels by 2030. Locally, Kings County's GHG policies are set forth in the goals, objectives, and policies of their 2035 General Plan, which encourage the reduction of GHG emissions in the County's internal governmental operations and land use activities within its authority. Battery energy storage aligns with these policies and is generally beneficial to the County because it would contribute to improving electrical grid efficiency by enabling the storage and dispatch of electricity generated from intermittent renewable power sources (e.g., wind and solar) during demand periods when such generation may not otherwise be available, thus reducing GHG emissions from non-renewable energy sources. Therefore, the Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions. The Project's potential impacts related to GHG plan implementation would be less than significant.

REFERENCES—GREENHOUSE GAS EMISSIONS

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4.9. HAZARDS AND HAZARDOUS MATERIALS

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e. For a Project located within 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 result in a safety hazard or excessive noise for people residing or working in the Project area?				X
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				X

ENVIRONMENTAL SETTING

The following discussion of hazards and hazardous materials is partially based on a Phase I Environmental Site Assessment (ESA) that was performed for the Project site parcel in conformance with the scope and limitations of applicable ASTM Practice (ERM 2023). The assessment included a preliminary review of past and present land use practices; a records review (historical site plans, environmental regulatory/agency lists and records); and a reconnaissance of the Project site and surrounding area.

The Project would occupy approximately 10 acres in the northeastern corner of the 154-acre parcel, located south of Grangeville Boulevard and east of 7th Avenue in Kings County. The Health and Safety Element of the 2035 Kings County General Plan designates evacuation

routes to be relied upon for emergency or disaster responses. Within the project area, the primary evacuation routes include SR-43 and SR-198 (Kings County 2010e). The Project would have its entrance on Grangeville Boulevard. This portion of Grangeville Blvd. is a secondary evacuation route as shown on Figure HS-20 Evac Routes in the Health & Safety Element.

No historical uses of the Project site parcel have been identified other than agricultural production. An agricultural residence and water well are located on the Project site parcel at 9135 7th Avenue, along the west boundary of the Project site parcel. Two agricultural residences and equipment yards are located adjacent to the northwest corner of the Project site parcel at the intersection of Grangeville Boulevard and 7th Avenue.

An agricultural irrigation canal (Settlers Ditch) runs north-south through the western portion of the Project site parcel, and another irrigation canal (Melga Canal) runs north-south within the eastern portion of the Project site parcel adjacent to the proposed battery operational area. An unpaved agricultural road runs north-south along the eastern perimeter of the Project site parcel, between the battery operational area and the Melga Canal. The Union Pacific Railroad crosses the southern portion of the Project site parcel, south of the battery operational area.

The entire site consists of agricultural lands planted with vineyard grapes. Field reconnaissance for the Phase I ESA identified no Recognized Environmental Conditions (REC) that would potentially impact site workers or the public. The assessment identified de minimis hazardous conditions associated with historical and ongoing agricultural practices. The site has been in agricultural use since sometime in the late 1930s based on review of historical records.

Agricultural practices include the transport, storage, handling, and use of liquid insecticides, herbicides, and fungicides. Based on the long-term uses of these chemicals there could be chemical residue in the soil and groundwater.

Electrical transformers, hydraulic equipment, capacitors, and similar equipment may contain polychlorinated biphenyls (PCB) as operating or dielectric insulating fluids within the units. The Federal Toxic Substances Control Act generally prohibited the domestic manufacture of PCBs after 1976; therefore, there is a potential for the dielectric fluid in electrical and hydraulic equipment manufactured prior to that date to contain PCBs. ERM inspected the Project site for types of equipment that have been historically associated with the use of PCBs as a dielectric fluid coolant and stabilizer. ERM did not identify pole-mounted or pad-mounted transformers at the Project site. Other equipment that may contain PCBs, such as capacitors, were not observed on the property during the Project site reconnaissance.

REGULATORY SETTING

State of California

Health and Safety Code

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, State, or local agency or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined by the California Health and Safety Code Section 25501 as follows: "Hazardous material" means any material that, because of its 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. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment." Under Government Code Section 65962.5, both the Department of Toxic Substances Control (DTSC) and the State Water Resources Control Board (SWRCB) are required to maintain lists of sites known to have hazardous substances present in the environment. Both agencies maintain up-to-date lists on their websites (EnviroStor and Geotracker, respectively). The project site is listed by the DTSC and SWRCB as a hazardous substances site on the list of hazardous waste sites compiled pursuant to Government Code § 65962.5 (Cortese List). A search of the DTSC and SWRCB lists identified no open cases of hazardous waste violations within one mile of the Project site.

Kings County

2035 Kings County General Plan

The 2035 Kings County General Plan contains the following goal, objective and policy related to hazardous materials that are relevant to the Outlaw Battery Energy Storage Project:

Health and Safety Element

B. Community Health

HS GOAL B1	Promote the health and wellbeing of County residents, and support healthy living environments, physical activity opportunities, medical services, and readily available nutritious food sources.
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HS OBJECTIVE B1.5 Ensure adequate protection of County residents from new generations of toxic or hazardous waste substances.

RC Policy B1.5.1 Evaluate development applications to determine the potential for hazardous waste generation and be required to provide sufficient financial assurance that is available to the County to cover waste cleanup and/or site restoration in instances where the site has been abandoned or the business operator is unable to remove hazardous materials from the site.

Kings County Code of Ordinances

Regulation of Flammable Liquid Storage

Section 10-23 of the County Code provides that above-ground storage and handling of flammable liquids in quantities greater than 52 gallons at distances of less than 50 feet from a building or property line shall require a permit from the County Fire Chief.

Kings County Division of Environmental Health Services (EHS)

The Kings County Department of Public Health Services, Division of Environmental Health Services (DEHS) has primary authority for administration and enforcement of hazardous materials regulations in Kings County. In accordance with state law requirements, in 1996 the County created the Certified Unified Program Agency (CUPA) to consolidate all County hazardous materials programs under one agency. The DEHS is the designated the lead agency for hazardous materials programs and acts as the single point of contact for issuance of permits. Site inspections of all hazardous materials programs (e.g., aboveground tanks and underground tanks, hazardous waste treatment, hazardous waste generators, hazardous materials management plans, etc.) are consolidated and accomplished by a single inspection. All businesses that handle or store hazardous materials above 55 gallons for liquids, 400 pounds for solids; and 200 cubic feet for compressed gases are required to complete forms and file a Chemical Inventory with the DEHS. Lower thresholds are typically mandated for “Acutely Hazardous Substances.” A site map and emergency plan are also required to be submitted by all businesses that submit a Hazardous Materials Business Plan (HMBP) and Chemical Inventory. The program provides emergency response to chemical events to furnish substance identification; health and environment risk assessment; air, soil, water and waste sample collection; incident mitigation and cleanup feasibility options and on-scene coordination for state

superfund incidents. The program also provides for the oversight, investigation and remediation of unauthorized releases from underground tanks.

In accordance with the above regulatory programs, the proposed Project would need to conform to the following Kings County Department of Public Health guidelines:

- If hazardous materials at or above threshold reporting quantities (55 gallons of a liquid, 500 pounds of a solid, or 200 cubic feet of a gas) will be kept on site, the facility must file a Hazardous Materials Business Plan online at <http://cers.calepa.ca.gov> within 30 days of beginning operations. Hazardous materials are broadly defined, and include fuel, lubricants, antifreeze, motor vehicle batteries, welding gases, paints, solvents, glues, agricultural chemicals, etc.
- Any quantities of hazardous wastes generated by the facility operation must be managed in accordance with Federal, State, and local laws and regulations. Hazardous wastes cannot be disposed of into the municipal waste stream or onsite sewage disposal system.
- Any plumbing fixtures, such as hand wash sinks, used by employees for personal use must have bacteriologically safe water. Sinks should be limited to handwashing only and should be posted with signage indicating that the water is suitable for washing and general cleaning, but not recommended for drinking. Bottled water or other potable source must be provided for drinking. If drinking water will be provided to 25 employees or more for 60 days or more over a calendar year, then the facility may require a public water system permit from our office. Portable toilets must be serviced at an adequate frequency so as not to create nuisance conditions.

Kings County Fire Department

The Kings County Fire Department has responsibility for managing responses to the release or potential release of hazardous materials, as part of its role as the Office of Emergency Management (OEM) for Kings County.

ENVIRONMENTAL EVALUATION

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The Project would involve the use of hazardous materials during construction and operation, as discussed below.

Construction

Less-than-Significant Impact with Mitigation Incorporated. Hazardous materials used during construction would include gasoline, diesel fuel, oils, lubricants, solvents, detergents, degreasers, paints, welding and soldering supplies, pressurized gases, etc. Hazardous materials would be stored in containers that are specifically designed for the materials to be stored. The fuels stored on-site would be in a locked container (aboveground storage tank) within a fenced and secure staging area. During construction, substantial quantities of gasoline, diesel fuel, and transformer insulating oil (mineral oil) will be transported to the site. A spill of these hazardous liquids en route to the project site could result in significant impacts to soil, surface water, groundwater, or the public. However, such materials are routinely and safely transported on public roadways. The transport of large quantities of hazardous materials is strictly regulated by the California Highway Patrol (CHP). Large quantities of hazardous materials used during project construction would be transported along regulated routes by a licensed transporter, and would not pose a significant hazard to the public or the environment. During construction of the solar facilities, minor spills or discharges of hazardous materials could occur due to improper handling, storage, and/or disposal. Unless mitigated, this would represent a significant impact. In order to reduce the potential impacts from hazardous materials to less-than-significant levels, the following mitigation measure shall be implemented in conjunction with the project.

Mitigation Measure HAZ-1: Protection from Hazardous Materials. *In order to protect the public from potential release of hazardous materials, the following measure shall be implemented during project construction, operation, and decommissioning:*

a. The project applicant shall prepare and implement a Hazardous Materials Business Plan (HMBP) in accordance with the requirements of, and to the satisfaction of, the Kings County Public Health Department Environmental Services Division.

The potential for minor spills would be largely avoided through implementation of the Hazardous Materials Business Plan (HMBP), as required under the Hazardous Materials Release Response Plan and Inventory Act of 1985. Under this state law, the applicant is required to prepare an HMBP to be submitted to the Kings County Public Health Department, Environmental Health Services Division, which is the Certified Unified Program Agency (CUPA) for Kings County. The HMBP would include a hazardous material inventory, emergency response procedures, training program information, and basic information on the location, type,

quantity, and health risks of hazardous materials stored, used, or disposed of at the proposed project site, and procedures for handling and disposing of unanticipated hazardous materials encountered during construction. The HMBP would include an inventory of the hazardous waste generated on site, and would specify procedures for proper disposal. As required, hazardous waste would be transported by a licensed hauler and disposed of at a licensed facility.

According to the HMBP reporting requirements, workers must be trained to respond to releases of hazardous materials in accordance with State and federal laws and regulations governing hazardous materials and hazardous waste (e.g., HAZWOPER training required by OSHA). Any accidental release of small quantities of hazardous materials would be promptly contained and abated in accordance with applicable regulatory requirements and reported to the Environmental Health Services Division. As the CUPA for Kings County, the Environmental Health Services Division of the County Public Health Department is responsible for implementation and enforcement of HMBPs. Implementation of the HMBPs for each phase of the Cherry Solar Project would ensure that minor spills or releases of hazardous materials would not pose a significant risk to the public or the environment.

As Section 4.10. Hydrology and Water Quality, the project proponent will be required to prepare, or to have prepared, and to implement a Storm Water Pollution Prevention Plan (SWPPP) for the project, as required by the State Water Resources Control Board (SWRCB), and to the satisfaction of the Central Valley Regional Water Quality Control Board. This measure is discussed further in Section 4.10 Hydrology and Water Quality, and Mitigation Measure HYD-1. The SWPPP will specify best management practices for control and containment of hazardous materials during construction, including housekeeping measures for control of contaminants such as petroleum products, paints and solvents, detergents, fertilizers, and pesticides, as well as vehicle and equipment fueling and maintenance practices, and waste management and disposal control practices, among other things. The project SWPPP will be prepared by a certified Qualified SWPPP Developer (QSD), who will ensure that the BMPs in the project-specific SWPPP will fully comply with the requirements of the General Permit. The enforcement of project SWPPP is the responsibility of the Central Valley Regional Water Quality Control Board, whose responsibilities include conducting inspections of the project construction sites to ensure effective implementation of Best Management Practices (BMPs) specified in the SWPPP prepared for the project. Additionally, the use, storage, transport, and disposal of construction-related hazardous materials and waste would be required to conform to existing laws and regulations. These include the Hazardous Material Transportation Act, Resource Conservation

and Recovery Act, California Hazardous Waste Control Act, Unified Program; and California Accidental Release Prevention Program. As the local Certified Unified Program Agency (CUPA), the Kings County Environmental Health Services Division (KCEH) coordinates and makes consistent the enforcement of several state and federal regulations governing hazardous materials. For example, KCEH administers the Accidental Reporting Program, Hazardous Materials Business Plans, Above Ground Storage Tank Program, and Underground Storage Tank Program. In summary, the implementation of Mitigation Measure HAZ-1, and the compliance with applicable laws and regulations, would ensure that hazardous materials used in project construction are handled, stored, and disposed of in accordance with the SWPPP required to be implemented in conjunction with the project, with oversight by the responsible agencies. (Note: The HMBP applies only to project operations, discussed below.) Therefore, implementation of Mitigation Measure HAZ-1 would reduce potential for impacts to the public and the environment from routine transport, use, and disposal of hazardous materials during project construction to less-than-significant levels.

Operations

Less-than-Significant Impact with Mitigation Incorporated. During operations, the battery storage facility is designed to account for battery degradation such that transport of spent or defective and replacement batteries is not anticipated over the life of the Project. Augmentation of the lithium-ion batteries will be required at planned intervals over the lifespan of the Project. Depending on technology selection, augmentation could include replacement of the lithium-ion batteries within existing battery enclosures and/or the phased installation of new enclosures over the Project's life. If transport of batteries is necessary, this material would be classified mostly as universal waste under the Department of Toxic Substances Control (DTSC) regulations and guidance. Transportation of lithium-ion batteries is subject to 49 CFR 173.185 – DOT Pipeline and Hazardous Material Administration. These regulations include requirements for prevention of a dangerous evolution of heat; prevention of short circuits; prevention of damage to the terminals; and the requirement that no battery come in contact with other batteries or conductive materials. Additional DTSC regulations include training, safe interim storage, and segregation from other potential waste streams to minimize public hazards related to transport, use, or disposal of battery wastes. Other hazardous materials associated with the Project are those normally associated with modern electric utility infrastructure, including copper wiring and insulators; however, no liquid or gaseous compounds are expected to be used for proposed operations. With adherence to the requirements listed above, the potential for the

Project to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (including battery wastes) during operations is low; however, there is still some risk of accidental releases. With implementation of Mitigation Measure HAZ-1, potential impacts from hazardous materials during operations would be reduced to less-than-significant levels.

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less-than-Significant Impact. Potential upset conditions may include a fire that results from overheating or other electrical fault conditions within the battery storage facility, or fire that spreads to the Project from adjacent land uses. In the unlikely scenario where multiple fire suppression systems were to simultaneously fail and emissions from the battery equipment were to be released to atmosphere, the fumes and smoke could be irritating and toxic within the immediate vicinity of the release, similar to any other residential, commercial or industrial fire. Depending on specific lithium chemistry, fumes could contain hydrogen fluoride or phosphorous compounds containing fluorides.

Other potential upset conditions include intentional or unintentional damage, theft, or vandalism, resulting in damage to the battery storage system or exposure of its components to the environment.

Potential receptors during upset or accident conditions include rural residents, agricultural workers, and transient motorists. Rural residences are located approximately 500 feet east and north, and other residences are located approximately 0.4 miles to the west/northwest. Grangeville Boulevard runs along the northern project boundary. Other nearby public roads include 7th Avenue and SR-43 approximately 1,100 feet and 1.2 miles west, respectively.

The battery storage facility would be designed and operated in accordance with applicable industry best practices for fire safety, including applicable National Fire Protection Association standards and locally adopted fire codes and standards.

The battery system would be comprised of lithium-ion cells that are arranged into modules, where multiple modules are placed into racks, and racks are placed into outdoor-rated enclosures. The installed equipment would be listed to the Underwriters Laboratories 9540 "Standard for Safety of Energy Storage Systems and Equipment." There are physical, electrical,

and control system designs at each level that mitigate safety risks, as well as protections external to the enclosure provided from local agency fire and emergency response services.

The battery storage control system would have built-in, redundant protection functions at multiple equipment and software levels for continuous monitoring of temperature, voltage, and current telemetry at each battery module along with protective devices to automatically shut down any component or system when an anomaly is detected. “Anti-islanding” protection would be included that would cause an automatic shutdown in the event of a power outage or other grid instability. The battery storage system supplier would conduct ongoing system safety monitoring and collect and communicate pertinent industry updates, product news, and safety bulletins on a regular basis to the facility operator.

Battery storage unit enclosures would include a fire detection and suppression system designed to detect and suppress fires within the enclosures. Safety and reliability systems would also include voltage and current protection via fusing, breakers, contactors, relays, and software controls and physical protection via component isolation.

In the event of a detected battery cell failure through off-gas detection, smoke detection, or an electrical anomaly detected by the Battery Management System (BMS), the battery units are designed to de-energize and electrically isolate the affected battery cells in order to eliminate the source of the failure and intervene before ignition occurs within the battery module. If ignition still occurs within a battery rack, the battery enclosures are designed with fire-proof barriers and physical spacing so that fire does not spread from one section of the battery unit to another. This response would be demonstrated through UL9540A laboratory testing results provided by the battery manufacturer.

The battery storage system would be located within a secure fenced area. Security lighting would be installed at appropriate locations along the perimeter and interior of the battery storage operational area. A third-party security service would provide a standardized site security monitoring program that includes cameras, alarms, notifications for the operations group and local law enforcement, and artificial intelligence (AI)-generated activity logs. Water for fire protection would be stored onsite in a minimum 24,000 gallon self-filling water tank with water connection, approved by the Kings County Fire Department.

These multiple layers of safety design, including third-party independent review and documentation of the design, would reduce the likelihood and severity of dangerous emissions impacting off-site receptors.

Additional fire protection and emergency response capability would be available from local fire and emergency response services. The Project site receives fire protection and related services from the Kings County Fire Department (KCFD). The nearest fire station, Station 4, is approximately 3.2 miles southwest, at 7622 Houston Avenue, in Hanford. Response time to the Project site from this location is approximately 7 to 8 minutes (pers. comm. Blake Adney Fire Marshall, Kings County Fire Department, 10/10/23).

Prior to operations, the Applicant would provide training to KCFD fire fighters and first responders that is specific to the Project site, the equipment installed, and the system configuration. A point of contact would be designated for emergency responders to contact in case of emergency or concerns.

The Applicant would work closely with Kings County Fire Department to develop contingency plans to address potential contingency situations associated with battery storage. These plans and procedures may include a Hazardous Materials Business Plan, Fire Protection Plan, and Emergency Response Plan with emergency response and spill response procedures and a list of onsite emergency response equipment including the firewater tank and appurtenances, fire extinguishers, fire suppression system, and spill kit.

With implementation of the battery containment and fire suppression system, onsite fire water supply, security fencing and lighting, contingency planning, and timely emergency response from KCFD, there is a very low likelihood of a fire or dangerous emissions impacting offsite receptors. Therefore, the potential for the Project to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials would be less than significant.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less-than-Significant Impact. The nearest school is Kit Carson Elementary School, located approximately 2 miles southwest of the Project site. Under normal operations, the battery storage facility would have no hazardous emissions. If transport of spent batteries is necessary, then the transport would comply with DTSC universal waste requirements and would not present a risk to the school or other offsite receptors.

With implementation of the battery containment and fire suppression system, onsite fire water supply, security fencing and lighting, contingency planning, and timely emergency response from KCFD, there is a very low likelihood of a fire or dangerous emissions impacting offsite

receptors. Therefore, the potential for the Project to create a significant hazard to nearby schools or other sensitive receptors due to a potential release of hazardous emissions would be less than significant.

d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less-than-Significant Impact. The Project site property is not identified on the Hazardous Waste and Substance Site List database compiled pursuant to Government Code Section 65962.5 (the “Cortese” list). No records of soil or groundwater contamination/cleanup were noted on the DTSC Envirostor database or State Water Resources Control Board (SWRCB) Geotracker database.

A Phase I Environmental Site Assessment was performed for the Project site parcel in conformance with the scope and limitations of applicable ASTM Practice (ERM 2023). The assessment included a preliminary review of past and present land use practices; a records review (historical site plans, environmental regulatory/agency lists and records); and a reconnaissance of the Project site and surrounding area. Field reconnaissance identified no Recognized Environmental Conditions (REC) that would potentially impact site workers or the public. The assessment identified *de minimis* hazardous conditions associated with historical and ongoing agricultural practices. The site has been in agricultural use since sometime in the late 1930 based on review of historical records. Agricultural practices include the transport, storage, handling, and use of liquid insecticides, herbicides, and fungicides. Based on the long-term uses of these chemicals there could be chemical residue in the soil and groundwater.

Electrical transformers, hydraulic equipment, capacitors, and similar equipment may contain polychlorinated biphenyls (PCB) as operating or dielectric insulating fluids within the units. The Federal Toxic Substances Control Act generally prohibited the domestic manufacture of PCBs after 1976; therefore, there is a potential for the dielectric fluid in electrical and hydraulic equipment manufactured prior to that date to contain PCBs. ERM inspected the Project site for types of equipment that have been historically associated with the use of PCBs as a dielectric fluid coolant and stabilizer. ERM did not identify pole-mounted or pad-mounted transformers at the Project site. Other equipment that may contain PCBs, such as capacitors, were not observed on the property during the Project site reconnaissance.

e. For a Project located within 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 result in a safety hazard or excessive noise for people residing or working in the Project area?

No Impact. The Project site is not located within an airport land use plan and is greater than two miles from the nearest public airport and there are no private airstrips in the Project vicinity. No impacts related to aviation safety would occur.

f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The Health and Safety Element of the 2035 Kings County General Plan designates evacuation routes to be relied upon for emergency or disaster responses. Within the project area, the primary evacuation routes include SR-43 and SR-198 (Kings County 2010e). The Project would have its entrance on Grangeville Boulevard. This portion of Grangeville Blvd. is a secondary evacuation route as shown on Figure HS-20 Evac Routes in the Health & Safety Element, and it would serve as a critical evacuation route for the Project itself. This route would remain open throughout construction, and emergency access would not be limited by construction activities at the Project site.

During operations, gated entrances for the proposed facility would allow emergency response vehicle access in the event of an emergency. The new equipment would be sited such that emergency response access would not be obstructed. Therefore, the Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact. The proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires because the Project site is not located within a designated wildland fire area and there are no wildlands located on or surrounding the Project site. Therefore, Project wildland fire impacts would not occur.

REFERENCES—HAZARDS AND HAZARDOUS MATERIALS

Adney, Blake. 2023. pers. comm. with Blake Fire Marshall, Kings County Fire Department, October 10, 2023.

4.10. HYDROLOGY AND WATER QUALITY

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?		X		
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				X
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site?		X		
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			X	
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or			X	
iv. Impede or redirect flood flows?				X
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				X

HYDROLOGY AND WATER QUALITY SETTING

Kings County receives runoff from the Sierra Nevada as it is carried in creeks, rivers, and sloughs as far west as the Kings River which flows in a west-southwesterly direction to the

Tulare Dry Lakebed, passing through the project vicinity approximately 6 miles north of the Project site. Drainage courses originating in the Coast Ranges to the west dissipate west of the California Aqueduct, approximately 30 miles west of the project site.

A hydrological study prepared for the Project indicates that the Project area is level and has no natural drainage features. The relatively low annual rainfall (~6.6 inches) in the project area is absorbed by the soil and crop cover, with little or no runoff leaving the site. Irrigation canals and ditches near the Project site convey and distribute surface water and pumped well water throughout the area. An agricultural canal (Melga Canal) runs along the eastern edge of the battery storage operational area. The Project site is relatively flat and surface runoff infiltrates into the site soils.

REGULATORY SETTING

Federal

Clean Water Act

The Clean Water Act (CWA) was enacted with the primary purpose of restoring and maintaining the chemical, physical, and biological integrity of the Nation's waters. The CWA directs states to establish water quality standards for all "waters of the United States" and to review and update such standards on a triennial basis. Other provisions of the CWA relate to basin planning including Section 208, which authorizes the preparation of waste treatment management plans, and Section 319, which mandates specific actions for the control of pollution from non-point sources. Section 303 requires states to adopt water quality standards for all surface waters of the U.S. Standards are based on the designated beneficial use(s) of the water body. Where multiple uses exist, water quality standards must protect the most sensitive use. Section 402 mandates that certain types of construction activity comply with the requirements of Environmental Protection Agency's National Pollution Discharge Elimination System (NPDES) stormwater program. The U.S. Environmental Protection Agency (USEPA) has delegated responsibility for implementation of portions of the CWA, including water quality control planning and control programs, such as the NPDES Program, to the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB). Construction activities that disturb one or more acres of land must obtain coverage under the NPDES general construction activity stormwater permit, which is issued by Central Valley Regional Water Quality Control Board (RWQCB) (see detailed discussion on NPDES permit requirements below).

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities complying with FEMA regulations that limit development in floodplains. FEMA issues flood insurance rate maps (FIRMs) for communities participating in the NFIP. These maps delineate flood hazard zones in the community. Executive Order 11988 (Floodplain Management) addresses floodplain issues related to public safety, conservation, and economics. It requires: 1) avoidance of incompatible floodplain development; 2) consistency with the standards and criteria of the NFIP; and 3) restoration and preservation of the natural and beneficial floodplain values. (See 'Local' below for further discussion of flood regulations.)

State of California

Porter-Cologne Water Quality Control Act

Adopted in 1969, the Porter-Cologne Act is California's comprehensive water quality law, establishing an extensive regulatory program and planning and management functions to protect water quality and beneficial uses of the state's water. It established the State Water Resources Control Board and the nine Regional Boards, whose primary responsibility is the development and implementation of Basin Plans (or Water Quality Control Plans). Pursuant to the authority delegated under CWA Section 303, the Regional Boards issue NPDES discharge permits and Waste Discharge Requirements (WDRs) to municipal wastewater treatment plants and industrial dischargers.

Central Valley Regional Water Quality Control Board

In southern San Joaquin Valley, the state water quality standards are regulated by the Central Valley Regional Water Quality Control Board (CVRWQCB or Regional Board). The Regional Board establishes beneficial uses and water quality objectives for surface water and groundwater resources the region through the Tulare Lake Basin Plan (SWRCB 2022).

The Regional Board also implements Clean Water Act (CWA) Section 303(d) total maximum daily load (TMDL) process, which consists of identifying candidate water bodies where water quality is impaired or limited by the presence of pollutants. The TMDL process is implemented to determine the assimilative capacity of the water body for the pollutants of concern and to establish equitable allocation of allowable pollutant loading within the watershed. The nearest impaired waterbody in the project vicinity is referred to as Cross Creek (Kings and Tulare

Counties), which runs in a southwesterly direction approximately 2 miles east of the Project Site. Listed pollutants include toxicity of unknown origin (SWRCB 2022). The next nearest impaired water body is the Lower Kings River (Pine Flat Reservoir to Island Weir), which runs in a southwesterly direction approximately 6 miles north of the Project site. Listed pollutants include alkalinity (SWRCB 2022).

CWA Section 401 requires an applicant pursuing a federal permit to conduct any activity that may result in a discharge of a pollutant to obtain a water quality certification (or waiver) from the applicable RWQCB. The RWQCBs primarily implement basin plan policies through issuing waste discharge requirements for waste discharges to land and water. The RWQCBs have also been delegated responsibility for administering the NPDES permit program, which is designed to manage and monitor point and nonpoint source pollution.

NPDES General Permit for Discharges of Storm Water Associated with Construction Activity

As noted above, the portion of the NPDES program that regulates stormwater discharges associated with construction activities applies to construction sites which disturb over one acre. The NPDES General Permit for Discharges of Storm Water Associated with Construction Activity applies to all of California. Since the proposed project would disturb more than 1 acre of land, the project will be subject to the General Permit for stormwater discharges. Administration of the General Permit has not been delegated to cities, counties, or Regional Boards but remains with the State Board. Enforcement of permit conditions, however, is the responsibility of Regional Board staff, assisted by local municipal or county staff. Prior to construction grading for a project, applicants are required to file a “Notice of Intent” (NOI) with the State Board to comply with the General Permit and prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) which addresses measures to be included in the project to minimize and control runoff during and after construction. The SWPPP is required to specify the site specific best management practices (BMPs) to control erosion and sedimentation and discharges of other construction-related pollutants (e.g., petroleum products, solvents, paints, concrete) that could contaminate nearby water resources during the construction phase. The SWPPP is also required to contain a summary of the structural and non-structural BMPs to be implemented during the postconstruction period. The SWPPP is to be kept on-site during construction and is to be updated each year as site development proceeds.

DWR Awareness Floodplain Mapping Project

The California Department of Water Resources (DWR) initiated the Awareness Floodplain Mapping project in order to identify flood hazard areas for areas that are not mapped under the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program (NFIP) and to provide the community and residents an additional tool in understanding potential flood hazards currently not mapped as a regulated floodplain. The awareness maps identify the 100-year flood hazard areas using approximate assessment procedures. These floodplains are shown simply as flood prone areas without specific depths and other flood hazard data. These maps are not FEMA regulatory floodplain maps; however, at the request of the community, FEMA would include this data on their maps (DWR 2022).

Sustainable Groundwater Management Act

In September 2014, Governor Brown signed the Sustainable Groundwater Management Act (SGMA). The goal of the legislation is to sustainably manage California's groundwater basins identified as medium to critically overdrafted subbasins. SGMA required that all medium to critically over drafted subbasins identified by DWR be managed by a groundwater sustainability agency (GSA). The GSA is responsible for locally managing the groundwater subbasin through the development and implementation of a Groundwater Sustainability Plan (GSP). For medium and high priority groundwater basins and subbasins, the preparation of the GSPs is mandatory, with adoption deadlines of 2020 or 2022 depending on the basin's priority.

The Outlaw Energy Storage Project Site is located within the Tulare Lake Subbasin and is sited within the Mid Kings River GSA. As part of the San Joaquin Valley Basin, the Tulare Lake Subbasin is a high-priority basin that is in critical groundwater overdraft. The Mid-Kings River GSA is one of six GSAs within the Tulare Lake Subbasin. The GSA was formed in 2016 as a joint powers authority by the Kings County Water District, City of Hanford, and County of Kings to represent the interests of beneficial users of groundwater in the GSA's jurisdictional boundary within the Tulare Lake Subbasin and overseeing compliance with SGMA requirements (Mid-Kings River Groundwater Sustainability Agency, 2023).

Kings County

Kings County General Plan

The 2035 Kings County General Plan includes the following goals, objectives and policies related to hydrology and water quality that are relevant to the Outlaw Battery Storage Project:

Resource Conservation Element

A. Water Resources

- RC Policy A1.4.1: Evaluate proposed land uses and development projects for their potential to create surface and groundwater contamination from point and non-point sources. Confer with other appropriate agencies, as necessary, to assure adequate water quality review to prevent soil erosion; direct discharge of potentially harmful substances; ground leaching from storage of raw materials, petroleum products or waste; floating debris; and runoff from the site.
- RC Policy A1.4.2: Monitor and enforce provisions to control water pollution contained in the U.S. EPA National Pollutant Discharge Elimination System (NPDES) program as implemented by the California Water Quality Control Board, Central Valley Region.
- RC Policy A1.4.3: Require the use of feasible and cost-effective BMPs and other measures designed to protect surface water and groundwater from the adverse effects of construction activities and urban and agricultural runoff in coordination with the California Water Quality Control Board, Central Valley Region.
- RC Policy A1.4.4: Encourage and support the identification of degraded surface water and groundwater resources and promote restoration where appropriate.

Health and Safety Element

A. Natural Hazards

- HS Policy A4.1.1: Review new development proposals against current Federal Emergency Management Agency (FEMA) digital flood insurance rate maps and California Department of Water Resource special flood hazard maps to determine project site susceptibility to flood hazard.

- HS Policy A4.1.2: Reserve FEMA designated flood hazard areas for agricultural and natural resource conservation uses along the floodway channels and Tulare Lake Basin.
- HS Policy A4.1.3: Determine base flood elevations for new development proposals within or adjacent to 100 year flood zone areas as identified in latest FEMA Digital Flood Insurance Rate Map, to definitively assess the extent of property potentially subject to onsite flood hazards and risks.
- HS Policy A4.1.5: Regulate development, water diversion, vegetation removal, and grading to minimize any increase in flood damage to people and property.
- HS Policy A4.1.6: New development shall provide onsite drainage or contribute towards their fair share cost of off-site drainage facilities to handle surface runoff.
- HS Policy A4.1.7: Consider and identify all areas subject to flooding in the review of all land divisions and development projects.
- HS Policy A4.1.8: Enforce the “Kings County Flood Damage Prevention Ordinance,” Chapter 5A of the Kings County Code of Ordinances.

Kings County Code of Ordinances

Kings County Flood Damage Prevention Ordinance

Kings County maintains a floodplain management program which is implemented through the County's Flood Damage Prevention Ordinance (Chapter 5A of the Kings County Code of Ordinances). The purpose of this ordinance is to ensure that proposed development is constructed to prevent flood damage, and to ensure that development in those areas can avoid or withstand flooding without increasing flood risk elsewhere. Flood prevention and control in community districts and urban fringe areas are most effectively deterred by structural means such as curbs, gutters, and storm drainage systems. In more rural and less developed Agriculture and Open Space areas, more passive measures are relied upon such as high crowns on roadway pavement to divert floodwaters onto adjacent properties that are more suited to accommodate the diverted drainage.

Kings County Improvement Standards

The Kings County Improvements Standards serve as an engineering reference for Kings County staff and private parties in the design and construction of improvements for public works projects and private development improvements. The standards include engineering design specifications for the construction of streets, water supply systems, storm drainage, and sewage disposal.

ENVIRONMENTAL EVALUATION

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less-than-Significant Impact with Mitigation Incorporated. Ground disturbance during construction could expose the soil to potential erosion from wind and rain, and construction vehicles and equipment could release pollutants such as oil and grease to site soils. If not properly contained, these pollutants could migrate to Project area agricultural canals or to groundwater. Soil stabilization and erosion control measures would be employed during grading and construction to prevent erosion and stormwater runoff. The specific erosion controls to be implemented at the project site would be specified in a Project-specific SWPPP, as required by the State Water Resources Control Board's Construction Stormwater General Permit for all projects that disturb more than 1 acre. The SWPPP would specify BMPs such as stormwater runoff control and hazardous waste management measures and would include monitoring and reporting procedures. Specific BMPs for the Project would be determined during the final engineering design stages for the project. Implementation of stormwater BMPs during construction and operations would ensure that any pollutant releases due to accidental spills would be appropriately contained onsite and any residual pollutants would be removed from the site. Project operations would not generate wastewater discharges. In order to further reduce the project impacts to hydrology and water quality to less-than-significant levels, the following mitigation measure HYD-1 shall be implemented in conjunction with the project.

Mitigation Measure HYD-1: Stormwater Quality Protection. *Prior to the issuance of building permits, the applicant shall be required to file a "Notice of Intent" (NOI) with the SWRCB to comply with the General Construction Permit and prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall be prepared by a licensed engineer or Qualified SWPPP Developer (QSD) and shall detail the treatment measures and best management practices (BMPs) to control pollutants that shall be implemented and complied*

with during construction. Construction contracts shall include the requirement to implement the BMPs in accordance with the SWPPP. The SWPPP will specify such practices as: designation of restricted-entry zones, sediment tracking control measures (e.g., crushed stone and/or riffle metal plate at construction entrance), truck washdown areas, diversion of runoff away from disturbed areas, protective measures for sensitive areas, outlet protection, application of mulch for soil stabilization during construction, and provision for revegetation upon completion of construction within a given area. The SWPPP will also prescribe treatment measures to trap sediment once it has been mobilized, such as straw bale barriers, straw mulching, fiber rolls and wattles, silt fencing, and siltation or sediment ponds. Construction contracts will include the requirement to implement the BMPs in accordance with the SWPPP, and proper implementation of the specified BMPs is subject to inspection by the Regional Board staff.

With implementation of Mitigation Measure HYD-1 potential impacts to water quality during Project construction would be reduced to less-than-significant levels.

b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No Impact. The Project would not consume water during normal operations. An onsite fire water storage tank would obtain water from a local source, but the water would only be used during emergencies or emergency training. No new municipal water connections would be required, and no continuous use of groundwater supplies (i.e., pumping wells) would be required as part of the Project. Therefore, the proposed Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table. There would be no impact to groundwater supplies.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or the addition of impervious surfaces, in a manner which would:

i. Result in substantial erosion or siltation on- or off-site?

Construction Phase

Less-than-significant Impact with Mitigation Incorporated. An agricultural canal (Melga Canal) runs along the eastern edge of the battery storage operational area. The nearest natural

water body to the Project site is Kern River approximately 17 miles to the west; Kern River feeds into Tulare Lake which is about 18 miles to the southwest. The Project site is relatively flat and surface runoff infiltrates into the site soils.

Project design would retain the existing site drainage pattern. The project includes no proposal to alter the existing canal channels, or ditches, or to substantially modify the ground contours or surface drainage patterns on the site. During project grading and construction, appropriate BMPs would be implemented to ensure that sediment or other pollutants are contained onsite.

Site clearing and soil preparation would retain vegetative cover as long as possible to minimize exposed soils and reduce potential for erosion and wind-blown dust. Once vegetation is removed, the exposed and disturbed soil would be susceptible to erosion from wind and rain. Unless mitigated, the potential for erosion and siltation impacts would be potentially significant. Potential erosion and sedimentation impacts associated with project construction would be reduced to less-than-significant levels with implementation of the following mitigation measure:

In order to further reduce the project impacts related to erosion or siltation to less-than-significant levels, mitigation measure HYD-1, described above, shall be implemented in conjunction with the project.

With implementation of Mitigation Measure HYD-1 the potential for erosion and siltation impacts during Project construction would be less than significant.

Operations Phase

Less-than-significant Impact. After construction any excess soil, construction waste or other debris would be removed from the Project site. BMPs and soil management procedures would be listed on the Project construction plans.

Existing site conditions (vineyard operation) include exposed soils and limited or no erosion control BMPs; thus, onsite soils are currently subject to water and wind erosion. The Project design includes new impervious surfaces as well as erosion control BMPs and Least Impact Development (LID) features designed to stabilize onsite soils and manage operational stormwater and water quality. New impervious surfaces (i.e., small pedestal footings and foundations for the battery storage modular units and ancillary equipment) would not inhibit the continued infiltration of rainwater into the onsite soils. Furthermore, no new or expanded storm drain system is required for Project design because the unpaved gravel-surfaced areas onsite

(after installation of the equipment foundations and footings) would continue to provide adequate onsite infiltration.

During Project operations, site maintenance would include visual inspections for any inadvertent spills of materials that could enter the onsite soils, and any such spills would be addressed during these inspections. Therefore, Project operations would not substantially alter the existing drainage patterns onsite in a manner that would result in , and the Project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems. With implementation of the BMPs described above, the potential for on- or off-site erosion/siltation contributing additional sources of polluted runoff and associated water quality impacts during Project operations would be less than significant.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less-than-significant Impact. As noted above, the Project design includes new impervious surfaces as well as erosion control BMPs and LID features designed to stabilize onsite soils and manage operational stormwater and water quality in a manner that prevents offsite runoff. Therefore, the Project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. Potential impacts related to surface runoff would be less than significant.

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

Less-than-significant Impact. As discussed above, the unpaved gravel-surfaced areas onsite (after installation of the equipment foundations and footings) would continue to provide adequate onsite infiltration and excess stormwater would be controlled onsite. No new or expanded storm drain system is required for Project design. Therefore, the Project would not substantially alter the existing drainage patterns onsite, and the Project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or introduce additional sources of polluted runoff. With implementation of the BMPs described above, the potential for polluted runoff and associated water quality impacts during Project construction and operation would be less than significant.

iv. Impede or redirect flood flows?

No Impact. The proposed Project would not involve construction within a mapped 100-year flood hazard zone. Therefore, the Project would not pose a risk of release of impeding or redirecting flood flows.

d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact. The Project site is not within a mapped flood hazard, tsunami, or seiche zone. During Project operations, site maintenance would include visual inspections for any inadvertent spills of materials that could enter the onsite soils, and any such spills would be addressed during these inspections.

The proposed Project would not involve construction within a 100-year flood hazard zone as mapped by FEMA. There are no levees or dams in the Project area, and the Project site is not within a tsunami inundation area according to the Tsunami Inundation Map for Emergency Planning prepared by California Emergency Management Agency. There are no large bodies of water near the Project site that could be subject to a seiche. Therefore, the Project would not pose a risk of release of pollutants due to project inundation.

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. The Outlaw Battery Storage Project site is located within the Tulare Lake Hydrologic Basin Planning Area. The Tulare Lake Basin Plan provides for the protection of beneficial uses of surface waters including agricultural, industrial, recreational, biological, and groundwater recharge uses. The project site does not contain any natural hydrologic features and is not hydrologically connected to a natural water feature. The project would not affect the existing surface water features (such as canals), and groundwater recharge would not be affected due to the very small amount of impervious surfaces created by the project. As noted above, the project would be required to adhere to NPDES storm water runoff control requirements during construction and operation. This includes preparation and implementation of SWPPPs in order to control stormwater runoff and minimize erosion, siltation, and contamination by hazardous materials during construction, operation, and decommissioning, as required in Mitigation Measure HYD-1. Project-related water demand, including short-term water usage for dust control during construction and a small quantity of emergency fire water would be well below the GSA's long-term groundwater extraction limit. The Project would not include any waste

discharges that could conflict with the Basin Plan. The Project would have no impact related to implementation of the region's water quality control plans or sustainable groundwater management plan.

REFERENCES—HYDROLOGY AND WATER QUALITY

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SWRCB. 2022. 2020-2022 California Integrated Report. https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2020_2022_integrated_report.html Accessed October, 2023.

4.11. LAND USE AND PLANNING

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?				X
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for purpose of avoiding or mitigating an environmental effect?				X
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

LAND USE SETTING

Existing Land Use

The Outlaw Battery Storage Project site is in active agricultural production (vineyard). Adjacent land features include irrigation canals that run north-south through the western and eastern portion of the Project site parcel and a Union Pacific Railroad line that traverses the southern portion of the Project site parcel. The Project operational area has modern lattices built for the cultivation of grapes. Vegetation within the Project site consists of wine grapes, and ruderal grasses and forbs along the margins of the agricultural production areas.

Surrounding land uses consist of agricultural lands and rural agricultural residences. A single residence and an agricultural water well are located along the west boundary of the Project site parcel. Other agricultural residences and equipment yards are located near the northwestern corner of the Project site parcel at the intersection of Grangeville Blvd. and 7th Avenue; and north of Grangeville Boulevard.

The nearest population centers include the City of Hanford located 4 miles west, City of Kingsburg located 10 miles north, City of Lemoore located approximately 11 miles southwest and the City of Visalia located 15 miles east, in Tulare County. The Outlaw Battery Storage Project site is not visible from these communities.

REGULATORY SETTING

2035 Kings County General Plan

The Project site parcel is designated General Agriculture – 20 acres (AG-20). This land use designation applies to rural areas of the county north of Kansas Avenue, excluding the Urban

Fringe areas of Hanford and Lemoore, Communities of Armona and Home Garden, the Naval Air Station Lemoore, the Santa Rosa Rancheria Tribal Trust Land, and other small Rural Interface pockets of urban uses. Land within this designation is generally characterized by extensive and intensive agricultural uses. Farms within this designation have historically been relatively smaller in size. These areas remain reserved for commercial agricultural uses because of their high quality soil, natural and manmade waterways, scenic nature with larger concentrations of orchards, vineyards, and valley oak trees.

General Agriculture land use designation falls under the broader General Plan category of Agricultural Open Space. In addition to a range of agricultural uses and ancillary activities, the General Plan allows power generating facilities within the Agricultural Open Space areas of the County, as set forth in LU Policy B7.1.2 (Kings County 2010a).

The 2035 Kings County General Plan includes the following goals, objectives and policies related to land use and planning that are relevant to the Outlaw Battery Storage Project.

Land Use Element

LU OBJECTIVE B7.1	Allow compatible Open Space and Public uses of land within the Agriculture Open Space area of the County.
LU Policy B7.1.2	Designate community benefiting isolated sites within the Agriculture Open Space area that are devoted to schools, utility power facilities, municipal wastewater services as Public designated land use.
LU Policy B7.1.3	<p>Power generation facilities for commercial markets shall be allowed and regulated through the Conditional Use Permit approval process, and include thermal, wind, and solar photovoltaic electrical generating facilities that produce power. Hydroelectric and cogeneration facilities shall also be regulated as conditional uses except as follows:</p> <ul style="list-style-type: none">• The installation of cogeneration equipment with a capacity of 50 megawatts or less at existing facilities shall be regulated as permitted uses, subject to issuance of a site plan review, which is

categorically exempt pursuant to Section 15329 of the CEQA Guidelines.

Kings County Development Code

The Project site parcel is zone AG-20 General Agricultural-20 acres. Consistent with the General Plan AG-20 Land Use designation, this zone is generally characterized by extensive and intensive agricultural uses, and farms have historically been smaller in size. These areas are intended to remain reserved for commercial agricultural uses because of their high quality soil, natural and manmade waterways, scenic nature with larger concentrations of orchards, vineyards, and valley oak trees. As provided in Article 4 of the Kings County Development Code, electrical energy storage facilities located within one mile of an existing public utility substation are permitted in this zone district subject to a granting of a Conditional Use Permit by the Kings County Planning Commission (Kings County 2020a).

Naval Air Station Lemoore Joint Land Use Study

The Naval Air Station Lemoore (NASL) Joint Land Use Study (JLUS) involved a multi-agency effort managed by the United States Department of Defense (DOD) for cooperative land use planning between NAS Lemoore and adjacent communities to provide for compatibility between future community growth and the training and operational missions of the military installation. DOD has no regulatory authority for local land use outside the boundaries of the naval air station; however, the JLUS includes planning recommendations for consideration by local jurisdictions (JLUSPC 2011).

NASL is located approximately 19 miles west of the Outlaw Battery Storage project site. The Outlaw Battery Storage Project site is outside of NASL Influence Area (JLUSPC 2011). As such, the Project would not interfere with the NASL JLUS (JLUSPC 2011).

Hanford Municipal Airport Master Plan

Hanford Municipal Airport is a general aviation facility serving Kings County and the surrounding communities of Hanford, Armona and Lemoore in south-central California. It is owned and operated by the City of Hanford. The airport is located at 954 Hanford Armona Rd which is approximately 3 miles southwest of the project site. As such, the Project would not interfere with the Airport Master Plan (City of Hanford 2010).

ENVIRONMENTAL EVALUATION

a. Would the project physically divide an established community?

No Impact. The Outlaw Battery Storage Project site is within a rural agricultural area with dispersed rural residential uses that generally support the area-wide agricultural land uses. The nearest populated centers include the City of Hanford located 4 miles west, City of Kingsburg located 10 miles north, City of Lemoore located approximately 11 miles southwest and the City of Visalia located 15 miles east, in Tulare County. The relatively small footprint and low vertical profile of the Project, and its location within an extensive area of agricultural fields and orchards, would not be at a scale large enough to result in the physical division of any established community or neighborhood. Based on these distances and the small size of the project (10 acres) relative to the surrounding land uses, the proposed battery storage facility would not physically divide any such community. As such, there is no impact regarding division of an established community.

b. 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?

No Impact. The potential for the Outlaw Battery Storage Project to conflict with the Kings County 2035 General Plan and Kings County Development Code, as well as the applicable land use recommendations of the NAS Lemoore Joint Land Use Study (JLUS), is discussed below.

Kings County

General Plan

The General Agriculture – 20 acres land use designation falls under the broader General Plan category of Agricultural Open Space which permits a range of agricultural uses and ancillary activities, as well as power generating facilities. Battery energy storage is integral to the electrical grid system wherein generated energy is stored for use during peak demand periods and for other grid management purposes. Therefore, the battery storage facility would be consistent with the General Plan AG-20 Land Use designation.

Development Code

Electrical energy storage facilities are a conditionally permitted use within the AG-20 zone, provided that they are within one mile of an existing public utility substation. The proposed battery storage facility would connect into the SCE Mascot Substation; this substation is within

one mile west of the proposed battery storage facility. Therefore, the Outlaw Battery Storage Project would be consistent with the development code upon the granting of the subject Conditional Use Permit for the project.

Article 17 of the Kings County Development Code establishes requirements that must be satisfied for the granting of a Conditional Use Permit (Kings County 2020b). Conformance with applicable requirements will ensure that the Outlaw Battery Storage Project meets the County's established development standards.

NAS Lemoore

The project site is located 19 miles west of the NASL. As such, it is not within a NASL Influence Area. The Project would have no impact in regard to the NASL JLUS.

Hanford Municipal Airport Master Plan

The airport is located approximately 3.5 miles southwest of the project site. As such, the Project would not interfere with the Airport Master Plan (City of Hanford 2010).

In summary, the Outlaw Battery Storage Project would be consistent with the applicable provisions of the Kings County 2035 General Plan and the County Development Code and would not interfere with the NAS Lemoore Joint Land Use Study or County Airport Master Plan. Therefore, the Project would result in no impact with respect to potential conflict with any land use plan, policy, or regulation of an agency adopted for the purpose of avoiding or mitigating an environmental effect.

c. Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. Based on the assessment provided in Section 4.4 Biological Resources, the Project would not conflict with a habitat conservation plan or natural community conservation plan.

REFERENCES – LAND USE AND PLANNING

JLUSPC 2011 Naval Air Station Lemoore Joint Land Use Study Policy Committee, 2011. *NAS Lemoore Joint Land Use Study – Final Release*. Accessed August 2023.

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City of Hanford. 2010. Airport Master Plan. Adopted January 19, 2010.

<https://www.cityofhanfordca.com/1240/Plans>. Accessed September 2023.

4.12. MINERAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				X

MINERAL RESOURCE SETTING

Few commercial mining and mineral extraction activities occur in Kings County. Currently, only limited excavation of soil, sand and gravel is excavated for commercial use. In 2009, the County had only one surface mining permit for a non-active gravel operation, and two agricultural reclamation sites that were fully reclaimed. Historical local mines that are now closed include an open pit gypsum mine and a mercury mine in southwestern Kings County. The County continues to allow mining and mineral extraction as a conditional use where land use conflicts are avoided, environmental resources are not substantially degraded, and proper reclamation is assured consistent with the requirements of the Kings County SMARA Ordinance (Kings County 2010b).

No known mineral resources have been identified on or near the Outlaw Battery Storage Project site, nor does the Project site parcel contain any known locally important mineral resources (DMR 2023). Based upon the review of aerial imagery, the site has been used for agricultural purposes since at least 1957 (Historic Aerial 1957). There is no evidence that extraction of mineral resources has ever occurred onsite.

Oil and gas production in Kings County has diminished over the past 40 years and the trend continues. Although the County emphasizes alternative energy sources to avoid and minimize greenhouse gas production, new oil and gas sources are still allowed where environmental quality does not degrade and well sites can be restored to a pre-drilling condition at completion of their useful life (Kings County 2010b).

There are two abandoned oil/gas wells in the vicinity of Outlaw Battery Storage Project site, both of which are formerly productive (now dry and plugged) wells (CalGEM 2023a and 2023b).

The nearest plugged oil/gas well is located approximately 1 mile northwest, and another plugged oil/gas well is located approximately 1.9 miles southeast of the Outlaw Battery Storage Project site. CalGEM Well Data records indicate the abandonment of both wells in 1951. As such, there are no active wells within at least a one mile radius of the project site.

The nearest active oil fields include the Kettleman North Dome oil field, located approximately 35 miles southwest, and the Coalinga oil fields located approximately 44 miles west of the project site. The nearest gas field is the abandoned Dudley Ridge gas field located 35 miles southwest of the project site.

REGULATORY SETTING

State of California

California Geologic Energy Management Division

The California Geologic Energy Management Division (CalGEM) of the Department of Conservation is responsible for supervising the drilling, operation, maintenance, plugging, and abandonment of oil, gas, and geothermal wells. CalGEM's regulatory programs promote responsible development of oil, natural gas, and geothermal resources in California through sound engineering practices, prevention of pollution, and implementation of public safety programs. CalGEM requires that land developments avoid building over or near or near plugged or abandoned oil and gas wells or requires the remediation of wells to current CalGEM standards.

Kings County

Kings County General Plan

The 2035 Kings County General Plan includes the following goals, objectives and policies related to mineral resources that are relevant to the Outlaw Battery Storage Project:

Resource Conservation Element

G. Energy Resources

RC GOAL G1	Encourage the development of oil and gas energy sources provided that they do not degrade environmental quality.
RC OBJECTIVE G1.1	Ensure the restoration of oil and gas well sites to a pre-drilling condition after the completed use of a site.

RC Policy G1.1.1 Require the timely reclamation of oil and gas development sites upon termination of such activities to facilitate the conversion of the land to its primary land use as designated by the General Plan. Reclamation costs shall be borne by the well operator.

RC Policy G1.1.2 Additional restrictions in the General Agricultural areas of the County will not be imposed on oil and gas exploration as long as the oil companies involved continue to restore sites to their original condition after use.

H. Mineral Resources

RC Goal H1 Support the extraction of mineral resources in a manner that will not degrade the environment or conflict with other land uses.

RC OBJECTIVE H1.1 Provide for the development of mining and mineral extraction.

RC Policy H1.1.1 Implement the Surface Mining and Reclamation Act by requiring all mining operations, including surface mining, to secure a Conditional Use Permit, pursuant to the Kings County Zoning Ordinance, prior to beginning any mining operation.

RC Policy H1.1.2 All surface mines, unless otherwise exempted, shall be subject to reclamation plans that meet the requirements of the Kings County Surface Mining and Reclamation Act Ordinance (Article 17 Kings County Code of Ordinance) and the State Surface Mining and Reclamation Act (SMARA) requirements. Reclamation procedures shall restore the site for future beneficial use of the land. Mine reclamation costs shall be borne by the mine operator and guaranteed by financial assurances set aside for reclamation procedures.

RC OBJECTIVE H1.2 Ensure that mineral extraction operations are designed, located, and operated so that they do not harm humans or the natural environment or are incompatible with surrounding land uses.

RC Policy H1.2.1	Discourage the location of mining operations near residential areas and other sensitive land uses, unless all impacts to such uses can be mitigated.
RC Policy H1.2.2	Minimize the adverse effects on environmental resources such as water quality and quantity, air quality, drainage and flood control, geophysical characteristics, biological resources, and aesthetic factors.

ENVIRONMENTAL EVALUATION

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

No Impact. There are no known mineral resources of importance to the region or the state onsite, and the project site is not near any mineral resource recovery sites. In the absence of mineral resources on the project site and the vicinity, the Outlaw Battery Storage Project would have no impact on known mineral resources.

There are two inactive oil/gas wells located to the northwest and southeast of the Outlaw Battery Storage Project site, both of which were formerly productive (now dry and plugged) wells. The nearest active oil fields include the Kettleman North Dome oil field, located approximately 35 miles southwest, and the Coalinga oil fields located 44 miles west of the project site. The nearest gas field is the abandoned Dudley Ridge gas field, located 35 miles southwest. In the absence of active oil/gas wells and fields near the project site, the Outlaw Battery Storage Project would have no impact on oil/gas resources.

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. Mineral resources are addressed in the Resource Conservation Element of the 2035 Kings County General Plan. The General Plan recognizes that oil and natural gas production in the County has diminished and does not designate any areas of the County for oil and gas recovery. Similarly, the General Plan notes the low potential for surface mining in the County and does not designate any areas of the County as important aggregate or other mineral recovery sites (Kings County 2010b). The California Geologic Service (CGS) produces Mineral Land Classification (MLC) studies that identify areas of the State with potentially important mineral resources. MLC studies have not identified potentially important mineral

resource areas that are located in Kings County (CGS 2023). The CGS has not classified any lands in Kings County as Mineral Resource Zones (MRZs) under the Surface Mining and Reclamation Act (SMARA). Therefore, the Outlaw Battery Storage Project would have no impact with respect to loss of availability of important mineral recovery sites designated on any land use plans.

REFERENCES—MINERAL RESOURCES

California Geologic Energy Management Division (CalGEM). 2023a. California Department of Conservation (CDOC) CalGEM Well Finder. August.

<https://maps.conservation.ca.gov/doggr/wellfinder/> Accessed August, 2023.

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4.13. NOISE

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b. Generation of excessive ground borne vibration or ground borne noise levels?			X	
c. For a project located within the vicinity of a private airstrip or 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?				X

BACKGROUND INFORMATION ON ACOUSTICS AND NOISE MEASUREMENT

Noise level (or magnitude) is generally measured and quantified as sound pressure level (SPL) in terms of A-weighted decibels (dBA). The A-weighting scale is an adjustment to the actual SPL measured by an instrument so that the resultant quantities are consistent with that of average healthy human hearing response, which is generally most sensitive to a range of frequencies between 500 Hertz (Hz) and 4,000 Hz (about the highest note on a piano) but less sensitive to low frequencies (below 100 Hz) and very high audible frequencies (above 8,000 Hz). In addition to the instantaneous measurement of a sound level, the duration of sound is important since sounds that occur over an extended period of time can be an annoyance or cause direct physical damage or environmental stress. One of the most frequently used noise metrics that considers both duration and SPL is the equivalent noise level (Leq). The Leq is defined as the single steady or constant level that is equivalent to the same amount of energy as that contained in the actual fluctuating sound levels over a period of time. For instance, an hourly Leq is the energy-averaged SPL over a one-hour period, noted with a “dB” or “dBA” metric descriptor depending on the application of A-weighting.

An SPL value is expressed with respect to a reference value of twenty micro-Pascals (20 µPa) on a logarithmic scale, with 0 dBA based on the lowest SPL that people can perceive. In other words, 0 dBA is not the absence of sound energy, and negative dB or dBA values are possible

for extremely quiet sounds since they are values on a logarithmic scale. For example, a doubling of sound energy is equivalent to an increase of 3 dBA. However, in terms of human perception, due to the nature of the human ear, a sound must be about 10 dBA greater than another sound to be subjectively judged as twice as loud. In general, a 3 dBA change in community noise levels is noticeable, while 1-2 dBA changes generally are not perceived. Quiet suburban areas typically have ambient noise levels in the range of 40 to 50 dBA, while those along arterial streets are in the 50 to 60+ dBA range. Normal conversational levels are in the 60-65 dBA range and ambient noise levels greater than that can interrupt or decrease the intelligibility of such normal speech.

Noise emission levels typically attenuate at a rate of 6 dBA per doubling of distance as sound propagates away from point sources. Noise from line sources such as heavily-trafficked roadways propagates at a rate of only 3 dBA per doubling of distance. In addition to this geometric divergence of sound, naturally occurring sources of sound absorption (or reflection) such as atmospheric effects, ground cover and terrain can influence sound propagation and the corresponding measured SPL at a distant receiver location.

The time period during which noise occurs is also important since noise that occurs at night tends to be more disturbing than daytime noise. To evaluate community noise on a 24-hour basis, the day-night average sound level (Ldn) was developed. Ldn is the logarithmic average of all A-weighted levels (e.g., hourly Leq values) for a 24-hour period with a 10 dBA upward adjustment added to those noise levels occurring between 10:00 PM and 7:00 AM (to account for the general increased sensitivity of people to nighttime noise levels). The Community Noise Equivalent Level (CNEL) is identical to the Ldn with one exception: the CNEL adds 5 dBA to evening noise levels (7:00 PM to 10:00 PM). Note that because of this additional adjustment in the evening hours, a CNEL value may be slightly higher than an Ldn value for the same 24 hours being represented; and, both Ldn and CNEL, due to the adjustments they apply, will have higher values than a simple Leq for the same 24-hour period.

Vibration

Vibration is an oscillatory motion through a solid medium, in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most

frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (Vdb) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration. Typically, groundborne vibration generated by heavy equipment or traffic on rough roads attenuates rapidly with distance from the source of the vibration so that potential impact areas are usually confined within short distances (e.g., 200 feet or less) from the source (USDOT 2018).

NOISE SETTING

The existing noise environment in the project area is typical of rural agricultural environments. The primary noise sources in the project vicinity include: 1) traffic on Grangeville Boulevard; 2) agricultural equipment and crop dusters; and 3) occasional overflights by military aircraft from Naval Air Station Lemoore (NASL). Ambient noise levels in this environment are estimated to be in the 40-50 dBA range.

Potentially sensitive receptors to unwanted noise from the Project include rural residences located along Grangeville Boulevard. Table Noise-1 lists the locations of the nearest residential properties; these include five properties ranging in distance from 106 feet to 810 feet from the Project site boundary. Other residences and sensitive receptors are located at farther distances from the Project site.

Table Noise-1: Sensitive Receptors in Proximity to Project Site

Sensitive Receptors	Direction	Distance from Project Site Boundary (feet)
S1 - 6900 Grangeville Blvd.	West	660
S2 - 6909 Grangeville Blvd.	West	810
S3 - 6668 Grangeville Blvd.	Northwest	106
S4 - 6454 Grangeville Blvd.	Northeast	145
S5 - 6390 Grangeville Blvd.	Northeast	530

Source: Catalyst 2024.

REGULATORY SETTING

2035 Kings County General Plan

The 2035 Kings County General Plan contains the following goals, objectives and policies related to noise from non-transportation projects that are relevant to the Outlaw Battery Storage Project:

Noise Element

B. Non-Transportation Noise Protection

- | | |
|------------------|---|
| N GOAL B1 | Protect the economic base of Kings County by preventing the encroachment of noise-sensitive land uses into areas affected by existing noise-producing uses. More specifically, to recognize that noise is an inherent byproduct of many land uses, including agriculture, and to prevent new noise-sensitive land uses from being developed in areas affected by existing noise-producing uses. |
| N OBJECTIVE B1.1 | Reduce the potential for exposure of County residents and noise-sensitive land uses to excessive noise generated from Non-Transportation Noise Sources. |
| N Policy B1.1.1 | Appropriate noise mitigation measures shall be included in a proposed project design when the proposed new use(s) will be affected by or include non-transportation noise sources and exceed the County's "Non-Transportation Noise Standards" (Table N-8, shown below). Mitigation measures shall reduce projected noise levels to a state of compliance with this standard within sensitive areas. These standards are applied at the sensitive areas of the receiving use. |
| N Policy B1.1.3 | Noise associated with construction activities shall be considered temporary, but will still be required to adhere to applicable County Noise Element standards. |

C. Excessive Noise Prevention

- | | |
|------------------|---|
| N GOAL C1 | Provide sufficient noise exposure information so that existing and potential noise impacts may be effectively addressed in the land use planning and project review processes, and allow flexibility in the development of infill properties which may be located in elevated noise environments. |
| N OBJECTIVE C1.1 | Ensure the sufficient provision of project and site noise information is available along with alternative mitigation |

approaches to better inform County staff and land use decision makers.

Table N-8 Non-Transportation Noise Standards Average (Leq) / Maximum (Lmax)¹				
Receiving Land Use	Outdoor Area ²		Interior ³	Notes
	Daytime	Nighttime	Day & Night	
All Residential	55 / 75	50 / 70	35 / 55	
Transient Lodging	55 / 75	---	35 / 55	4
Hospitals & Nursing Homes	55 / 75	---	35 / 55	5, 6
Theaters & Auditoriums	---	---	30 / 50	6
Churches, Meeting Halls, Schools, Libraries, etc.	55 / 75	---	35 / 60	6
Office Buildings	60 / 75	---	45 / 65	6
Commercial Buildings	55 / 75	---	45 / 65	6
Playgrounds, Parks, etc.	65 / 75	---	---	6
Industry	60 / 80	---	50 / 70	6
Notes: 1. The Table N-8 standards shall be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards of Table N-8, then the noise level standards shall be increased at 5 dB increments to encompass the ambient. 2. Sensitive areas are defined acoustic terminology section. 3. Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions. 4. Outdoor activity areas of transient lodging facilities are not commonly used during nighttime hours. 5. Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients. 6. The outdoor activity areas of these uses (if any), are not typically utilized during nighttime hours.				

N Policy C1.1.1 All noise analyses prepared to determine compliance with the noise level standards contained within this Noise Element shall be prepared in accordance with the County's "Requirements for Acoustical Analyses Prepared in Kings County" (Table N-9).

N Policy C1.1.2 Where noise mitigation measures are required to satisfy the noise level standards of this Noise Element, emphasis shall be placed on the use of setbacks and site design, prior to consideration of the use of noise barriers.

Kings County Code of Ordinances

Chapter 15, Article 10 of the Code of Ordinances sets forth requirements and procedures for noise abatement in the County. Section 15-211 (Certain Noise Prohibited) provides as follows:

No person shall make, suffer, or permit upon any premises owned, occupied or controlled by such person any noises or sounds which are physically annoying to the senses of persons of ordinary sensitivity, or which are so harsh or so prolonged or unnatural or unusual in their use, time or place, as to cause physical discomfort to neighbors or to interfere with the comfortable use and enjoyment of life or property, or which constitutes a public or private nuisance, within any unincorporated territory of the County of Kings.

The Code of Ordinances provides no further detail on acceptable noise levels or limits on hours for operational or construction noise sources for non-transportation projects. As such, the General Plan Noise Element requirements and standards (reproduced above) are controlling with respect to quantitative noise thresholds.

ENVIRONMENTAL EVALUATION

- a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

Construction

Less-than-significant Impact. Project construction is anticipated to take approximately 8 months. Battery units would be transported to the Project site on flatbed trailers and placed on foundations using a crane. Construction worker parking and building material staging would occur onsite. Conventional construction equipment would be used to install access improvements, equipment pads, and components. Earthwork would be required to excavate shallow foundations for concrete pads for the battery modules and auxiliary equipment.

Site preparation, earthwork, and concrete pad installation is anticipated to take place over a period of 3 months, followed by delivery, installation, and commissioning of BESS equipment for an additional 5 months.

Heavy equipment would operate intermittently during the construction process. Equipment operations would occur at brief intervals and noise-generating construction activities would be restricted to weekday working hours, generally 8:00AM to 5:00PM in conformance with general

standards for construction activity. Nearby agricultural residences are located at distances of 500 feet or greater north and northeast of the Project site boundary, north of Grangeville Boulevard, and over 1,500 feet west and southwest of the project site, south of Grangeville Boulevard. Construction sound would attenuate rapidly at these distances, especially with intervening traffic on Grangeville Boulevard. Based on the Project's distance to sensitive receptors, the Project would not result in substantial temporary increase in ambient noise levels in the Project vicinity above levels existing without the Project. Impacts from construction-related noise or other temporary activities would be less than significant.

The noise analysis performed for the project (Catalyst 2024) predicted the noise levels at the nearest receptors from construction. Potential construction noise levels onsite associated with proposed Project construction activities were estimated for each construction phase. The noise model conservatively assumed that construction equipment for each respective construction activity would be operated simultaneously and in a concentrated area nearest to the closest sensitive receptors. In actual practice, the types and numbers of construction equipment near any specific receptor location would vary over time.

Construction activities associated with Project substation/switchyard installation were identified to have the greatest potential to increase noise levels at the nearest residential receptors located across Grangeville Boulevard. The modeled cumulative noise for this phase of construction was propagated to these nearest receptors to estimate the maximum change in noise levels at the nearest sensitive receptors. Table Noise-2 indicates the modeled maximum project construction noise levels at the nearby receptors. As shown in Table Noise-2, modeled sound levels indicate that project construction would be in compliance with the Kings County noise standards.

Table Noise-2: Modeled Maximum Project Construction Sound Levels (Leq, dBA)

Sensitive Receptors	Modeled Construction Noise Level Daytime Only	Presumed Ambient Noise Level Day/Night	Noise Standard ¹ Day/Night	Exceed Standard?
S1 - 6900 Grangeville Blvd.	<6.0	44/42	55/50	No
S2 - 6909 Grangeville Blvd.	<6.0	44/42	55/50	No
S3 - 6668 Grangeville Blvd.	27.2	44/42	55/50	No
S4 - 6454 Grangeville Blvd.	35.2	44/42	55/50	No
S5 - 6390 Grangeville Blvd.	13.0	44/42	55/50	No

Source: Catalyst 2024.

Notes:

1. Noise standards for Non-Transportation Projects at residential receptors per Table N-8 of the Kings County Noise Element are applied.

Operations Phase

Less-than-Significant Impact. During Project operations, potential noise from the proposed Project includes the following equipment:

Battery enclosure coolers: The selected battery system, referred to as the SUNGROW PowerTitan2.0 (2H) liquid cooled energy storage system unit, features a heating, ventilation and air conditioning (HVAC) unit with air intake vents on the front and air exit vents on top of the unit. Each BESS enclosure is reported to exhibit a maximum of 74.9 dBA (as measured approximately 1 meter [3.3 feet] from the front).

Medium-voltage transformers. Each distinct row of battery enclosures would be served by a power conversion system (PCS) consisting of a transformer/inverter block. These PCS units each have a reported sound pressure level of 65 dBA at 10 meters (equivalent to a sound power level of 93 dBA at the source).

Onsite substation transformer. The Project substation would include a Generator Step Up Transformer. The substation transformer has an estimated sound power level of 102 dBA using an assumed 220 MVA as the anticipated load, based on estimation techniques found in the Electric Power Plan Environmental Noise Guide (Edison Electric Institute 1984).

The BESS operational equipment would be located in the southern portion of the proposed 10-acre parcel; this arrangement would place the battery equipment as far as practical from nearby residences. The noise analysis performed for the project (Catalyst 2024) predicted the noise levels at the nearest receptors from concurrent operation of the proposed Project onsite stationary sources (i.e., battery enclosures, HVAC units, PCS units, and substation transformer). Table Noise-3 presents the predicted Project operational noise levels at the six modeled locations. As shown in Table Noise-3, modeled sound levels associated with Project operations indicate that project operations would be in compliance with the Kings County noise standards.

Table Noise-3: Modeled Maximum Project Operations Sound Levels (Leq, dBA)

Modeled Receptors at Property Line (Location Along Property Line)	Modeled Daytime/ Nighttime Operation Noise Level	Presumed Ambient Noise Level (Day/Night)	Noise Standard ¹ (Day/Night)	Exceed Standard?
S1 - 6900 Grangeville Blvd.	29.2/29.2	44/42	55/50	No
S2 - 6909 Grangeville Blvd.	29.9/29.9	44/42	55/50	No
S3 - 6668 Grangeville Blvd.	44.5/44.5	44/42	55/50	No
S4 - 6454 Grangeville Blvd.	49.9/49.9	44/42	55/50	No
S5 - 6390 Grangeville Blvd.	37.9/37.9	44/42	55/50	No

Source: Catalyst 2024.

Notes:

1. Noise standards for Non-Transportation Projects at residential receptors per Table N-8 of the Kings County Noise Element are applied.

In summary, the Project would not result in substantial temporary or permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. Impacts would be less than significant.

b. Generation of excessive groundborne vibration or groundborne noise levels?

Less-than-Significant Impact. Project construction would result in temporary intervals of construction heavy equipment usage. After the earthwork and civil construction period, the remaining construction activities would use less intensive off-road equipment that would generally not generate ground borne vibration.

Once operational, the proposed Project would not include onsite producers of groundborne vibration. Anticipated electro-mechanical systems like the battery segments and associated HVAC are designed and manufactured to feature rotating and reciprocating components (e.g., fans and refrigeration compressors) that are well-balanced with isolated vibration within or external to the equipment casings. Any minor ground borne vibration from operational equipment would attenuate rapidly from the site. Based on the Project's distance to sensitive receptors and other sources of vibration from traffic on Grangeville Boulevard, potential impacts related to excessive ground borne vibration would be less than significant.

c. For a project located within the vicinity of a private airstrip or 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?

No Impact. The Project site is not located within the vicinity of a private airstrip or an airport land use plan or, or an area where such a plan has not been adopted, or within two miles of a

public airport or public use airport. The closest airport is Hanford Municipal Airport located approximately 3.5 miles west of the Project site. The Project would not expose people to excessive airport-related noise levels.

REFERENCES—NOISE

Catalyst Environmental Solutions (Catalyst). 2024. Noise Technical Report for the Outlaw Energy Storage Project. February.

Kings County. 2010. Kings County General Plan Noise Element.
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https://library.municode.com/ca/kings_county/codes/code_of_ordinances?nodeId=COOR_CH15_LIRE_ARTXNOAB. Accessed September, 2023.

U.S. Department of Transportation (US DOT). 2018. Federal Transit Administration (FTA). Transit Noise and Vibration Impact Assessment.
https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed September, 2023.

4.14. POPULATION AND HOUSING

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

ENVIRONMENTAL EVALUATION

a. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The Outlaw Battery Storage Project would not include a residential component so it would not directly induce population growth in the area. The project would involve a construction workforce of about 20 workers during the peak period of construction. These construction workers are expected to be drawn from the existing labor pool in the region. For construction management staff and specialized workers who may reside outside the area, there is an ample supply of temporary lodging in nearby Hanford or other regional urban centers. Thus, project construction would not directly result in population growth in the area.

Upon completion, the facility will be unstaffed. Operational staff would visit the site as needed to perform inspection, maintenance, and repair. In the event that facility staff would originate from outside the area, there is a sufficient supply of permanent housing available in the region to serve this need. According to the most recent census estimates (2021), there are approximately 3,600 vacant housing units in Kings County, representing an overall vacancy rate of 7 percent (U.S. Census 2021). Thus, it is anticipated that any operational staff seeking to relocate to the area would find ample housing choice from the existing inventory of homes in the region, and no new housing would be required. Therefore, the Outlaw Battery Storage Project would result in no impact with regard to potential inducement of substantial unplanned population growth in the area.

The Project would not result in the extension of roads or urban utilities (e.g., water and sewer) to lands not currently served by urban infrastructure, and thus would not induce unplanned urban development into the rural area of the County. Therefore, the Project would not induce indirect growth through extension of urban infrastructure.

Battery energy storage projects do not induce population growth. The primary purpose of the project is to store excess energy from the electrical grid when energy supply outpaces demand (typically mid-day hours), and to discharge that stored energy when demand is greater than supply (typically later afternoon and evening hours). Thus, the project's purpose is to (1) further integrate renewable energy generation on the grid (i.e., as more renewable energy generation is stored instead of curtailed during the day, more renewable generation can be built); and (2) to make the grid more reliable. The project stores energy that is generated offsite and does not generate energy itself. Therefore, in and of itself, the battery facility would not facilitate expanded electrical load growth, which could then lead to expanded population growth.

In summary, the Outlaw Battery Storage Project would result in no impact with respect to growth inducement, either by way of population growth or by extension of urban infrastructure.

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. There are no residential buildings on the Outlaw Battery Storage Project site. Although there are multiple rural residential residences located along Grangeville Boulevard to the north, east and west of the project site that are within a 1.0-mile radius of the site, none of these residential properties would be removed or encroached upon as a result of the project. Therefore, the Outlaw Battery Storage would result in no impact with regard to displacement of existing people or housing.

REFERENCES—POPULATION AND HOUSING

U.S. Census 2021. U.S. Census Bureau DP04 Selected Housing Characteristics: 2021: ACS 1-Year Estimated Data Profiles. (Kings County). [DP04: SELECTED HOUSING CHARACTERISTICS - Census Bureau Table](#)

4.15. PUBLIC SERVICES

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of these public services:				X
i. Fire protection?			X	
ii. Police protection?				X
iii. Schools?				X
iv. Parks?				X
v. Other public facilities?				X

PUBLIC SERVICES SETTING

Fire Protection Services

Fire protection for the project area is provided by the Kings County Fire Department (KCFD). KCFD operates ten fire stations, and one headquarters office in Hanford with 88 full-time employees. The Fire Department responds to over 5,100 calls annually, averaging 14 calls daily (KCFD 2023).

The nearest KCFD fire station is KCFD Station 4 (7622 Houston Avenue) in Hanford located approximately three miles southwest from the project site. Response time from the nearest station would therefore range from 5 to 10 minutes for the project site. The second nearest fire station that would provide backup support includes Station 2 (14680 Excelsior Avenue) in Hanford located approximately nine miles northwest of the project site. Response time from this station would range from 15 to 20 minutes. The KCFD also maintains mutual aid agreements with the fire departments of Hanford and Lemoore, and also with the Naval Air Station Lemoore Fire Department and Santa Rosa Rancheria Fire (Kings County 2010e) that would assist when needed.

KCFD's other responsibilities include review of building plans for compliance with fire safety requirements; emergency medical response; and implementation of the County's emergency management plan. Each station conducts assessments of proposed industrial and business facilities to assure compliance with safety and design capacity requirements. Fire stations also handle weed abatement on a complaint basis (KCFD 2023).

KCFD provides first responder emergency medical service to all County residents. This service does not include advanced life support (paramedic) or emergency transport, which is provided by private contractors (Kings County 2010e). Kings County contracts directly with the ambulance company, while the Central California Emergency Medical Services Agency (CCEMSA) is responsible for ensuring adequate levels and quality of ambulance service in the region. The ambulance service nearest to the project site is located in Hanford.

The Potential Fire Hazards map of the Kings County General Plan Health and Safety Element (General Plan Figure HS-9) shows most of the project site as being "Within 2400 meters of a Moderate Threat" (Kings County 2010e). The Project site is not included in a Fire Hazard Severity Zone (FHSZ) as mapped by the California Department of Forestry and Fire Protection (CAL FIRE 2023).

Law Enforcement Services

Law enforcement services in the project area are provided by the Kings County Sheriff's Office (KCSO) from its headquarters at 1550 Kings County Drive, approximately 5.20 miles southwest of the project site (KCSO 2023). As of 2020 (the most recent update available online) the Department had 148 sworn officers and 101 non-sworn personnel. The County is divided into six beat districts with five Sheriff's substations located throughout Kings County. The nearest Sheriff's substation to the project site is located at 1550 Kings County Drive in Hanford, approximately 5.2 miles southwest of the project site. Each beat district has at least one deputy sheriff on duty at all times to serve the unincorporated communities and surrounding County areas. The KCSO has mutual-aid agreements statewide. KCSO's response time goal for priority emergency calls is 20 minutes, as per Kings County General Plan Health and Safety Policy C2.1.2 (Kings County 2010e). The targeted response time for any location is a maximum of 15 to 20 minutes. Response times are generally quicker when the area deputy is on patrol nearby.

The California Highway Patrol (CHP) provides traffic enforcement along State highways and County roadways within Kings County (Kings County 2010e). The nearest CHP area office is located in Hanford, approximately 5.5 miles southwest of the project site.

Other Public Services and Facilities

Other public services provided in the project area include schools, parks and recreation, libraries, and social services. These services and facilities are generally located within the urbanized areas of the City of Hanford and other regional urban centers.

REGULATORY SETTING

Kings County

Kings County General Plan

The 2035 Kings County General Plan includes the following goals, objectives and policies related to public services that are relevant to the Outlaw Battery Storage Project:

Health and Safety Element

HS OBJECTIVE A1.4	Maintain County building and construction standards and regulations to remain current with State and Federal requirements that serve to protect residents from natural hazards.
HS Policy A1.4.1	Implement the current California Building Codes and any subsequent amendments as contained within California Code of Regulations Title 24 to improve disaster resistance of future buildings.
HS GOAL C1	Ensure the protection and wellbeing of residents, visitors and businesses that enables long term sustainability for future generations.
HS OBJECTIVE C1.2	Enhance overall community safety by placing more emphasis on preventative measures to reduce crime, including the incorporation of crime prevention features in the built environment of each community to increase overall safety of residents and visitors within these communities.
HS Policy C1.2.1	Encourage new development to integrate Crime Prevention Through Environmental Design (CPTED) strategies and applications to enhance crime prevention in the County's Community Districts and serve as deterrents to crime.

HS GOAL C2	Support Countywide safety through adequate law enforcement, quality fire protection, emergency preparedness, and accessibility in times of emergency.
HS OBJECTIVE C2.1	Provide sufficient law enforcement presence within each community district and other unincorporated areas of the County to protect residents, businesses, and visitors from personal and property crimes.
HS Policy C2.1.2	Promote community safety by ensuring communities have sufficient sheriff coverage to provide 20 minute or faster response times to priority emergency calls.
HS Policy C2.1.3	Evaluate new development within community districts to determine the extent of impact upon the Sheriff's Department ability to provide adequate patrols necessary to cover the additional population.
HS OBJECTIVE C2.2	Provide quality fire protection services throughout the County by the Kings County Fire Department, and Fire safety preventative measures to prevent unnecessary exposure of people and property to fire hazards in both County Local Responsibility Areas and State Responsibility Area.
HS Policy C2.2.3	Use the 1997 Uniform Code for the abatement of Dangerous Buildings. All new structures to be occupied shall be built to current Fire Code Standards.
HS Policy C2.2.4	Review development proposals according to California Department of Forestry and Fire Protection "Fire Hazard Severity Zone Maps" to determine whether a site is located within a Very High Fire Hazard Severity Zone and subject to Wildland-Urban Interface Fire Area Building Standards and defensible space requirements as adopted under Senate Bill 1595 and effective January 1, 2009.

HS OBJECTIVE C2.4	Ensure maintenance and upkeep of key emergency access routes, and critical facilities and infrastructure to minimize delays or disruptions in emergency response.
HS Policy C2.4.1	Prioritize the maintenance of Primary Access Routes, as defined by the County's Emergency Response Plan, which serve as established disaster evacuation routes.

Land Use Element

LU Policy E1.2.6	Development shall pay school district impact fees, pursuant to Section 65995.(b) of the California Government Code, at the time a building permit is issued to finance the construction of school facilities made necessary by the development.
LU Policy E1.2.7	Development shall pay County Public Facility impact fees, as established by County Ordinance 633, and County shall collect any relevant City impact fees at the time a building permit is issued.

ENVIRONMENTAL EVALUATION

- a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of these public services:**

i. Fire Protection

Less-than-significant Impact. Construction and operation of the Outlaw Battery Storage Project is not expected to result in an increase in demand of fire protection services leading to the construction of new or physically altered facilities.

Fire Hazards During Construction

During construction, there is a small risk of construction equipment and materials posing potential fire hazards. Construction of the battery energy storage facilities, including the onsite substation and gen-tie would involve the use of heavy construction equipment, vehicles, generators, and hazardous materials (e.g., fuels, lubricating oils, and welding materials), which

pose potential fire hazards. The risk of fire would be primarily related to refueling and operating vehicles and equipment off internal driveways where dry vegetation could be ignited. Welding activities also have the potential to result in the combustion of vegetation, as would smoking by construction workers.

As discussed in Section 2 Project Description, construction workers would receive training in fire safety and suppression in order to prevent fire and respond effectively if fire does break out. During battery storage facility construction, water trucks used for dust suppression would be available for suppression of small fires.

Fire Hazards During Solar Facility Operation

During battery storage facility operation, equipment such as transformers, inverters, and substation equipment would involve the use of oils (e.g., dielectric or mineral oils and lubricants) and fuels, which would pose potential fire hazards. The battery storage facilities would also pose a potential fire hazard. As discussed in Section 4.9 Hazards and Hazardous Materials, the battery storage facility would include numerous design and operational features that would minimize the risk of a fire. Specifically, the facility would be designed and operated in accordance with applicable industry best practices for fire safety, including applicable National Fire Protection Association (NFPA) standards and locally adopted fire codes and standards.

The battery system will be comprised of lithium-ion cells that are arranged into modules, where multiple modules are placed into racks, and racks are placed into outdoor-rated enclosures. The installed equipment will be listed to the Underwriters Laboratories 9540 “Standard for Safety of Energy Storage Systems and Equipment.” There are physical, electrical, and control system designs at each level that mitigate safety risks, as well as protections external to the enclosure provided from local agency fire and emergency response services.

The battery storage control system would have built-in, redundant protection functions at multiple equipment and software levels for continuous monitoring of temperature, voltage, and current telemetry at each battery module along with protective devices to automatically shut down any component or system when an anomaly is detected. “Anti-islanding” protection would be included that would cause an automatic shutdown in the event of a power outage or other grid instability. The battery storage system supplier would conduct ongoing system safety monitoring and collect and communicate pertinent industry updates, product news, and safety bulletins on a regular basis to the facility operator.

Battery storage unit enclosures would include a fire detection and suppression system designed to detect and suppress fires within the enclosures. Safety and reliability systems would also include voltage and current protection via fusing, breakers, contactors, relays, and software controls and physical protection via component isolation.

In the event of a detected battery cell failure through off-gas detection, smoke detection, or an electrical anomaly detected by the Battery Management System (BMS), the battery units are designed to de-energize and electrically isolate the affected battery cells in order to eliminate the source of the failure and intervene before ignition occurs within the battery module. If ignition still occurs within a battery rack, the battery enclosures are designed with fire-proof barriers and physical spacing so that fire does not spread from one section of the battery unit to another.

Additional fire protection and emergency response capability would be provided by KCFD. KCFD response time to the Project site is approximately 7 minutes and other local and regional fire and emergency response services could be deployed as needed. In addition, as a project condition of approval, if and when fire protection services are provided to the battery storage facility, the project operator will be responsible for paying for the costs of services provided instead of paying those annual service impact fees.

Prior to operations, the Applicant would work with KCFD to ensure appropriate fire prevention equipment and response procedures are in place. The site design includes a minimum 24,000 gallon water tank for fire-fighting purposes. Contingency plans would be developed as appropriate to address potential contingency situations associated with battery storage. These plans and procedures may include a Hazardous Materials Business Plan, Fire Protection Plan, and Emergency Response Plan with emergency response and spill response procedures and a list of onsite emergency response equipment including the firewater tank and appurtenances, fire extinguishers, fire suppression system, and spill kit.

In addition, the Applicant would provide training to KCFD fire fighters and first responders that is specific to the Project site, the equipment installed, and the system configuration. A point of contact would be designated for emergency responders to contact in case of emergency or concerns.

The Project could result in increased demand for fire protection services. However, with implementation of the safety design features and fire suppression system, onsite fire water supply, security fencing and nearby emergency response capabilities from KCFD and other regional resources, existing fire response capabilities are expected to be adequate, and the

Project is not anticipated to require any new or physically altered government facilities related to fire protection, the construction of which could otherwise cause substantially adverse significant physical environmental impacts. Therefore, potential impacts related to fire protection would be less than significant.

ii. **Police Protection**

No Impact. Construction and operation of the Outlaw Battery Storage Project is not expected to result in increased demand for police protection services leading to the construction of new or physically altered facilities.

Law enforcement services to the Outlaw Battery Storage facility would be provided by the Kings County Sheriff's Office. During construction of the facility, slow moving trucks could result in temporary congestion on public roadways near the project entrances and could pose a safety hazard due to abrupt changes in the speed of traffic flow, or due to slow turning movements across on-coming lanes of traffic. Any temporary traffic disruptions would involve coordination with the Sheriff's Office. Potential traffic hazards associated with construction of the project, and required mitigation for these impacts, are discussed in Section 4.17 Transportation. Any potential traffic hazard impacts would be minimized through implementation of traffic control measures specified in Mitigation Measure TR-1. Traffic control measures required during construction may result in a minor temporary use of the Kings County Sheriff's Office's resources but would have no impact in terms of necessitating new or expanded Sheriff's Office facilities to maintain adequate service levels.

Once the project is completed and operational, calls for service from the facility are expected to be infrequent, primarily due to the comprehensive security measures included in the design and operation of the project. In addition, if and when Kings County Sheriff services are provided to the battery storage facility, the project operator will be responsible for paying for the costs of services provided instead of paying those annual service impact fees.

Project security features would be implemented to prevent unauthorized access. A 6-foot chain-link fence with three strands of barbed wire would be installed around the battery storage operational area and maintained for site security during construction and operations. The collector substation would also be fenced within the overall battery storage site. Security lighting would be installed at appropriate locations along the perimeter and interior of the BESS operational area. A third-party security service would provide a standardized site security

monitoring program that includes cameras, alarms, notifications for the operations group and local law enforcement, and AI-generated activity logs.

A 20-foot structural setback would be maintained within the BESS facility parcel perimeter. The buffer and other undeveloped areas within the perimeter fence of the new parcel, including an additional 100-foot wide buffer along the western perimeter reserved for equipment staging, would be maintained as a cleared area with gravel surfacing for additional site security.

These security features are intended to act as a deterrent to crimes such as theft and vandalism. In the event that system monitoring detects a breach, a security representative would be dispatched to the site, as needed, and the County Sheriff's Office would be notified as appropriate.

In summary, it is expected that project operations would result in minimal demand on Sheriff's Office's operations and would not degrade service levels or result in the need for new or altered Sheriff's Office facilities. Therefore, the Outlaw Battery Storage Project would result in a minor increase in demand for law enforcement services but would have no impact in terms of necessitating new or expanded Sheriff's Office facilities to maintain adequate service levels.

iii. **Schools**

No Impact. The Outlaw Battery Storage Project would not include a residential component and thus would not generate the need for new or expanded school facilities. Therefore, the project would have no impact on schools. However, the Outlaw Storage Project would pay a school mitigation fee, as mandated by State law for all commercial development.

iv. **Parks**

No Impact. Demand for parks and recreation is mainly generated by residential development. The few staff who would occasionally conduct inspections and maintenance at the facility would be unlikely to seek out recreational activities while in the project area. As such, the Outlaw Battery Storage Project would not increase demand for parks and recreational facilities and would have no impact in terms of necessitating new or expanded parks or recreation facilities to maintain adequate service levels.

v. **Other Public Facilities**

No impact. The proposed Project would be unstaffed and not result in an increased demand for police protection, schools/public education, public parks, or other public facilities. Therefore, the Project would not require any new or physically altered government facilities the

construction of which could otherwise cause substantially adverse significant physical environmental impacts.

The Project would not generate demand for social services, courts, libraries, or other public services. As such, the Outlaw Battery Storage Project would have no impact in terms of necessitating new or expanded facilities to maintain adequate service levels for other public services.

REFERENCES—PUBLIC SERVICES

California Department of Forestry and Fire Protection (CAL FIRE). 2023. California Fire Severity Zones Viewer. Accessed August 2023. <https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones>.

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Kings County Fire Department (KCFD). 2023. Kern County Fire Department Webpage. <http://www.countyofkings.com/departments/fire-department>. Accessed October, 2023.

Kings County Sheriff Department (KCSD). 2023. Kern County Sheriff Department Webpage. <https://www.countyofkings.com/departments/public-safety/sheriff>. Accessed October, 2023.

4.16. RECREATION

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b. Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

RECREATION SETTING

The lands surrounding the Outlaw Energy Storage Project site consist mainly of agricultural lands and dispersed residences located along Grangeville Boulevard and other nearby roads. Recreational resources such as County parks, community parks and open space areas, and museums are generally located closer to urban centers, and there are no designated recreational waterways, fishing and hiking access areas, or other similar outdoor recreational resources in the Project area.

REGULATORY SETTING

Kings County General Plan

The following General Plan policies related to recreation are relevant to development projects in Kings County:

Open Space Element (Kings County 2020c)

A. Outdoor Recreation

OS GOAL D1	Provide for parks, recreation and open space that will serve the current and future needs of County residents and visitors.
OS OBJECTIVE D1.2	Encourage the development of private recreational facilities compatible with the rural character of Kings County.
OS Policy D1.2.1	Support the establishment of new commercial recreational development, provided it is compatible with surrounding land uses and the intensity of such development does not exceed the ability

of the natural environment of the site and the surrounding area to accommodate it. Such facilities may include, but are not limited to campgrounds, recreational camps, hotels and destination resorts, ball courts and ball fields, skeet clubs and facilities, hunting and fishing clubs, and equestrian facilities.

ENVIRONMENTAL EVALUATION

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The Outlaw Battery Storage Project would be an unstaffed battery facility and would not include a residential component. As such, it would not result in an increase in local population that would in turn substantially increase the use of or demand for neighborhood or regional parks, and other recreational facilities. Construction workers commuting to the project would comprise existing residents from surrounding communities who would utilize recreational facilities in their home communities. The battery facility operation would involve a small number of personnel who would visit the facility as needed to perform maintenance. Neither the project construction workers nor operations personnel would be likely to seek out recreational activities while working in the project area. Therefore, the Outlaw Battery Storage Project would have no impact in terms of causing or accelerating physical deterioration of recreational facilities.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

No Impact. The Outlaw Battery Storage Project would not include recreational facilities, and thus would not result in impacts associated with such facilities. The project would be an unstaffed battery facility. A small number of operational workers would drive to the site for occasional inspections and maintenance. As an unstaffed facility, the proposed Project would not increase the demand for or use of existing neighborhood and regional parks or other recreational facilities such that their substantial physical deterioration could occur (or be accelerated), nor would it include the construction of any new recreational facilities, nor the expansion of any existing facilities, the construction of which could otherwise cause substantially adverse significant physical environmental impacts.

REFERENCES—RECREATION

Kings County 2020c. 2035 Kings County General Plan – Open Space Element. Adopted January 26, 2010. <https://www.countyofkings.com/home/showpublisheddocument/13519/>. Accessed September 2023.

4.17. TRANSPORTATION

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?			X	
b. Conflict with or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?			X	
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?		X		
d. Result in adequate emergency access?			X	

TRANSPORTATION SETTING

State highways in the vicinity that serve the project area include State Route 198 (SR 198) located 0.9 miles to the south, which has four lanes, runs east-west, and connects the cities of Hanford and Visalia. SR 43 is located 1.4 miles to the west, has two lanes, runs north-south, and runs from Selma in the north to Interstate 5 in the Bakersfield area. SR 99 is located 8.6 miles to the east, has four lanes, and runs north-south through the Central Valley. Kings County roads serving the project area include Grangeville Boulevard which is a two lane road that runs along the northern site boundary from east to west and connects the cities of Hanford and Visalia. 7th Avenue, a rural two lane road, runs along the western boundary of the Project site parcel. The Union Pacific Railroad crosses the southern portion of the Project site parcel, south of the battery operational area.

The County Circulation Element designates the segment of Grangeville Boulevard between the City of Hanford and 6th Avenue (0.5 miles east of the proposed Project site) as Level of Service (LOS) B with Average Daily Trips (ADT) of 3,080 (Kings County 2010d). This ADT is below the LOS B threshold of 4,200 ADT for a 2-lane road.

Highway interchanges near the Project site include SR 43 at SR 198; SR 43 at Grangeville Boulevard; and SR 198 at 6th Avenue. Caltrans traffic count data for these roadway segments are summarized below from 2021, based on the most recent Caltrans Traffic Census Program (Caltrans 2023).

The California High Speed Rail (HSR) Hanford Viaduct runs north-south along 7½ Avenue, 1 mile west of the Project site parcel. This HSR segment is under construction and will allow high speed trains to cross over Grangeville Boulevard and SR 198.

The nearest public use airport is Hanford Municipal Airport located 3.5 miles southwest of the Project site. The airfield at Naval Air Station Lemoore (NASL) is located 20 miles west of the Project site. A private airstrip referred to as 87CA is located 4.6 miles north of the Project site at the Swanson Ranch.

The nearest public transit route of the Kings Area Rural Transit (KART) is the Hanford Visalia Route (Route 15) along SR-198 (KART 2023).

The Regional Bike Routes plan in the 2035 Kings County General Plan Circulation Element indicates no existing bikeways in the project vicinity. There is a planned bikeway that would start 1.5 miles west of the Project site, near the intersection of SR-198 and Edna Way. This trail would follow along train tracks as part of the County's Rails to Trails Program (Kings County 2010d).

There are no scenic highways or eligible scenic highways in the project vicinity.

REGULATORY SETTING

State of California

California Vehicle Code

The proposed Project is located in Caltrans District 6. California Vehicle Code (CVC) Section 35550 imposes weight guidelines and restrictions on vehicles traveling on State freeways and highways and requires heavy haulers to obtain permits from Caltrans prior to delivery of any heavy haul load. CVC Section 35780 requires that haulers of oversized or excessive loads over State highways obtain a "Single-Trip Transportation Permit" from Caltrans prior to delivery of any oversized load.

Oversize/overweight permits are considered on a case-by-case basis but may include requirements such as California Highway Patrol escort, special speed limits, and other restrictions. The CVC also contains various regulations governing the transportation of hazardous materials on State highways.

California Streets and Highways Code

Section 117 of the California Streets and Highways Code requires that permits be obtained from Caltrans for placement within the State right-of-way of any structures or fixtures such as utility poles, pipes, ditches, drains, sewers, or other above-ground or underground structures. Other sections of the Streets and Highways Code require the issuance of encroachment permits for work within the rights-of-way of State or county roadways.

Senate Bill 743

California Senate Bill 743 (SB 743), which went into effect in January 2014, states that “[n]ew methodologies under the California Environmental Quality Act are needed for evaluating transportation impacts that are better able to promote the state’s goals of reducing greenhouse gas emissions and traffic-related air pollution, promoting the development of a multimodal transportation system, and providing clean, efficient access to destinations.” Under SB 743, the focus of transportation analysis shifts from driver delay, which is typically measured by traffic level of service (LOS), to a new measurement, vehicle miles traveled (VMT). This change in metrics is intended to further the State’s long-term greenhouse gas reduction goals by reducing fuel consumption in the transportation sector, specifically through reductions in per capita VMT associated with new land use projects, and thereby promoting compact, mixed-use development patterns.

In order to implement SB 743, the Natural Resources Agency adopted revisions to the CEQA Guidelines which became effective on December 28, 2018. The revised CEQA Guidelines eliminate the application of LOS-related metrics for determining the significance of transportation impacts associated with development projects, land use plans, and transportation infrastructure projects. Under the new guidelines, VMT-related metric(s) are required to evaluate the significance of transportation-related impacts under CEQA. (The specific requirements of the Guidelines revisions under SB 743 are discussed in item ‘b’ below.) SB 743 does not preclude the use of LOS-related metrics in local general plan policies, zoning codes, conditions of approval, or any other planning requirements that require evaluation of LOS, but these metrics may no longer constitute the basis for determining the significance of transportation impacts under CEQA.

Under SB 743, local land use agencies were required to establish VMT significance thresholds to be applied in CEQA analyses of proposed land use projects by July 1, 2020. However, on June 9, 2020 the Kings County Board of Supervisors adopted Resolution No. 20-041 delaying the implementation of Vehicle Miles Traveled requirements in Kings County for at least 2 years.

The following environmental evaluation includes qualitative transportation impact analyses based on a LOS metric (addressed in item ‘a’) below) and a VMT metric (addressed in item ‘b’) below).

Kings County

Kings County Regional Transportation Plan

The 2014 Kings County Regional Transportation Plan (RTP), prepared by the Kings County Association of Governments (KCAG), contains goals and objectives for State highways, major local routes of significance, alternative transportation modes, and strategies for transportation and demand management (KCAG 2018). Since KCAG is a metropolitan planning organization, and not a Transportation Management Agency (TMA), it is not required to adopt Transportation Systems Management (TSM) measures or a Congestion Management Plan (CMP) as is required for larger urbanized areas.

2035 Kings County General Plan

The 2035 Kings County General Plan contains the following goals, objectives and policies related to transportation facilities which are relevant to the Outlaw Battery Storage Project:

Circulation Element

A. Countywide Circulation

- | | |
|------------------|--|
| C GOAL C1 | Provide a coordinated countywide circulation system with a variety of safe and efficient transportation alternatives and modes that interconnect cities, community districts, adult education facilities, and adjoining cities in neighboring counties, and meets the growing needs of residents, visitors and businesses. |
| C OBJECTIVE C1.3 | Maintain an adequate Level of Service operation for County roadways and ensure proper maintenance occurs along critical routes for emergency response vehicles. |
| C Policy C1.3.1 | Maintain and manage County roadway systems to maintain a minimum Level of Service Standard “D” or better on all major roadways and arterial intersections. |
| C Policy C1.3.2 | Require proposed developments that have the potential to generate 100 peak hour trips or more to conduct a traffic impact |

study that follows the most recent methodology outlined in Caltrans Guide to the Preparation of Traffic Impact Studies.

- | | |
|------------------|---|
| C Policy C1.3.5 | Require new development to pay its fair share of costs for street and traffic improvements based on traffic generated and its impact to traffic levels of service. |
| C Policy C1.3.6 | Require dedication of right of way to county standards for all new development projects. |
| C Policy C1.3.7 | Require new development to respect existing precise plan lines or ultimate right of way lines dedication of right of way as a condition of development approval. |
| C OBJECTIVE C1.3 | Promote Public Transit and vanpooling within the County urbanized areas to increase ridership and decrease traffic demand on County roadways. |
| C Policy C1.3.3: | Encourage and support the enhancement and marketing of transit and vanpool services as a viable transportation alternative and transportation control measure to improve air quality. |

Kings County Improvement Standards

The Kings County Improvement Standards serve as an engineering reference for Kings County staff and private parties in the design and construction of improvements for public works projects and private development improvements. The standards include engineering design specifications for the construction of streets, water supply systems, storm drainage, and sewage disposal.

ENVIRONMENTAL EVALUATION

- a. Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?**

Less-than-Significant Impact. Project area roadways include Grangeville Boulevard adjacent to the site, 7th Avenue to the west, and 6th Avenue to the east. SR 198 is located 0.9 miles to the south, and SR 43 is 1.4 miles to the west. Vehicles will access the battery storage site via a dedicated driveway from Grangeville Boulevard.

Construction

As is typical of battery storage projects, the Outlaw Battery Storage Project would generate the greatest volume of traffic during the construction phase. Construction-related equipment and material delivery vehicles and haul trucks would use the Grangeville access point. Worker vehicles, equipment, debris, and waste materials would be staged onsite. Project-related vehicles would avoid parking on surface streets unless it is necessary to complete a specific construction task.

Project construction is anticipated to take approximately 8 months. Site preparation, earthwork, and concrete pad installation is anticipated to take place over a period of 3 months, followed by delivery, installation, and commissioning of BESS equipment for an additional 5 months.

Conventional off-road construction equipment will be used to install access improvements, equipment pads, and components. Construction personnel will consist of up to approximately 25 craft workers and supervisors at any one time depending on the construction activities.

Construction trip generation will entail:

- Mobilization and demobilization of heavy equipment (e.g., excavator, backhoe) at the start and end of earthwork or other construction stage
- One-time delivery of the major battery storage equipment components
- An average of 25 worker vehicles per day during the 6- to 8-month construction and commissioning of the Project.

The County Circulation Element designates the segment of Grangeville Boulevard between the City of Hanford and 6th Avenue as LOS B with Average Daily Trips (ADT) of 3,080 (Kings County 2010d). This ADT is below the LOS B threshold of 4,200 ADT for a 2-lane road. The proposed Project's low level of construction vehicle traffic would not result in a change of level of service.

Operations

The facility will be unstaffed; therefore, it will generate a minimal amount of traffic. Dispatch will be managed remotely from a regional control center. After commissioning and during the operational life of the Project, qualified technicians will routinely inspect the battery storage facility and conduct any necessary maintenance to ensure safe operational readiness.

Project operations will typically generate approximately one vehicle trip per month during the first year of facility operation for equipment maintenance purposes. Vehicle trips may be reduced to one trip every other month after the Project's first year of operation.

A detailed inspection and maintenance of the BESS will be performed several months after installation and annually, or more often if necessary, following the initial inspection period. More frequent inspections may occur due to unplanned maintenance visits. Inspections will originate from the San Joaquin Valley area.

If necessary, the technicians will remove and replace battery modules and perform other maintenance and repairs as needed. Any removed battery modules will be transported in accordance with applicable regulations and per the manufacturer's instructions. Refer to Section 4.9 Hazards and Hazardous Materials for a discussion of waste transportation.

Over the course of the Project's lifetime, additional battery storage units will be installed. These augmentation installations will be spaced out periodically over multiple years. Each augmentation effort will entail additional equipment pad installation and other construction activities similar to the initial construction, but at a reduced scale, as most of the required infrastructure would already be in place.

As noted above, the segment of Grangeville Boulevard between the City of Hanford and 6th Avenue operates at LOS B. The proposed Project's negligible volume of operations vehicle traffic would not result in a change in level of service of Project area roadways.

Project-Area Transit, Bicycle and Pedestrian Facilities

The nearest public transit route is the Hanford Visalia Route (KART Route 15) along SR-198 to the south (Kings County 2010d). While this road may be used for Project activities, the low volume of traffic generated by Project activities would not impact the functionality of the KART system.

The Regional Bike Routes plan in the 2035 Kings County General Plan Circulation Element indicates no existing bikeways in the project vicinity. There is a planned bikeway that would start 1.5 miles west of the Project site, near the intersection of SR-198 and Edna Way. This trail would follow along train tracks as part of the County's Rails to Trails Program (Kings County 2010d). Project-related vehicle trips would not impact the development or use of this bikeway.

There are no pedestrian facilities in the Project vicinity; therefore, the Project would not decrease the performance or safety of such facilities.

In summary, the Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

A Traffic Impact Study was not performed because the Project would not have the potential to generate 100 peak hour trips or more. However, based on the estimated 25 worker vehicle round trips per day during the 6- to 8-month construction period, and the negligible trips during Project operations, it is reasonable to conclude that the Project would not affect LOS along this segment of Grangeville Boulevard or at other Project-area road segments or intersections. The Project would have no impact on existing or planned transit, bicycle, and pedestrian facilities due to Project site's distance from these facilities. Potential impacts related to circulation system programs, plans, or policies would be less than significant.

b. Would the project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?

Less-than-Significant Impact. As discussed under Regulatory Setting above, this section of the CEQA Guidelines was included in the comprehensive amendments to the State CEQA Guidelines which took effect on December 28, 2018. The referenced Guidelines Section 15064.3(b) sets forth revised criteria for analyzing transportation impacts of proposed projects, as required under SB 734. For land use projects, this section states that “vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact.” The purpose in applying vehicle miles traveled (VMT) as the analytical metric is to further the State’s long-term greenhouse gas reduction goals by reducing fuel consumption in the transportation sector, specifically through reductions in per capita VMT associated with new land use projects. The establishment of specific significance thresholds is left up to each lead agency to develop in the course of implementing corresponding amendments to its local CEQA guidelines. As noted, on June 9, 2020 the Kings County Board of Supervisors adopted Resolution No. 20-041 delaying the implementation of Vehicle Miles Traveled requirements as authorized in Senate Bill 743 for at least 2 years. Nevertheless, the following analysis is provided to show compliance of the project with SB 743.

In the Technical Advisory issued by the Governor’s Office of Planning and Research (OPR) for guidance in implementing SB 734, the recommended significance threshold for residential projects is defined as VMT exceeding a level of 15 percent below regional VMT per capita, and for office and retail projects a significant transportation impact would occur if project-generated VMT exceeds a level of 15 percent below regional VMT per employee (OPR 2018, pp. 15-16). OPR’s Technical Advisory does not address other land uses and suggests that thresholds for other land uses be developed at the local level.

To address transportation impacts from small projects, the OPR Technical Advisory recommends the application of “screening thresholds” to identify when a project would be expected result in a less-than-significant transportation impact without conducting a detailed study. The Technical Advisory states that, in general, projects that generate fewer than 110 trips per day may be assumed to cause a less-than-significant transportation impact (OPR 2018, p.12). As shown above, Project construction would generate an average of 25 worker vehicles per day (50 round trips per day) during construction and would have negligible vehicles per day during operations (i.e., an estimated one trip per month for the first year of operation, and then one trip every other month after that). Therefore, potential Project-related impacts related to compliance with CEQA Guidelines § 15064.3, subdivision (b) would be less than significant.

c. 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)?

Less-than-Significant Impact with Mitigation Incorporated. The Outlaw Battery Storage Project site would be accessed via new primary and secondary driveway entrances at its northern frontage along Grangeville Boulevard. Entrances will be a 24-foot wide all-weather roads and constructed in accordance with applicable code for vehicle turn movements entering and leaving the site, including turnarounds and minimum turn radii. As discussed above, the volume of traffic generated by the project would be greatest during the construction phase. This would include deliveries of materials and equipment by large trucks. Oversized and slow moving trucks entering and leaving the site could result in temporary congestion near the project entrance and could pose a safety concern due to abrupt changes in the speed of traffic flow, or due to slow turning movements across on-coming lanes of traffic. Delivery truck traffic could also interact with the slow moving farm equipment and vehicles utilizing the roadway.

Equipment deliveries would obtain the necessary oversize/overweight permits as needed; these permits would include appropriate safety measures such as California Highway Patrol escort, special speed limits, or other restrictions. Implementation of Mitigation Measure TR-1 below would further reduce the potential impact from safety hazards due to construction traffic to a less-than-significant level.

Mitigation Measure TR-1: Traffic Safety Measures for Project Construction. *As a condition of project approval, and prior to the issuance of encroachment permits, the applicant shall consult with the Kings County Public Works Department regarding construction activities that may affect area traffic (such as equipment and supply delivery necessitating lane closures,*

trenching, etc.). Additionally, the project plans will be reviewed by the appropriate County departments for conformance with all applicable fire safety code and ordinance requirements for emergency access. The contractor shall implement appropriate traffic controls in accordance with the California Vehicle Code and other state and local requirements to avoid or minimize impacts on traffic. Traffic measures that shall be implemented during construction activities include the following:

- a. Construction traffic shall not block emergency equipment routes.
- b. Construction activities shall be designed to minimize work in public rights-of-way and use of local streets. As examples, this might include the following:
 - i. Identify designated off-street parking areas for construction-related vehicles throughout the construction and decommissioning periods.
 - ii. Identify approved truck routes for the transport of all construction- and decommissioning- related equipment and materials.
 - iii. Limit the employee arrivals and departures, and the delivery of equipment and materials, to non-peak traffic periods (e.g., avoid unnecessary travel from 7 to 9 AM and 4 to 6 PM).
 - iv. Provide for farm worker vehicle access and safe pedestrian and vehicle access.
 - v. Provide advance warning and appropriate signage whenever road closures or detours are necessary.
- c. Construction shall comply with San Joaquin Valley Air Pollution Control District standards for unpaved roads, which include a requirement to keep vehicle speeds below 15 miles per hour.

Since the precise nature and timing of construction activities requiring the traffic safety measures set forth in Mitigation Measure TR-1 cannot be predicted as of this writing, the details of the traffic safety mitigations will be determined by the County Public Works Department at such time as the activities for which they are required are scheduled and the applicant's construction contractor requests consultation regarding such activities.

d. Would the project result in inadequate emergency access?

Less-than-Significant Impact. The Health and Safety Element of the 2035 Kings County General Plan designates evacuation routes to be relied upon for emergency or disaster responses. Within the project area, the primary evacuation routes include SR-43 and SR-198 (Kings County 2010e). The Outlaw Battery Storage Project would have its project entrance on Grangeville Boulevard. This portion of Grangeville is a secondary evacuation route as shown on

Figure HS-20 Evac Routes in the Health & Safety Element, and it would serve as a critical evacuation route for the Project itself. This route would remain open throughout construction, and emergency access would not be limited by construction activities at the Project site.

Equipment deliveries would obtain the necessary oversize/overweight permits as needed; these permits would include appropriate safety measures such as California Highway Patrol escort, special speed limits, or other restrictions. Implementation of these measures, as well as measures outlined in Mitigation Measure TR-1, would ensure that Project activities do not obstruct emergency vehicles when transiting to and from the Project site.

As discussed in Section 4.9 Hazards and Hazardous Materials, the battery storage facility would be designed and operated in accordance with applicable industry best practices for fire safety, including applicable National Fire Protection Association standards and locally adopted fire codes and standards. Prior to operations, the Applicant would provide training to Kings County Fire Department fire fighters and first responders that is specific to the Project site, the equipment installed, and the system configuration. A point of contact would be designated for emergency responders to contact in case of emergency or concerns. During operations, the Project site would be unstaffed. Based on these design features, the Project's potential impacts related to emergency access would be less than significant.

REFERENCES—TRANSPORTATION

California Department of Transportation (Caltrans). 2023. Traffic Census Program. Traffic Volumes on the California State Highway System – 2021. <https://dot.ca.gov/programs/traffic-operations/census>. Accessed October, 2023.

Kings County Association of Governments (KCAG). 2018. Kings County Regional Transportation Plan (RTP) Adopted. August. https://www.kingscoq.org/rtp_adopted. Accessed October, 2023.

Kings Area Regional Transit (KART). 2023. KART Transit Route maps, Route 15-Visalia. <https://www.kartbus.org/routes/15/>. Accessed October, 2023.

Kings County 2010d County of Kings. 2010. 2035 Kings County General Plan – Circulation Element. January. <http://www.countyofkings.com/home/showdocument?id=3116>. Accessed October, 2023.

Kings County 2010e. 2035 Kings County General Plan – Health and Safety Element. January. <https://www.countyofkings.com/home/showdocument?id=13515>. Accessed October, 2023.

Office of Planning and Research (OPR). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. December. https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf. Accessed October, 2023.

4.18. TRIBAL CULTURAL RESOURCES

Would the Project	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 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:				
i. 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)?		X		
ii. 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 § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?		X		

TRIBAL CULTURAL RESOURCES SETTING

As discussed in Section 4.5. Cultural Resources, archival research, and reconnaissance of the Outlaw Battery Storage Project by ERM (see Appendix C; ERM 2023) indicated that no significant archaeological resources are present within the Project site or immediately surrounding areas. (See Section 4.5. and Appendix C for further discussion of the cultural resources setting.)

The majority of the lands in the cultural resources study area have been disturbed by agricultural activities, which may have disturbed or destroyed archaeological resources at or near the ground surface. However, it is possible that intact archaeological resources may be buried below the disturbed upper layer of soil. If so, the excavations associated with Project could expose as-yet undetected resources. It is also possible that human remains could be encountered.

REGULATORY SETTING

Assembly Bill 52 (AB 52) provides protections for tribal cultural resources. As of July 1, 2015, all lead agencies approving projects under CEQA are required, if formally requested by a

culturally affiliated California Native American Tribe, to consult with such tribe regarding the impacts of a project on tribal cultural resources prior to the release of any negative declaration, mitigated negative declaration (MND) or a notice of preparation (NOP) for an environmental impact report (EIR). Under Public Resources Code (PRC) Section 21074, tribal cultural resources include site features, places, cultural landscapes, sacred places, or objects that are of cultural value to a tribe that are eligible or listed on the California Register of Historical Resources (CRHR) or a local historic register or that the lead agency has determined to be a significant tribal cultural resource.

Tribal consultation is to continue until mitigation measures are agreed to, unless the tribe or the lead agency concludes in good faith that an agreement cannot be reached. In the case of agreement, the lead agency is required to include the mitigation measures in the environmental document along with the related Mitigation Monitoring and Reporting Program (MMRP) (see PRC Section 21084.3). If no agreement is reached, the lead agency must still impose all feasible measures necessary for a project to avoid or minimize significant adverse impacts on tribal cultural resources (PRC Section 21084.3).

ENVIRONMENTAL EVALUATION

- a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 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:**
 - i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?**

Less-than-Significant Impact with Mitigation Incorporated. As noted in Section 4.5 Cultural Resources, there are no known cultural resources within the Project site or surrounding properties that are listed or eligible for listing in the California Register of Historic Resources, or in a local register of historic resources as defined in Public Resources Code section 5020.1(k), and the potential for inadvertent discovery of unknown cultural resources during Project construction is low due to the previously disturbed site conditions. In the event that buried tribal cultural resources are encountered during grading or excavation, the Project would be subject to the full implementation of mitigation measures CR-1 through CR-4 as detailed in Section 4.5.

Cultural Resources. Implementation of such measures would ensure that site-specific impacts to tribal cultural resources would be reduced to less-than-significant levels at the project site.

- ii. **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 § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?**

Less-than-Significant Impact with Mitigation Incorporated. As discussed in Section 4.5 Cultural Resources, there are no known cultural resources within the Project site or surrounding properties that have been determined by Kings County to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1, and the potential for inadvertent discovery of cultural resources during Project construction is low due to the previously disturbed site conditions. In the event that buried tribal cultural resources are encountered during grading or excavation, the Project would be subject to the full mitigation measures CR-1 through CR-4 as detailed in Section 4.5. Cultural Resources. Implementation of such measures would ensure that site-specific impacts to tribal cultural resources would be reduced to less-than-significant levels at the project site.

Tribal Cultural Resources References

Environmental Resource Management, Inc. (ERM). 2023. Cultural Resources Assessment. Outlaw Battery Energy Storage Project. 7 November.

4.19. UTILITIES AND SERVICE SYSTEMS

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?				X
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				X
c. Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
d. Generate solid waste in excess of state local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment solid waste goals?			X	
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				X

UTILITIES AND SERVICE SYSTEM SETTING

Water Supply

The Project site is located within the Kings County Water District (KCWD). Agricultural water for crop irrigation at the Project site and nearby agricultural operations is supplied by local and regional groundwater wells.

Wastewater Collection and Treatment

The project site is not within or near an area served by a community wastewater collection and treatment system. For projects in rural areas of Kings County that include permanent on-site employees, wastewater disposal needs are typically met by individual septic tank and leachfield

systems that are designed, constructed, and operated in accordance with the requirements and standards of Kings County and the Central Valley Regional Water Quality Control Board. The Outlaw Battery Storage Project would be an unstaffed facility that would not generate wastewater, and it would not require new or expanded municipal wastewater services.

Storm Water Drainage

There are no municipal storm drain facilities in the Project area. The existing network of irrigation canals and ditches in the project area receives some stormwater runoff from adjacent lands during rain events. The project site is level, with a maximum gradient of 0.2 percent. Irrigation water and rainfall generally percolate into onsite soils. Runoff from excessive rainfall flows to the Melga Canal along the eastern boundary of the proposed battery storage site.

Electric Power

Southern California Edison (SCE) is an investor-owned utility company that provides electrical service to the project site. The Goshen-Hanford 66-kV sub-transmission line runs along Grangeville Boulevard and connects with the SCE Mascot substation at the intersection of Grangeville Boulevard and 7 ½ Avenue.

Natural Gas

The project site is within the service area of Southern California Gas Company (SoCalGas), although there are no natural gas distribution lines in the immediate project vicinity. The nearest gas line is a high pressure distribution line that runs along Lacey Boulevard, approximately 1 mile southwest of the project site (SoCalGas 2023).

Solid Waste

Solid waste collection and disposal service in Kings County is provided by the Kings Waste and Recycling Authority (KWRA). The KWRA was formed in 1998 by agreement between Kings County and the cities of Lemoore, Hanford, and Corcoran. Solid waste from the member jurisdictions is transported to the KWRA Materials Recovery Facility in Hanford where wastes are separated for recycling, composting, or landfill disposal. Commercial solid waste is collected by private contract with licensed haulers (Kings County 2010a). Used construction and demolition material is accepted at several approved facilities in the region.

In Kings County, non-recyclable materials are disposed of at the B-17 Landfill Unit of the Chemical Waste Management, Inc., Landfill, located in Kettleman Hills, south of Kettleman City on SR-41, and the Avenal Regional Landfill, located just north of urbanized area of the City of Avenal on Skyline Boulevard. The Chemical Waste Management B-17 Landfill Unit has a

maximum permitted disposal rate of 2,000 tons per day, and in 2022 accepted a total of 156,914 tons, or an average of 523 tons per day (assumes landfill is open 300 days per year) (CalRecycle 2022a). The total permitted capacity of B-17 Landfill Unit is 18.4 million cubic yards, with a remaining capacity of approximately 17.5 million cubic yards, as of November 2010. (Based on annual volume of disposal since 2010 [approx. 250,000 cubic yards per year], it is roughly estimated that the B-17 Landfill Unit had a remaining capacity of approximately 14.7 million cubic yards at the end of 2022.) The facility's estimated closure year is 2030, with the actual closure date depending on the rate of fill (CalRecycle 2022b).

The Avenal Regional Landfill has a maximum permitted disposal rate of 6,000 tons per day, and in 2022 accepted a total of 283,987 tons, or an average of 946 tons per day (CalRecycle 2022a). The total permitted capacity of the Avenal Landfill is 36.3 million cubic yards, with a remaining capacity of approximately 30.3 million cubic yards, as of September 2014. (Based on annual volume of disposal since 2014 [approx. 200,000 cubic yards per year], it is roughly estimated that Avenal Landfill had a remaining capacity of approximately 28.7 million cubic yards at the end of 2022.) The facility's estimated closure year is 2042, with the actual closure date depending on the rate of fill (CalRecycle 2022b). Based on the above, it is roughly estimated that the combined remaining capacity for the Chemical Waste Management Landfill and the Avenal Regional Landfill was approximately 43.4 million cubic yards at the end of 2022.

REGULATORY SETTING

State of California

Sustainable Groundwater Management Act

In September 2014, Governor Brown signed the Sustainable Groundwater Management Act (SGMA). The goal of the legislation is to sustainably manage California's groundwater basins identified as medium to critically overdrafted subbasins. SGMA requires that medium to critically over drafted subbasins identified by DWR be managed by a groundwater sustainability agency (GSA). GSAs are responsible for locally managing groundwater subbasins through the development and implementation of a Groundwater Sustainability Plan (GSP). For medium and high priority groundwater basins and subbasins, the preparation of the GSPs is mandatory, with adoption deadlines of 2020 or 2022 depending on the basin's priority. The Project site is located within the Tulare Lake Subbasin, which was designated as a critically overdrafted basin and is a part of the Mid Kings River GSA. The purpose of the GSP is to characterize groundwater conditions in the Tulare Lake Subbasin, evaluate and report on conditions of overdraft, establish

sustainability goals and sustainability management criteria, and describe projects and management actions the GSA intends to implement to achieve sustainability by 2040.

California Integrated Waste Management Act

In 1989, the legislature enacted the Integrated Waste Management Act (AB 939), which required California cities and counties to divert 50 percent of its solid waste from being disposed in landfills. In 2008, the legislature enacted SB 1016, which did not change the required 50 percent diversion rate, but altered the method of measuring compliance by implementing a simplified measure of local jurisdictions' performance.

Kings County

Kings County Water District

KCWD is member of the Mid Kings River GSA and provides agricultural irrigation water to growers and municipal and industrial users from surface water deliveries provided by the U.S. Bureau of Reclamation from the Central Valley Project (CVP) facilities that convey captured Sierra snowmelt to the west side of the San Joaquin Valley. In an ongoing effort to adapt to surface supply shortages, and to reduce groundwater overpumping, the GSP determined that the long-term sustainable yield across the subbasin for agricultural pumping is 229,220 acre-feet per year (TLSB 2022). This number is substantially smaller than the average agricultural pumping acre-feet per year. The sustainability goals of this subbasin are designed to close this gap over the next twenty years by understanding the interaction between existing and future conditions, analyzing, and identifying the effects of existing management actions on the subbasin, implementing the GSP and its associated measures, collaborating between agencies, and assessing interim milestones at five year intervals (TLSB 2020).

KCWD oversees numerous water conservation programs and provides funding for education and technology, enabling growers to effectively utilize surface water allotments through efficiencies and conservation. The District also monitors the water quality and quantity of pumped groundwater as part of its Water Management Plan (WWD 2013).

Kings County Integrated Waste Management Plan

Adopted in 1995, the Kings County Integrated Waste Management Plan (CIWMP) was prepared to demonstrate how the County's solid waste would be reduced by 25 percent by 1995 and 50 percent by 2000, as required under AB 939. The CIMWMP addresses the long-term ability to ensure the implementation of countywide diversion programs and provision of adequate disposal capacity through siting of disposal and transformation facilities. The Kings County

CIWMP incorporates the Source Reduction and Recycling Element and Household Hazardous Waste Element (HHWE) (Kings County 1995).

2035 Kings County General Plan

The 2035 Kings County General Plan contains the following goals, objectives, and policies related to water supply and wastewater collection and treatment that are relevant to the Outlaw Battery Storage Project:

Resource Conservation Element

A. Water Resources

RC GOAL A1	Beneficially use, efficiently manage, and protect water resources while developing strategies to capture additional water sources that may become available to ensure long-term sustainable water supplies for the region.
RC OBJECTIVE A1.1	Maintain and Protect Existing Water Supplies.
RC Policy A1.1.2	Review new discretionary development proposals, including new or expanded uses within agricultural zone districts, to ensure that there are adequate water supplies to accommodate such uses. Projects should provide evidence of adequate and sustainable water availability prior to approval of a tentative map or other land use approval.
RC OBJECTIVE A1.2	Conserve and reuse water to provide for the efficient use of water resources.
RC Policy A1.2.2	Require the use of low water consuming, drought-tolerant and native landscaping and other water conserving techniques, such as mulching, drip irrigation and moisture sensors, for new development.
RC OBJECTIVE A1.3	Secure additional water supply sources to meet current and future water demand.
RC Policy A1.3.2	Evaluate new urban development for compliance to SB610 and SB221 to ensure that adequate water supply sources and facilities

are available to accommodate the new demand that would be created by such development.

RC OBJECTIVE A1.4	Protect the quality of surface water and groundwater resources in accordance with applicable federal, state and regional requirements and regulations.
RC Policy A1.4.4	Encourage and support the identification of degraded surface water and groundwater resources and promote restoration where appropriate.
RC OBJECTIVE A1.6	Protect groundwater quality by applying development standards which seek to prevent pollution of surface or groundwater and net loss of natural water features.
RC Policy A1.6.2	Support measures to ensure that water users do not unreasonably use groundwater resources.

Kings County Code of Ordinances

Solid Waste Separation

Section 13-11 of the Code of Ordinances requires that recyclables be separated from solid waste at the premises where the solid waste is generated, and that recyclables be placed into different containers for collection (Kings County 2016b).

Kings County Improvement Standards

The Kings County Improvements Standards serves as an engineering reference for Kings County staff and private parties in the design and construction of improvements for public works projects and private developments. The standards include engineering design specifications for the construction of streets, water supply systems, storm drainage, and sewage disposal (Kings County 2003).

ENVIRONMENTAL EVALUATION

a. Require or result in the construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?

No Impact. With regard to wastewater treatment, there are no existing sanitary hookups at the Project site, and none would be required for Project operations. The proposed Project would be an unstaffed facility that would not generate wastewater; thus, the project would not require or

result in the construction of new or expanded wastewater treatment facilities, the construction of which could cause significant environmental effects. There would be no impact related to wastewater treatment facilities.

With regard to stormwater facilities, the Project site contains agricultural land with unpaved perimeter roads and unpaved access roads to the onsite vineyard. Proposed BESS operations would entail graveled access roads and numerous small foundations resulting in a slight increase in impervious surfaces. The remainder of the internal operational area would remain permeable. During normal rain events, runoff from impervious surfaces would be controlled onsite through infiltration. During more intense or prolonged storm events, the ground could become saturated and relatively small volumes of stormwater could temporarily pond on the surface and gradually percolate into the ground. The project would be designed in accordance with applicable codes to ensure that any slight increase in runoff would be retained onsite. Therefore, the proposed Project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

With regard to electric power, natural gas, or telecommunications, the Project includes an approximately 1-mile length of buried gen-tie line to connect the battery energy storage system to the existing SCE Mascot Substation. Upgrades to the Mascot Substation itself would take place within the existing substation footprint, and no other electric power infrastructure would be triggered. Natural gas would not be required for the Project. The Project includes telecommunications lines that would be bundled in the same underground trench as the gen-tie line, and no other telecommunications infrastructure would be triggered. No impacts would occur with regard electric power, natural gas, or telecommunications.

b. Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?

No Impact. The Project site is within the KCWD service area. There are no existing water hookups at the Project site, and none would be required for Project operations. The proposed Project would be an unstaffed facility that would not require new or expanded water services. The project would not consume water during normal operations. The only Project-related water use would be for emergency fire suppression. Water for emergency fire suppression would be sourced from either an onsite groundwater well or from a nearby groundwater well and stored in a 24,000 gallon onsite water tank. Based on the project's very low water demand, the Project would not require or result in the construction of new water facilities or expansion of existing

facilities, the construction of which could cause significant environmental effects. Furthermore, there are sufficient water supplies available to serve the Project, and no new or expanded entitlements or water service would be needed, so there would be no Project impacts related to water supply.

c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. There are no existing sanitary hookups at the Project site, and none would be required for Project operations. The proposed Project would be an unstaffed facility that would not generate wastewater; thus, the project would not result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. There would be no impact related to wastewater treatment capacity.

d. Generate solid waste in excess of state and local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste goals?

Less-than-Significant Impact. Solid waste such as construction debris would be generated during Project construction. No solid waste would be generated during normal operations unless a major repair or expansion is performed.

Solid waste collection and disposal service in Kings County is provided by the KWRA. Solid waste from the member jurisdictions is transported to the KWRA Materials Recovery Facility in Hanford where wastes are separated for recycling, composting, or landfill disposal. Commercial solid waste is collected by private contract with licensed haulers (Kings County 2010a). Used construction and demolition material is accepted at several approved facilities in the region. Non-recyclable materials are disposed of at the B-17 Landfill Unit of the Chemical Waste Management, Inc., Landfill, located in the Kettleman Hills south of Kettleman City on SR-41, and the Avenal Regional Landfill, located just north of urbanized area of the City of Avenal on Skyline Boulevard. As noted above, these facilities have substantial remaining capacity.

Project construction wastes such as excess wood, concrete, and metal would be recycled or reused to the extent feasible. Construction-related waste would generate a few hundred cubic yards of solid waste that would require transport and disposal at regional facilities. These

project-generated waste volumes would not materially reduce the capacity of regional solid waste facilities.

The Project would be an unstaffed facility that would not generate waste on a routine basis as part of long-term operations and maintenance.

Therefore, the Project's solid waste impacts would be less than significant because it would be served by a landfill with sufficient permitted capacity to accommodate its short-term temporary construction-related solid waste disposal needs. Therefore, potential impacts to local solid waste infrastructure would be less than significant.

e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. Project construction wastes such as excess wood, concrete, and metal would be recycled or reused to the extent feasible, and no solid waste would be generated during normal operations unless a major repair or expansion is performed. Construction-related waste that cannot be recycled would require transport and disposal at regional facilities. As noted above, regional facilities have substantial remaining capacity, and the anticipated project-generated waste volumes would not materially reduce the capacity of these facilities. For these reasons, the Project would comply with federal, state, and local statutes and regulations related to solid waste. The Project would have no impact related to compliance with solid waste statutes and regulations.

REFERENCES—UTILITIES AND SERVICE SYSTEMS

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4.20. WILDFIRES

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				X
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				X
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				X

WILDFIRE SETTING

The Outlaw Battery Storage Project site is not located in or near a State Responsibility Area (SRA) or on or near lands classified as Very High Fire Hazard Severity Zone (VHFHSZ). The map of Fire Hazard Severity Zones (FHSZ) in the SRA for Kings County prepared by the California Department of Forestry and Fire Protection (CAL FIRE) shows the project area as being within a Local Responsibility Area (LRA) (CAL FIRE 2023). According to the FHSZ map, the nearest area that is zoned as Very High Severity zone in the SRA is located in the Diablo Range at the western edge of Kings County, over 50 miles west from the project site.

CAL FIRE's map of Fire Hazard Severity Zones in Local Responsibility Area (LRA) for Kings County shows the project area as being "unzoned" for fire hazard. The nearest areas within the Kings County LRA that are zoned as High Severity are located in the Kettleman Hills at least 35 miles southwest of the project site, and there are no areas in the Kings County LRA that are zoned Very High Severity (CAL FIRE 2023). The Health and Safety Element of the Kings County General Plan includes a map of Potential Fire Hazards (Figure HS-9) which shows the major portion of the project site as being "Within 2400 meters (1.5 miles) of a Moderate Threat" for potential fire, and surrounding portions of the site as being subject to "Within 2400 meters of a High Threat" for potential fire (Kings County 2010e).

The Health and Safety Element of the 2035 Kings County General Plan designates evacuation routes to be relied upon for emergency or disaster responses. Within the project area, the primary evacuation routes include SR-198 and SR-41, and the secondary evacuation routes include Avenal Cutoff Road, Laurel Avenue and Kansas Avenue (Kings County 2010e). The primary access to the project site would be Grangeville Boulevard, which is not a County-designated evacuation route or emergency access route.

REGULATORY SETTING

Kings County General Plan

The 2035 Kings County General Plan includes the following goals, objectives and policies related to wildfires that are relevant to the Outlaw Battery Storage Project.

Health and Safety Element

HS GOAL C2	Support Countywide safety through adequate law enforcement, quality fire protection, emergency preparedness, and accessibility in times of emergency.
HS OBJECTIVE C2.2	Provide quality fire protection services throughout the County by the Kings County Fire Department, and Fire safety preventative measures to prevent unnecessary exposure of people and property to fire hazards in both County Local Responsibility Areas and State Responsibility Area.
HS Policy C2.2.1	Community planning efforts should evaluate the projected need for Fire Department personnel and equipment and necessary funding support to maintain current levels of service as community growth occurs.
HS Policy C2.2.2	Development proposals and code revisions shall be referred to the County Fire Department for review and comment.
HS Policy C2.2.4	Review development proposals according to California Department of Forestry and Fire Protection “Fire Hazard Severity Zone Maps” to determine whether a site is located within a Very High Fire Hazard Severity Zone and subject to Wildland-Urban Interface Fire Area Building Standards and defensible space

requirements as adopted under Senate Bill 1595 and effective January 1, 2009.

HS Policy C2.2.5

Forward for review and comment all proposed structures within the State Responsibility Area to the California Department of Forestry and Fire Protection within all State Responsibility Areas.

ENVIRONMENTAL EVALUATION

a. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Less-than-Significant Impact. The Outlaw Battery Storage Project is not located in or near a State Responsibility Area or in or near lands classified as Very High Severity Fire Hazard Zone, or a high fire hazard zone designated by Kings County.

The Health and Safety Element of the 2035 Kings County General Plan designates evacuation routes to be relied upon for emergency or disaster responses. Within the project area, the primary evacuation routes include SR-43 and SR-198 (Kings County 2010e). The Project would have its entrance on Grangeville Boulevard. This portion of Grangeville Blvd. is a secondary evacuation route as shown on Figure HS-20 Evac Routes in the Health & Safety Element, and it would serve as a critical evacuation route for the Project itself. This route would remain open throughout construction, and emergency access would not be limited by construction or operational activities at the Project site. Therefore, the Project would not impair an adopted emergency response plan or emergency evacuation plan. Potential impacts related to emergency response planning would be less than significant.

b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact. The Outlaw Battery Storage Project is not in or near a State Responsibility Area or on or near lands classified as Very High Fire Hazard Severity Zone; therefore, this significance criterion does not apply and there would be no impact. In addition, the project is not located near wildlands susceptible to wildfire, and surrounding lands do not possess high fuel loads (i.e., burnable vegetation). Therefore, the proposed Project would not exacerbate wildfire risks or cause uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors, nor would the Project expose people to wildfire-related air pollutants.

c. Require the installation or maintenance of associated infrastructure (such as roads,

fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact. The Outlaw Battery Storage Project is not in or near a State Responsibility Area or on or near lands classified as Very High Fire Hazard Severity Zone; therefore, this significance criterion does not apply and there would be no impact. In addition, the Project site and surrounding lands are developed with existing agricultural fields. The proposed Project would not require the installation or maintenance of infrastructure such as aboveground power lines or other utilities that may exacerbate wildfire risks. KCFD would require a Knox box, adequate access roads, water storage tank, and other safety features; and they would review and approval final building plans.

d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. The Outlaw Battery Storage Project is not in or near a State Responsibility Area or on or near lands classified as Very High Fire Hazard Severity Zone. The project site is level such that there is no risk of post-fire instability that could result in downstream flooding, landslides, or drainage changes. There would be no impact.

REFERENCES—WILDFIRE

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4.21. MANDATORY FINDINGS OF SIGNIFICANCE

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?		X		
b. Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.)		X		
c. Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X		

ENVIRONMENTAL SETTING

The 10-acre Outlaw Energy Storage Project site is in active agricultural production (vineyard). The Project operational area has modern lattices built for the cultivation of grapes with no other structures present. Vegetation within the Project site consisted of wine grapes, and invasive grasses.

ENVIRONMENTAL EVALUATION

- a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or**

prehistory?

Less-than-Significant Impact with Mitigation Incorporated. As discussed in Section 4.4. Biological Resources, the Outlaw Battery Storage Project could result in potentially significant effects to sensitive species including San Joaquin kit fox, burrowing owl, Swainson's hawk, and migratory birds. However, with the implementation of Mitigation Measures BIO-1 and BIO-2, these potential impacts would be reduced to less-than-significant levels. The Outlaw Battery Storage Project would have no impact or a less-than-significant impact on all other species and biological communities.

As discussed in Section 4.5. Cultural Resources, the Outlaw Battery Storage Project could result in potentially significant effects to historic and prehistoric archaeological resources, including human burials. However, with the implementation of Mitigation Measures CR-1 and CR-2, these potential impacts would be reduced to less-than-significant levels

In summary, with the implementation of mitigation measures to be incorporated into the Outlaw Battery Storage Project, it is expected that the project would not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or pre-history.

- b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)**

Less-than-Significant Impact with Mitigation Incorporated. Potential impacts of the Outlaw Battery Storage Project were considered in the context of other past, present, and probable future projects in the vicinity in order to evaluate whether the proposed project's potential impacts would be cumulatively considerable. For the purpose of this cumulative impact assessment the relevant project vicinity includes northeastern Kings County, generally east of Hanford and north of SR 198. The types of projects that could contribute to cumulative impacts generally include other battery energy storage or solar development projects, as well other nearby industrial, commercial, agricultural, or residential land use developments.

A notable project within the project vicinity includes the California High Speed Rail (HSR) Hanford Station and Hanford Viaduct. These facilities are currently under construction along 7½ Avenue, approximately 1 mile west of the proposed battery storage facility. HSR construction may still be underway concurrent with the Outlaw Battery Storage Project.

No other notable development projects are identified in the project vicinity that would be relevant to the assessment of cumulative impacts.

Solar and battery energy storage development is primarily focused in southern and western Kings County, generally clustered within and around the Westlands Solar Park Master Plan Area, as well as numerous other sites interspersed throughout southern Kings County. No solar or battery energy solar projects are known to be under consideration in the vicinity of the Outlaw Battery Storage Project. As such the Outlaw Battery Storage Project is considered distant from these other projects; and these other projects are not considered relevant to the Outlaw Battery Storage cumulative impact assessment.

Most other projects that have been proposed and approved in Kings County over the past several years have consisted of minor projects such as cell towers, or projects that are too far from the project area to contribute to any cumulatively significant effect, such as Jackson Ranch Specific Plan in southern Kings County, or projects for which development applications have been formally withdrawn or closed due to inactivity (e.g., Quay Valley new community project). As such, these projects are not considered relevant to this assessment because there is no potential that they would contribute to a cumulatively significant impact associated with the Outlaw Battery Storage Project.

The approach to assessing the significance of a cumulative project impact is based on the provision of Section 15065 of the CEQA Guidelines which states that the effects of a project must be “cumulatively considerable” to be considered significant. CEQA requires a two-step analysis for cumulative impacts, with the first step resulting in a determination of the significance of a cumulative impact for each environmental topic, and the second step resulting in a determination of whether the project contribution is cumulatively considerable. An affirmative finding is required for both steps in order to conclude that a project impact is cumulatively significant. The following evaluation addresses potential cumulative impacts by environmental topic area.

Aesthetics

Existing land uses in the Project vicinity are agricultural row crops, vineyards, and orchards. The proposed Project would have a low visual profile and views would be partially obscured behind vineyard operations on the remainder of the parcel.

While the battery storage facility would represent a visual change to the predominantly agricultural character of its setting, the low profile of the storage facilities would not be out of scale with its rural surroundings. The facility would not emit a visual plume and it would be generally out of view from public and private vantage points. Operations and maintenance activities would be generally consistent with the current pattern of occasional agricultural worker vehicles entering and leaving the Project site to maintain the existing agricultural operations. Therefore, the Project's contribution to cumulative aesthetic impacts would be less than significant.

Agricultural Resources

The proposed Project would not conflict with existing zoning for agricultural uses (either onsite or offsite), nor with any of the County's agricultural land use policies. The Project would not conflict with any Williamson Act contracts. The Project would displace 10 acres of regionally important farmlands; however, such conversions are contemplated in the AG-20 zone, wherein battery storage and similar lands uses are allowed. The Project would not result in the conversion of forestlands or timberlands to non-forest uses (either onsite or on similarly zoned adjacent and nearby properties). Similar to solar development projects throughout the County, the proposed battery storage project would implement soil reclamation plans with financial assurances to return the battery storage site to its pre-project conditions in accordance with mitigation measures AG-1 and AG-2. As such, the potential impacts of the cumulative projects would result in the permanent conversion of Farmland to non-agricultural uses. Therefore, the Project would not contribute to a cumulatively considerable loss of, or impacts to, agricultural lands, Williamson Act contracts, Farmlands, forestlands, or timberlands in the region.

Air Quality

With respect to regional air quality, the Air District guidance states that any project that would individually have a significant impact on regional air quality (i.e., exceed significance thresholds for ROG or NO_x) would also be considered to have a significant cumulative air quality impact. As discussed in Section 4.3. Air Quality, under item 'b', Project-specific emissions of ozone precursor pollutants (ROG and NO_x) and PM₁₀ were found to be less-than-significant for the proposed project. As discussed in Section 4.3. Air Quality, under item 'a', the project would comply with

applicable air quality plans and would not conflict with or obstruct their implementation. Therefore, the project contribution to cumulative regional air quality impacts would not be considerable.

Local air pollutants which are relevant include PM10 emissions and toxic air contaminants (TACs) from construction activity. Construction period PM10 emissions would be localized. As shown in Table AQ-2, the combined construction exhaust and dust emissions from the Outlaw Battery Storage Project would be less than the PM10 significance threshold of 15 tons per year with mitigation (i.e., dust controls). Since the total PM10 emissions would be below the total PM10 significance threshold, construction period total PM10 emissions impacts would be less than significant for the Outlaw Battery Storage Project.

No other projects are known to be planned in the vicinity that would be under construction at the same time as the Outlaw Battery Storage Project. Even if the construction of another project in the vicinity were to overlap with project construction, the combined PM10 concentrations at the nearest common receptors would be negligible. This is because PM10 concentrations disperse rapidly from the source, such that PM10 concentrations from a nearby project would be greatly diminished by the time they combined with PM10 emissions from the Outlaw Battery Storage Project at a common off-site receptor. Therefore, the cumulative PM10 impact associated with the project would be less-than-significant, and the project's contribution to cumulative PM10 emissions would not be considerable.

Another class of pollutants are toxic air contaminants (TACs). These pollutants can cause health risks such as cancer, chronic or long-term health effects, or acute or short-term health effects. Impacts from these types of pollutants are evaluated on a probability basis for cancer for carcinogens or compared to a hazard index for pollutants with chronic and acute effects. A significant impact would occur if a project would emit TACs that could cause a significant increase in health risks, including both carcinogenic and non-carcinogenic risks that would exceed the threshold values shown in the table below. Sources of TACs from the Project would include equipment that combusts diesel fuel, emitting diesel particulate matter (DPM), which is carcinogenic.

The Project's construction-related activities would result in short-term emissions of DPM from the exhaust of off-road, heavy-duty diesel equipment intermittently generated over the construction phase. The health risks of TAC emissions are typically quantified when both of the following apply: sensitive receptors are within 1,000 feet of an emission source, and exposure would occur over several years. The nearest residence is approximately 500 feet northwest of the proposed BESS site and other residences are located farther east and west. The nearest school is Lee Richmond School approximately 3.5 miles west of the BESS site. Due to the short duration of construction and distance from these receptors, construction of the proposed Project would not expose existing

sensitive receptors to substantial TAC pollutant concentrations. Furthermore, as of the time of this Project application there is no indication that any of the surrounding agriculturally zoned parcels are expected to be developed as residential or other non-agricultural uses before and/or concurrent with the Project's anticipated construction schedule. As such, it is speculative to assume at this point that Project construction could potentially expose future nearby sensitive receptors to substantial pollutant concentrations.

As noted above, Project operations would entail infrequent maintenance activities resulting in minimal TAC emissions from construction vehicles and equipment. Therefore, coupled with the distance from residences, Project operations would not expose existing sensitive receptors to substantial TAC pollutant concentrations.

Because the Project's TAC emissions would be well below the significance thresholds, the proposed Project would result in a less than significant cancer risk and chronic health hazard at the closest individual receptors.

Biological Resources

The proposed Project's potential impacts to biological resources would be less than significant with incorporation of Mitigation Measures BIO-1 and BIO-2, and would therefore not result in a cumulatively considerable contribution to baseline cumulative impacts to biological resources in the region.

Cultural Resources

The proposed Project's potential impacts to cultural resources would be less than significant with incorporation of Mitigation Measures CR-1 through CR-4. In the event that cultural resources are encountered during grading or excavation at other cumulative project sites, each of the cumulative projects would be subject to mitigation measures similar to those identified for the Outlaw Battery Storage Project. Implementation of such measures would ensure that site-specific impacts to cultural resources would be reduced to less-than-significant levels at each cumulative site. The collective incremental effects after mitigation would result in a less-than-significant cumulative impact to cultural resources, and the project contribution would not be considerable.

Energy

As the proposed Project would be beneficial in terms of improving electrical grid efficiency, and because it is not expected to directly or indirectly adversely affect energy resources, it would not contribute to cumulatively considerable impacts on energy resources in the region.

Geology and Soils

As the proposed Project is not expected to directly or indirectly create substantial risks to life or property with respect to landslides, unstable geologic units, collapse, subsidence, or expansive soils, it would not contribute to cumulatively considerable impacts in the region. The Project design and construction would comply with CBC seismic design guidelines, and the recommendations presented in any geotechnical reports to be prepared for the Project, to address potential seismic-related hazards. Therefore, the Project's contribution to cumulative impacts with respect to potential exposure of people or structures to risk of loss, injury, or death from seismically induced fault ruptures, ground shaking, liquefaction, or lateral spreading would be less than significant. In addition, erosion-control BMPs would be implemented in accordance with state water quality standards during Project grading/construction; therefore, the Project's contribution to cumulative impacts with respect to soil instability and substantial soil erosion impacts would be less than significant.

The project site is not within an area of potential unique paleontological resources. However, it is possible that site excavations could encounter unique paleontological resources. Potential impacts to paleontological resources would be less than significant with incorporation of Mitigation Measure GEO-1. In the event that paleontological resources are encountered during grading or excavation at other cumulative project sites, each of the cumulative projects would be subject to mitigation measures similar to those identified for the Outlaw Battery Storage Project.

Implementation of such measures would ensure that site-specific impacts to paleontological resources would be reduced to less-than-significant levels at each cumulative site. The collective incremental effects after mitigation would result in a less-than-significant cumulative impact to paleontological resources, and the project contribution would not be considerable.

Greenhouse Gas

Although the Project's GHG emissions would contribute incrementally to cumulative global climate change impacts, such impacts would be less than significant because they would be short-term (construction phase only). Kings County does not have an established a quantitative "bright-line" significance threshold for construction or operations emissions. However, for context, Project emissions are well below the various quantitative significance thresholds applied in other regions of the state for comparable projects. Based on these emissions levels as compared to thresholds for similar projects in other regions of the state, potential cumulative GHG impacts would be less than significant.

Also, the BESS concept is beneficial in terms of improving electrical grid efficiency because it enables the storage and dispatch of electricity generated from intermittent renewable power sources (e.g., wind and solar) during demand periods when such generation may not otherwise be available, and thus reduces GHG emissions from non-renewable energy sources. Therefore, the Project's GHG emissions would not directly or indirectly have a significant impact on the environment, nor would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

Hazards and Hazardous Materials

The proposed Project would be designed and operated in conformance with applicable health and safety standards, thus minimizing potential hazards with respect to possible fire or other upset condition. The Project would therefore not result in a cumulatively considerable contribution to any potentially significant cumulative impacts relating to potential public exposures to hazardous materials risks in the region.

Hydrology and Water Quality

Given the level Project site topography, the small Project footprint, the unchanging drainage patterns/soil infiltration conditions, and implementation of mitigation measure HYD-1 (implementation of a SWPPP with appropriate BMPs) to prevent erosion and sediment runoff and associated water quality degradation, the Project would not result in a cumulatively considerable contribution to any cumulative hydrologic or water quality impacts that may be occurring in the region.

Land Use and Planning

The relatively small footprint and low vertical profile of the Project, and its location within an extensive area of agricultural fields, would not be at a scale large enough to result in the physical division of any established community or neighborhood. There are no land use plans, policies, or regulations that apply to the Project site that were adopted for the purpose of avoiding or mitigating an environmental effect; therefore, the proposed Project would not result in any such policy conflicts. Based on the assessment provided in Biological Resources, the Project would not conflict with a habitat conservation plan or natural community conservation plan. The Project would not result in a cumulatively considerable contribution to any cumulative land use impacts.

Mineral Resources

The proposed Project would have no direct impacts on mineral resource availability for the region and would therefore not have a considerable contribution to any cumulative loss of mineral resources or resource recovery sites that may be occurring regionally.

Noise

Direct Project noise impacts would be less than significant and would therefore not result in a considerable contribution to any cumulative noise impacts in the region.

Population and Housing

The proposed Project would not directly or indirectly induce substantial population growth, and it would not displace any existing housing or result in an increased demand for existing housing. Therefore, the Project would not have a cumulatively considerable contribution to any significant cumulative impact on population and housing that may be occurring in the region.

Public Services

The proposed Project would not require the provision of any new or physically altered government facilities, the construction of which could otherwise cause significant physical environmental impacts. Therefore, the Project would not have a cumulatively considerable contribution to any significant cumulative impact on public services that may be occurring in the region.

Recreation

The proposed Project does not require the provision of new or physically altered recreational facilities, the construction of which could otherwise cause significant physical environmental impacts. Therefore, it would not have a cumulatively considerable contribution to any significant cumulative impact on recreational services that may be occurring in the region.

Transportation and Traffic

The proposed Project would not have significant traffic operational impacts. Potential short-term construction-related impacts to traffic circulation and traffic safety would be reduced to less-than-significant level with implementation of mitigation measure TR-1. Therefore, the Project would not have a cumulatively considerable contribution to any significant cumulative transportation/traffic impacts that may be occurring in the region.

Tribal Cultural Resources

In the event that buried tribal cultural resources are encountered during grading or excavation, each of the cumulative projects would be subject to mitigation measures similar to those identified for the Outlaw Battery Storage Project in Mitigation Measure CR-1 and CR-2 in Section 4.5. Cultural Resources. Implementation of such measures would ensure that site-specific impacts to tribal cultural resources would be reduced to less-than-significant levels at each cumulative site. The

collective incremental effects after mitigation would result in a less-than-significant cumulative impact to tribal cultural resources, and the project contribution would not be considerable.

Utilities and Service Systems

The proposed Project would not result in an increase in demands on sewage treatment capacity, water supply, or the storm drain system. In addition, the small quantities of construction debris and other solid waste that would be generated during Project construction can be accommodated by regional landfill facilities. Therefore, the Project would not result in a cumulatively considerable contribution to any significant cumulative impacts on regional landfill capacities or other waste handling facilities.

Wildfire The proposed Project would not have any significant wildfire related impacts. Therefore, it would not have a cumulatively considerable contribution to any significant cumulative wildfire impacts that may be occurring in the region.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less-than-Significant Impact with Mitigation Incorporated. The ways in which people can be subject to substantial adverse effects from projects include potential exposure to significant levels of local air pollutants; potential exposure to seismic and flooding hazards; potential exposure to contamination from hazardous materials; potential exposure to traffic hazards, potential exposure to excessive noise levels; and potential exposure to wildfire. The risks from most of these potential hazards would be avoided or reduced to less-than-significant levels through compliance with existing laws, regulations, or requirements that are intended to protect human health and safety. In other instances, the potential project impacts to humans would not occur (e.g., wildfire), or would be avoided or reduced to less-than-significant levels through mitigation measures identified in this document. With the implementation of these measures to address potential impacts, it is expected that the Outlaw Battery Storage Project would not have the potential to result in significant effects which would cause substantial adverse effects on human beings, either directly or indirectly.

Appendix A Air Quality and Greenhouse Gas Calculations

esVolta V2 Detailed Report

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1.1. Basic Project Information

Data Field	Value
Project Name	esVolta V2
Construction Start Date	4/6/2026
Operational Year	2027
Lead Agency	DTSC
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.40
Precipitation (days)	22.6
Location	Hanford, CA 93230, USA
County	Kings
City	Hanford
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2614
EDFZ	9
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
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General Light Industry	1.00	1000sqft	10.0	0.00	435,600	—	—	—
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1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.88	48.1	56.7	0.10	2.07	60.6	60.9	1.91	9.19	9.48	10,341	0.40	0.17	10,405
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.05	33.2	34.3	0.07	1.54	7.38	8.92	1.42	3.50	4.92	7,215	0.28	0.10	7,252
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.42	11.7	12.4	0.02	0.50	3.68	4.18	0.46	1.47	1.93	2,451	0.10	0.04	2,464
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.26	2.13	2.26	< 0.005	0.09	0.67	0.76	0.08	0.27	0.35	406	0.02	0.01	408

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
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Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	5.88	48.1	56.7	0.10	2.07	60.6	60.9	1.91	9.19	9.48	10,341	0.40	0.17	10,405
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	4.05	33.2	34.3	0.07	1.54	7.38	8.92	1.42	3.50	4.92	7,215	0.28	0.10	7,252
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.42	11.7	12.4	0.02	0.50	3.68	4.18	0.46	1.47	1.93	2,451	0.10	0.04	2,464
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.26	2.13	2.26	< 0.005	0.09	0.67	0.76	0.08	0.27	0.35	406	0.02	0.01	408

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.07	0.00	2.34
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.07	0.00	2.34
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.73	0.07	< 0.005	2.41
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.12	0.01	< 0.005	0.40

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Water	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Waste	—	—	—	—	—	—	—	—	—	—	0.67	0.07	0.00	2.34
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.07	0.00	2.34
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Water	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Waste	—	—	—	—	—	—	—	—	—	—	0.67	0.07	0.00	2.34
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.07	0.00	2.34
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.06	< 0.005	< 0.005	0.07
Area	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Water	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00

Waste	—	—	—	—	—	—	—	—	—	—	0.67	0.07	0.00	2.34
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.73	0.07	< 0.005	2.41
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.01	< 0.005	< 0.005	0.01
Area	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Water	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Waste	—	—	—	—	—	—	—	—	—	—	0.11	0.01	0.00	0.39
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.12	0.01	< 0.005	0.40

3. Construction Emissions Details

3.1. Demo/Site Clearing (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.09	8.91	7.62	0.02	0.31	—	0.31	0.28	—	0.28	1,422	0.06	0.01	1,427
Demolition	—	—	—	—	—	60.4	60.4	—	9.15	9.15	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.12	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	19.5	< 0.005	< 0.005	19.5
Demolition	—	—	—	—	—	0.83	0.83	—	0.13	0.13	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	3.22	< 0.005	< 0.005	3.24
Demolition	—	—	—	—	—	0.15	0.15	—	0.02	0.02	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.63	0.00	0.00	0.10	0.10	0.00	0.02	0.02	116	0.01	< 0.005	118
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.32	0.07	< 0.005	0.01	0.07	0.08	0.01	0.02	0.03	270	< 0.005	0.04	284
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.46	< 0.005	< 0.005	1.48
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	3.71	< 0.005	< 0.005	3.89
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.24	< 0.005	< 0.005	0.24
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.61	< 0.005	< 0.005	0.64

3.3. Construction Kick-off/Staging (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Finishes (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.48	11.3	7.76	0.02	0.65	—	0.65	0.60	—	0.60	1,830	0.07	0.01	1,836
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.48	11.3	7.76	0.02	0.65	—	0.65	0.60	—	0.60	1,830	0.07	0.01	1,836

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	1.86	1.28	< 0.005	0.11	—	0.11	0.10	—	0.10	301	0.01	< 0.005	302
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.34	0.23	< 0.005	0.02	—	0.02	0.02	—	0.02	49.8	< 0.005	< 0.005	50.0
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.42	0.00	0.00	0.07	0.07	0.00	0.02	0.02	77.3	< 0.005	< 0.005	78.5
Vendor	< 0.005	0.12	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	98.3	< 0.005	0.01	103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.31	0.00	0.00	0.07	0.07	0.00	0.02	0.02	68.5	< 0.005	< 0.005	69.4
Vendor	< 0.005	0.13	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	98.4	< 0.005	0.01	103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	11.7	< 0.005	< 0.005	11.8
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	16.2	< 0.005	< 0.005	16.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.93	< 0.005	< 0.005	1.96
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	2.68	< 0.005	< 0.005	2.79
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Testing (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Site Prep/Rough Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.01	16.1	12.5	0.02	0.88	—	0.88	0.81	—	0.81	2,651	0.11	0.02	2,660
Dust From Material Movement	—	—	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.22	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	36.3	< 0.005	< 0.005	36.4
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	6.01	< 0.005	< 0.005	6.03
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.74	0.00	0.00	0.12	0.12	0.00	0.03	0.03	135	0.01	< 0.005	137
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.01	0.64	0.14	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	541	< 0.005	0.09	568
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.70	< 0.005	< 0.005	1.73
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	7.41	< 0.005	< 0.005	7.78
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.28	< 0.005	< 0.005	0.29
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.23	< 0.005	< 0.005	1.29

3.11. Grading and Excavation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	9.47	12.7	0.03	0.42	—	0.42	0.39	—	0.39	2,889	0.12	0.02	2,899
Dust From Material Movement	—	—	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.52	0.70	< 0.005	0.02	—	0.02	0.02	—	0.02	158	0.01	< 0.005	159
Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.09	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	26.2	< 0.005	< 0.005	26.3
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.42	0.00	0.00	0.07	0.07	0.00	0.02	0.02	77.3	< 0.005	< 0.005	78.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	3.89	< 0.005	< 0.005	3.95
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.64	< 0.005	< 0.005	0.65

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving for Drive Aisles (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.77	12.9	12.7	0.03	0.53	—	0.53	0.49	—	0.49	2,182	0.09	0.02	2,190
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.18	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	29.9	< 0.005	< 0.005	30.0
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	4.95	< 0.005	< 0.005	4.97

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.42	0.00	0.00	0.07	0.07	0.00	0.02	0.02	77.3	< 0.005	< 0.005	78.5
Vendor	< 0.005	0.12	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	98.3	< 0.005	0.01	103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.97	< 0.005	< 0.005	0.99
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.35	< 0.005	< 0.005	1.41
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.16	< 0.005	< 0.005	0.16
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.22	< 0.005	< 0.005	0.23
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.15. BESS Enclosure and PCS Unit Installation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.07	25.8	29.3	0.05	0.97	—	0.97	0.89	—	0.89	4,523	0.18	0.04	4,539
Dust From Material Movement	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	2.12	2.41	< 0.005	0.08	—	0.08	0.07	—	0.07	372	0.02	< 0.005	373
Dust From Material Movement	—	—	—	—	—	0.58	0.58	—	0.28	0.28	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.39	0.44	< 0.005	0.01	—	0.01	0.01	—	0.01	61.6	< 0.005	< 0.005	61.8
Dust From Material Movement	—	—	—	—	—	0.11	0.11	—	0.05	0.05	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.74	0.00	0.00	0.12	0.12	0.00	0.03	0.03	135	0.01	< 0.005	137
Vendor	0.02	0.56	0.21	< 0.005	0.01	0.12	0.13	0.01	0.03	0.04	442	0.01	0.06	462

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	10.2	< 0.005	< 0.005	10.4
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	36.4	< 0.005	0.01	38.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.69	< 0.005	< 0.005	1.71
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	6.02	< 0.005	< 0.005	6.28
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Construction of Concrete Pads (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.64	21.9	19.6	0.04	0.92	—	0.92	0.84	—	0.84	3,478	0.14	0.03	3,490
Dust From Material Movement	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	1.80	1.61	< 0.005	0.08	—	0.08	0.07	—	0.07	286	0.01	< 0.005	287
Dust From Material Movement	—	—	—	—	—	0.58	0.58	—	0.28	0.28	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.33	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	47.3	< 0.005	< 0.005	47.5
Dust From Material Movement	—	—	—	—	—	0.11	0.11	—	0.05	0.05	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.63	0.00	0.00	0.10	0.10	0.00	0.02	0.02	116	0.01	< 0.005	118
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	8.75	< 0.005	< 0.005	8.88
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.45	< 0.005	< 0.005	1.47

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.19. Onsite Project Substation/SCE Switchyard Installation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	21.5	25.3	0.05	0.88	—	0.88	0.81	—	0.81	4,899	0.20	0.04	4,916
Dust From Material Movement	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	21.5	25.3	0.05	0.88	—	0.88	0.81	—	0.81	4,899	0.20	0.04	4,916
Dust From Material Movement	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	4.70	5.55	0.01	0.19	—	0.19	0.18	—	0.18	1,074	0.04	0.01	1,077
Dust From Material Movement	—	—	—	—	—	1.55	1.55	—	0.75	0.75	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.86	1.01	< 0.005	0.04	—	0.04	0.03	—	0.03	178	0.01	< 0.005	178
Dust From Material Movement	—	—	—	—	—	0.28	0.28	—	0.14	0.14	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.06	1.05	0.00	0.00	0.17	0.17	0.00	0.04	0.04	193	0.01	0.01	196
Vendor	0.01	0.19	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	147	< 0.005	0.02	154
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.78	0.00	0.00	0.17	0.17	0.00	0.04	0.04	171	< 0.005	0.01	173
Vendor	0.01	0.20	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	148	< 0.005	0.02	154
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.18	0.00	0.00	0.04	0.04	0.00	0.01	0.01	38.9	< 0.005	< 0.005	39.5
Vendor	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	32.3	< 0.005	< 0.005	33.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	6.44	< 0.005	< 0.005	6.53
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	5.35	< 0.005	< 0.005	5.59
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	0.67	0.07	0.00	2.34
Total	—	—	—	—	—	—	—	—	—	—	0.67	0.07	0.00	2.34

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	0.67	0.07	0.00	2.34
Total	—	—	—	—	—	—	—	—	—	—	0.67	0.07	0.00	2.34
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	0.11	0.01	0.00	0.39
Total	—	—	—	—	—	—	—	—	—	—	0.11	0.01	0.00	0.39

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demo/Site Clearing	Demolition	4/13/2026	4/17/2026	5.00	5.00	—
Construction Kick-off/Staging	Site Preparation	4/6/2026	4/10/2026	5.00	5.00	—
Finishes	Site Preparation	8/17/2026	11/6/2026	5.00	60.0	—
Testing	Site Preparation	11/2/2026	11/27/2026	5.00	20.0	—
Site Prep/Rough Grading	Grading	4/20/2026	4/24/2026	5.00	5.00	—
Grading and Excavation	Grading	4/27/2026	5/22/2026	5.00	20.0	Fine/Pad Grading, Excavation for Underground Conduit/Utilities, and Stormwater LID Areas
Paving for Drive Aisles	Grading	8/17/2026	8/21/2026	5.00	5.00	—
BESS Enclosure and PCS Unit Installation	Grading	7/6/2026	8/14/2026	5.00	30.0	—
Construction of Concrete Pads	Grading	5/25/2026	7/3/2026	5.00	30.0	—
Onsite Project Substation/SCE Switchyard Installation	Grading	7/4/2026	10/23/2026	5.00	80.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demo/Site Clearing	Dumpers/Tenders	Diesel	Average	1.00	4.00	367	0.40
Demo/Site Clearing	Excavators	Diesel	Average	1.00	8.00	33.0	0.73

Demo/Site Clearing	Skid Steer Loaders	Diesel	Average	1.00	8.00	36.0	0.38
Demo/Site Clearing	Tractors/Loaders/Backh oes	Diesel	Average	1.00	8.00	84.0	0.37
Finishes	Tractors/Loaders/Backh oes	Diesel	Average	1.00	8.00	367	0.40
Finishes	Skid Steer Loaders	Diesel	Average	1.00	8.00	84.0	0.37
Finishes	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Site Prep/Rough Grading	Dumpers/Tenders	Diesel	Average	1.00	8.00	36.0	0.38
Site Prep/Rough Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Prep/Rough Grading	Rubber Tired Loaders	Diesel	Average	1.00	8.00	367	0.40
Site Prep/Rough Grading	Skid Steer Loaders	Diesel	Average	1.00	8.00	84.0	0.37
Site Prep/Rough Grading	Tractors/Loaders/Backh oes	Diesel	Average	1.00	8.00	84.0	0.37
Grading and Excavation	Graders	Diesel	Average	1.00	8.00	84.0	0.37
Grading and Excavation	Plate Compactors	Diesel	Average	1.00	8.00	36.0	0.38
Grading and Excavation	Rollers	Diesel	Average	1.00	8.00	148	0.41
Grading and Excavation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	367	0.40
Grading and Excavation	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Grading and Excavation	Tractors/Loaders/Backh oes	Diesel	Average	1.00	8.00	84.0	0.37
Paving for Drive Aisles	Pavers	Diesel	Average	1.00	8.00	36.0	0.38
Paving for Drive Aisles	Rollers	Diesel	Average	1.00	8.00	148	0.41
Paving for Drive Aisles	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	367	0.40
BESS Enclosure and PCS Unit Installation	Air Compressors	Diesel	Average	1.00	8.00	367	0.29
BESS Enclosure and PCS Unit Installation	Cranes	Diesel	Average	1.00	8.00	82.0	0.20

BESS Enclosure and PCS Unit Installation	Excavators	Diesel	Average	1.00	8.00	14.0	0.74
BESS Enclosure and PCS Unit Installation	Generator Sets	Diesel	Average	1.00	8.00	84.0	0.37
BESS Enclosure and PCS Unit Installation	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	46.0	0.45
BESS Enclosure and PCS Unit Installation	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
BESS Enclosure and PCS Unit Installation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
BESS Enclosure and PCS Unit Installation	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
BESS Enclosure and PCS Unit Installation	Graders	Diesel	Average	1.00	8.00	148	0.41
BESS Enclosure and PCS Unit Installation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Construction of Concrete Pads	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	367	0.29
Construction of Concrete Pads	Pumps	Diesel	Average	1.00	8.00	82.0	0.20
Construction of Concrete Pads	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	14.0	0.74
Construction of Concrete Pads	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Construction of Concrete Pads	Graders	Diesel	Average	1.00	8.00	148	0.41
Construction of Concrete Pads	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Onsite Project Substation/SCE Switchyard Installation	Aerial Lifts	Diesel	Average	1.00	8.00	367	0.29
Onsite Project Substation/SCE Switchyard Installation	Air Compressors	Diesel	Average	1.00	8.00	82.0	0.20

Onsite Project Substation/SCE Switchyard Installation	Bore/Drill Rigs	Diesel	Average	1.00	8.00	14.0	0.74
Onsite Project Substation/SCE Switchyard Installation	Cranes	Diesel	Average	1.00	8.00	84.0	0.37
Onsite Project Substation/SCE Switchyard Installation	Excavators	Diesel	Average	1.00	8.00	46.0	0.45
Onsite Project Substation/SCE Switchyard Installation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Onsite Project Substation/SCE Switchyard Installation	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40
Onsite Project Substation/SCE Switchyard Installation	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Onsite Project Substation/SCE Switchyard Installation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Onsite Project Substation/SCE Switchyard Installation	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Onsite Project Substation/SCE Switchyard Installation	Graders	Diesel	Average	1.00	8.00	148	0.41
Onsite Project Substation/SCE Switchyard Installation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
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Construction Kick-off/Staging	—	—	—	—
Construction Kick-off/Staging	Worker	0.00	12.3	LDA,LDT1,LDT2
Construction Kick-off/Staging	Vendor	—	7.92	HHDT,MHDT
Construction Kick-off/Staging	Hauling	0.00	20.0	HHDT
Construction Kick-off/Staging	Onsite truck	—	—	HHDT
Demo/Site Clearing	—	—	—	—
Demo/Site Clearing	Worker	12.0	12.3	LDA,LDT1,LDT2
Demo/Site Clearing	Vendor	—	7.92	HHDT,MHDT
Demo/Site Clearing	Hauling	4.00	20.0	HHDT
Demo/Site Clearing	Onsite truck	—	—	HHDT
Site Prep/Rough Grading	—	—	—	—
Site Prep/Rough Grading	Worker	14.0	12.3	LDA,LDT1,LDT2
Site Prep/Rough Grading	Vendor	—	7.92	HHDT,MHDT
Site Prep/Rough Grading	Hauling	8.00	20.0	HHDT
Site Prep/Rough Grading	Onsite truck	—	—	HHDT
Grading and Excavation	—	—	—	—
Grading and Excavation	Worker	8.00	12.3	LDA,LDT1,LDT2
Grading and Excavation	Vendor	—	7.92	HHDT,MHDT
Grading and Excavation	Hauling	0.00	20.0	HHDT
Grading and Excavation	Onsite truck	—	—	HHDT
Construction of Concrete Pads	—	—	—	—
Construction of Concrete Pads	Worker	12.0	12.3	LDA,LDT1,LDT2
Construction of Concrete Pads	Vendor	—	7.92	HHDT,MHDT
Construction of Concrete Pads	Hauling	0.00	20.0	HHDT
Construction of Concrete Pads	Onsite truck	—	—	HHDT
BESS Enclosure and PCS Unit Installation	—	—	—	—

BESS Enclosure and PCS Unit Installation	Worker	14.0	12.3	LDA,LDT1,LDT2
BESS Enclosure and PCS Unit Installation	Vendor	18.0	7.92	HHDT,MHDT
BESS Enclosure and PCS Unit Installation	Hauling	0.00	20.0	HHDT
BESS Enclosure and PCS Unit Installation	Onsite truck	—	—	HHDT
Finishes	—	—	—	—
Finishes	Worker	8.00	12.3	LDA,LDT1,LDT2
Finishes	Vendor	4.00	7.92	HHDT,MHDT
Finishes	Hauling	0.00	20.0	HHDT
Finishes	Onsite truck	—	—	HHDT
Testing	—	—	—	—
Testing	Worker	0.00	12.3	LDA,LDT1,LDT2
Testing	Vendor	—	7.92	HHDT,MHDT
Testing	Hauling	0.00	20.0	HHDT
Testing	Onsite truck	—	—	HHDT
Paving for Drive Aisles	—	—	—	—
Paving for Drive Aisles	Worker	8.00	12.3	LDA,LDT1,LDT2
Paving for Drive Aisles	Vendor	4.00	7.92	HHDT,MHDT
Paving for Drive Aisles	Hauling	0.00	20.0	HHDT
Paving for Drive Aisles	Onsite truck	—	—	HHDT
Onsite Project Substation/SCE Switchyard Installation	—	—	—	—
Onsite Project Substation/SCE Switchyard Installation	Worker	20.0	12.3	LDA,LDT1,LDT2
Onsite Project Substation/SCE Switchyard Installation	Vendor	6.00	7.92	HHDT,MHDT

Onsite Project Substation/SCE Switchyard Installation	Hauling	0.00	20.0	HHDT
Onsite Project Substation/SCE Switchyard Installation	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
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5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demo/Site Clearing	0.00	0.00	0.00	304,920	—
Construction Kick-off/Staging	—	—	0.00	0.00	—
Finishes	—	—	0.00	0.00	—
Testing	—	—	0.00	0.00	—
Site Prep/Rough Grading	300	—	2.50	0.00	—
Grading and Excavation	—	—	10.0	0.00	—
Paving for Drive Aisles	—	—	0.00	0.00	—
BESS Enclosure and PCS Unit Installation	—	—	30.0	0.00	—
Construction of Concrete Pads	—	—	30.0	0.00	—

Onsite Project Substation/SCE Switchyard Installation	—	—	80.0	0.00	—
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5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Light Industry	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	0.00	0.00	0.00	104	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Light Industry	0.00	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Light Industry	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Light Industry	1.24	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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5.17. User Defined

Equipment Type	Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	31.2	annual days of extreme heat
Extreme Precipitation	0.65	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi. Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2

Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	82.5
AQ-PM	99.3
AQ-DPM	35.5
Drinking Water	55.3
Lead Risk Housing	96.5
Pesticides	0.00
Toxic Releases	41.7
Traffic	18.7
Effect Indicators	—
CleanUp Sites	62.7
Groundwater	93.3
Haz Waste Facilities/Generators	86.8
Impaired Water Bodies	0.00

Solid Waste	0.00
Sensitive Population	—
Asthma	94.6
Cardio-vascular	98.6
Low Birth Weights	71.3
Socioeconomic Factor Indicators	—
Education	79.1
Housing	74.5
Linguistic	81.6
Poverty	87.6
Unemployment	41.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	5.402284101
Employed	4.2858976
Median HI	12.90902092
Education	—
Bachelor's or higher	24.38085461
High school enrollment	100
Preschool enrollment	37.11022713
Transportation	—
Auto Access	11.40767355
Active commuting	61.00346465
Social	—

2-parent households	42.74348775
Voting	13.73027076
Neighborhood	—
Alcohol availability	27.13974079
Park access	58.20608238
Retail density	75.86295393
Supermarket access	94.25125112
Tree canopy	42.65366354
Housing	—
Homeownership	27.19106891
Housing habitability	19.196715
Low-inc homeowner severe housing cost burden	42.03772616
Low-inc renter severe housing cost burden	31.95175157
Uncrowded housing	15.89888361
Health Outcomes	—
Insured adults	44.9121006
Arthritis	0.0
Asthma ER Admissions	1.9
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	36.9
Cognitively Disabled	3.3
Physically Disabled	6.8

Heart Attack ER Admissions	31.4
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	83.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	17.1
Elderly	61.9
English Speaking	56.0
Foreign-born	10.3
Outdoor Workers	7.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	45.6
Traffic Density	17.0
Traffic Access	0.0
Other Indices	—
Hardship	89.4
Other Decision Support	—
2016 Voting	8.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	91.0
Healthy Places Index Score for Project Location (b)	9.00
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	per project description
Construction: Construction Phases	per project schedule
Construction: Off-Road Equipment	per project description
Construction: Trips and VMT	per project description
Construction: Demolition	7 acres of debris
Construction: Architectural Coatings	no architectural coatings
Operations: Water and Waste Water	no water and waste water use during operations

Appendix B Biological Resources Technical Report

Technical Memorandum

To	Lewis Bickoff, Outlaw Energy Storage, LLC
From	Environmental Resources Management, Inc.
Date	31 October 2023 [Updated 10 June 2024]
Reference	Outlaw Battery Energy Storage Project, Kings County, California
Subject	Biological and Aquatic Resources Assessment Memorandum

1. INTRODUCTION

Environmental Resources Management, Inc. (ERM), was retained by Outlaw Energy Storage, LLC (Outlaw Energy Storage), to conduct a biological resources assessment for the Outlaw Battery Energy Storage Project (Project) located in unincorporated Kings County, California (site). The purpose of this assessment was to evaluate whether the site had the potential to support sensitive species or habitats and to identify any potential biological site constraints. The assessment also included a field and desktop review of aquatic resources and potential for impacts to jurisdictional features. This assessment is part of the environmental review process to comply with the California Environmental Quality Act. To complete this assessment, ERM reviewed publicly available data from the Project vicinity and conducted a reconnaissance-level ecological survey of the site. This memorandum summarizes the results of these assessments.

The proposed Battery Energy Storage System will be constructed on agricultural land in unincorporated Kings County, California (Attachment A, Figure 1). The proposed Project will be located on Assessor's Parcel Number 014-260-036, east of the intersection of 7th Avenue and Grangeville Boulevard. The Project Site will occupy approximately 10 acres in the northeast corner of the 154-acre parcel, fronting Grangeville Blvd., approximately 0.4 miles east of 7th Avenue. The Project also includes an approximately 1.0-mile generation-tie line (gen-tie) that will be constructed underground from the site substation to run underground underneath Grangeville Blvd. for one mile westward to the west side of 7½ Avenue, and then underground across Grangeville Blvd. to the Southern California Edison Mascot substation on the south side of Grangeville Boulevard. One residence is located on the Project Site parcel, along 7½ Avenue, and two residences are located adjacent to the northwestern corner of the Project Site parcel; these structures are outside the site footprint and will be avoided by the Project. (Attachment A, Figure 2).

An agricultural ditch (Settlers Ditch) runs north-south along North 7½ Avenue and crosses under Grangeville Blvd. through a culvert within the western portion of the proposed gen-tie route. The gen-tie line will either be placed under or cross over the culvert. Another agricultural ditch (Melga Canal) runs north south through the northeastern portion of the Project Site parcel (Attachment A, Figure 3). Settler's Ditch and Melga Canal will not be directly impacted by the Project.

The Union Pacific Railroad crosses the southern portion of the Project Site parcel, south of the Project Site. The California High Speed Rail Hanford Viaduct is under construction along 7½

Avenue, approximately one mile west of the Project Site parcel (Attachment A, Figures 2 and 3). According to the Land Use Element of the 2035 Kings County General Plan, the Project Site is zoned General Agricultural, Open Space (AG-20). The site is located 1.5 miles east of the City of Hanford's Sphere of Influence which extends east from the City of Hanford to 8th Avenue. A photograph log is included as Attachment B.

Table 1 summarizes the regulatory framework relevant to the potential biological and aquatic resources within the Study Area, and which the potential to be impacted by the proposed Project shall be assessed.

Table 1 Regulatory Framework

Regulation	Responsible Agency
Federal Regulations	
Federal Endangered Species Act	U.S. Fish and Wildlife Service
Bald and Golden Eagle Protection Act	U.S. Fish and Wildlife Service
Migratory Bird Treaty Act	U.S. Fish and Wildlife Service
Section 404 of the Clean Water Act (CWA)	U.S. Army Corps of Engineers – Sacramento District
Sections 401 and 402 of the CWA	State Water Resources Control Board Central Valley Regional Water Quality Control Board – Region 5
State Regulations	
California Endangered Species Act	California Department of Fish and Wildlife
California Environmental Quality Act	Kings County
California Fish and Game Code Section 1600: Lake and Streambed Alteration	California Department of Fish and Wildlife
California Fish and Game Code Sections 3511, 4700, 5050 and 5515: Fully Protected Species	California Department of Fish and Wildlife
California Fish and Game Code Section 3503, 3503.5 and 3513: Protection of Birds, Eggs, and Nests	California Department of Fish and Wildlife
Porter-Cologne Water Quality Control Act	State Water Resources Control Board Central Valley Regional Water Quality Control Board – Region 5
Local Regulations	
General Plan	Kings County

2. METHODS

2.1 Desktop Investigation

A records search using the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDDB) application Rarefind 5 online edition (CDFW CNDDDB, v 5.3.0), California Native Plant Society (CNPS) Rare Plant Inventory (RPI) and U.S. Fish and Wildlife Service's (USFWS) Information for Consultation and Planning (IPAC) tool (USFWS IPaC, v.2023) was initially conducted on 6 February 2023 and updated in April 2024 to identify sensitive species or habitat known to occur within the Project vicinity. A 10-mile search radius was used for the CNDDDB record search, and a nine-quadrangle search was used for the RPI search. A preliminary review of aquatic resources was conducted using the National Wetland Inventory and the National Hydrography Dataset (USFWS 2023b; USGS 2023). Current and historic aerial photographs (Google Earth Pro 2024) and U.S Geological Survey topographic mapping (USGS 1984) were also reviewed. For the purposes of this assessment, special status species are defined as those that are federally or state-listed or candidates for listing, state fully protected, species of special concern, and CNPS Rare Plant Rank (CRPR) List 1, 2 or 3.

2.2 Reconnaissance-level Field Survey

A general reconnaissance-level field survey was conducted 22 June 2023 by ERM Scientists Alex Wechter and Erica Caddell between the hours of 7:00 am and 03:00 pm. The survey covered the entire 10-acre parcel (site). Weather conditions consisted of partly cloudy skies, with temperatures ranging from 58 to 68 degrees Fahrenheit and 10 miles per hour southeast wind. Notes were taken on general site conditions, vegetation, aquatic resources, and suitability of habitat for various special status species. In addition, indicators of animal presence such as nests, scat, feathers, tracks, and burrows/digs were documented if present as well as wetland indicators such as hydrophytic vegetation, wetland hydrology, and hydric soils if present.

A supplemental field survey was conducted by ERM Scientists Ingrid Eich and Deirdre Nellis on April 15, 2024, to confirm that site conditions remain unchanged.

3. RESULTS

3.1 Desktop—Biological Resources

The record search (Attachment C) identified two CDFW Sensitive Natural Communities, Valley Sacaton Grassland (*Sporobolus airoides*) and Northern Claypan Vernal Pool, as occurring within 10 miles of the Project Site. Valley Sacaton Grassland is a mid-height (to 3 feet) tussock-forming grassland dominated by *Sporobolus airoides*. Northern Claypan Vernal Pool habitat consists of depressions seasonally flooded or saturated with saline to fresh water on alkaline and/or saline silica-cemented hardpan soils which impede water infiltration. These seasonal wetlands often support endemic species restricted to vernal pool habitat.

The record search also identified 27 special-status species known to occur within the vicinity of the Project Site. Of those, 12 are federally or state endangered and threatened species and one is a candidate for listing. (see Table 1). Bald eagle (*Haliaeetus leucocephalus*) is also identified as a fully protected species by CDFW and federal Bald and Golden Eagle Protection Act (BGEPA). Blunt-nosed leopard lizard is also identified as a fully protected species by CDFW. No USFWS-designated Critical Habitat overlaps with the site (USFWS 2023a). The 14 other special status species identified for evaluation include 10 rare plants, one avian species of special concern, one amphibian species of special concern, one reptile species of concern and one mammal species of special concern. No CNDDDB species or habitat records were identified within the Project Site.

The Project is not located within a landscape wildlife movement corridor based upon the Missing Linkages: Restoring Connectivity to the California Landscape (Penrod, Hunter and Marrifield 2001), California Essential Habitat Connectivity (Spencer 2010), Core Reserves and Corridors (Department of Environmental Design 2010) and Wildlife Corridors – San Joaquin Valley (Information Center for the Environment 2006).

Table 1: Sensitive Species* Evaluated with Potential to Occur

Taxonomic Group	Species	Status ¹	Preferred Habitat	Likelihood of Potential Occurrence ²
Invertebrates	Monarch butterfly (<i>Danaus plexippus</i>)	FC	Open fields and meadows with milkweed.	No Potential. No milkweed plants were observed within the site. Annual grassland was dominated by non-natives. No known winter roosts nearby and site is outside of the coastal roosting winter range.
	Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	FT	Vernal pools and similar ephemeral wetlands, grass or mud bottomed pools, or basalt flow depression pools in unplowed grasslands. Occurs mostly in vernal pools (79%) although it also inhabits a variety of natural and artificial seasonal wetland habitats, such as alkali pools, ephemeral drainages, stock ponds, roadside ditches, vernal swales, and rock outcrop pools.	No Potential. The site lacks vernal pools and ephemeral wetlands.
	Vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	FE	Natural and artificial, seasonally ponded habitat types including vernal pools, swales, seasonal wetlands, ephemeral drainages, stock ponds, reservoirs, ditches, backhoe pits, and ruts caused by vehicular activities. Found in extremely shallow (2–15 cm) water or greater than 15 cm, and within waterbodies of various sizes.	No Potential. The site lacks seasonally ponded habitat.
	Conservancy fairy shrimp (<i>Branchinecta conservatio</i>)	FE	Occupies relatively large, turbid freshwater vernal pools called playa pools	No Potential. The site lacks playa pool habitat.
Birds	Bald Eagle (<i>Haliaeetus leucocephalus</i>)	FP, SE, BGEPA	Bald eagles occur year-round in California but are primarily winter visitors. This species nests in large trees in the vicinity of larger lakes, reservoirs, and rivers, with wintering habitat somewhat more variable. Foraging habitat usually features large concentrations of waterfowl or fish.	No Potential. The site does not provide suitable nesting or foraging habitat.
	Burrowing owl (<i>Athene cunicularia</i>)	SSC	Grasslands, prairie, plains, and savannah. Nests in underground burrows, such as those dug by prairie dogs, ground squirrels, foxes, woodchucks, and badgers.	No Potential. The site lacks small mammal burrows that are necessary for breeding. The closest known CNDDB occurrence is within 4.66 miles of the site. Additionally, vineyard does not provide the open habitat with low vegetation that burrowing owls require (Shuford and Gardali 2008).
	Swainson's hawk (<i>Buteo swainsoni</i> ; "SWHA")	ST	Savanna, open pine-oak woodland, and cultivated lands with scattered trees. In the Central Valley of California, nests in tree groves and isolated trees in riparian and agricultural areas. Forages in grasslands and scrub habitats as well as agricultural fields, especially alfalfa.	Low Potential for Foraging. Three adult SWHA were observed during the June 22, 2023, reconnaissance-level survey. One adult SWHA was observed on the ground in a fallow field approximately 2,000 feet southwest of the site. Two adult SWHAs were observed soaring above an agricultural field southeast approximately 2,500 feet from the site. Potential suitable nesting habitat consists of Eucalyptus trees and planted cultivar trees within the surrounding areas (off-site). The site provides low quality foraging habitat. The closest known CNDDB nest

Taxonomic Group	Species	Status ¹	Preferred Habitat	Likelihood of Potential Occurrence ²
				occurrence is approximately 700 feet north of the site and was recorded in 2012.
	Tricolored blackbird (<i>Agelaius tricolor</i>)	SE	Cattail or tule marshes; forages in fields, farms. Breeds in large freshwater marshes, in dense stands of cattails or bulrushes. At all seasons (including when breeding), does most of its foraging in open habitats such as farm fields, pastures, cattle pens, large lawns.	No potential. Suitable wetland breeding habitat is absent. Nearest recorded breeding population is located almost 10 miles south of the site.
Fish	Delta smelt (<i>Hypomesus transpacificus</i>)	FT, SE	Bays, tidal rivers, channels, and sloughs.	No Potential. The site lacks suitable waterbody features that are hydrologically connected to tidal rivers and channels.
	Fresno kangaroo rat (<i>Dipodomys nitratoides exilis</i>)	FE, SE	Found in grassland and alkali desert scrub communities. Primarily in alkali sink communities from 200 to 300 feet in elevation.	No Potential. The site has been used for agricultural use since the 1930s and is highly disturbed and lacks alkali sink-open grassland habitat that the species requires.
Mammals	San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	FE, ST	Occurs in grasslands, scrublands, and oak woodlands in the San Joaquin Valley and adjacent foothills. Below 300 meters (1,000 feet) elevation. The kit fox is primarily found in association with Valley Sink Scrub, interior Coast Range Saltbush Scrub, Upper Sonoran Subshrub Scrub, Annual Grassland, and other grassland vegetation communities. Within these communities, optimal habitat for the San Joaquin kit fox is sparsely vegetated communities on gentle slopes. Plant communities such as Northern Hardpan Vernal Pool, Northern Claypan Vernal Pool, Alkali Meadow, and Alkali Playa are often smaller and more widely scattered; and in general, do not provide good denning habitat for kit foxes because all have moist or waterlogged clay or clay-like soils.	No Potential. This species occurs in arid habitat with sparse or low vegetation with gentle slopes less than 15%. Only slopes of 10% or less are suitable for natal dens. There are multiple records of the species within 10 miles of the site with the closest (2.2 miles) dating from 1975 and the most recent from 2006 at approximately 5 miles from the site. The site does not exhibit suitable kit fox dens. Along the Melga Canal, there is moist soil, and slopes greater than 20% (not suitable denning conditions). Settler's Ditch exhibits similar slopes and would not be suitable for natal dens. One 10-inch burrow was identified on the bank of Melga Canal within the ordinary high-water mark making it potentially suitable for temporary sheltering during foraging but not suitable for breeding. Based on the County's Recommended Biological Review Criteria the site is not suitable for foraging because it is located more than 1 mile from a known kit fox den.
	Tipton kangaroo rat (<i>Dipodomys nitratoides nitratoides</i>)	FE, SE	Inhabits friable soils that escape seasonal flooding in saltbush scrub and sink scrub. Preferred dominant plant species include woody shrubs such as saltbush, iodine bush, goldenbush, and honey mesquite. Digs burrows in elevated soil mounds at the	No Potential. The site has been used for agricultural use since the 1930s and is highly disturbed. The site lacks woody shrubs such as saltbush, iodine bush, goldenbush, and honey mesquite that the species prefers to dig burrows at the base of.

Taxonomic Group	Species	Status ¹	Preferred Habitat	Likelihood of Potential Occurrence ²
			bases of shrubs. Limited to the Tulare Basin of southern San Joaquin Valley. Below 300 meters (1,000 feet) elevation.	
	Western mastiff bat (<i>Eumops perotis californicus</i>)	SSC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban. Roosts in crevices in cliff faces, high buildings, trees, and tunnels. When roosting in rock crevices, needs vertical faces to drop off to take flight	No Potential. Roosting habitat is absent and the nearest CNDDB record is almost 10 miles from the Project site.
	Buena Vista Lake ornate shrew (<i>Sorex ornatus relictus</i>)	FE, SSC	Occurs in marshlands and riparian areas in the Tulare Basin. Prefers moist soil. Uses stumps, logs, and litter for cover.	No Potential. The site has been used for agricultural use since the 1930s and is highly disturbed. Marsh and riparian habitat is not present.
Reptiles and Amphibians	Blunt-nosed leopard lizard (<i>Gambelia silus</i>)	FE, SE, FP	Occurs in expansive sparsely vegetated areas in alkali and scrub habitats at 30 to 900 meters (100 to 3,000 feet) elevation. Does not occur in areas with steep slopes, dense vegetation, or seasonal flooding. Uses small mammal burrows for permanent shelter and may construct shallow tunnels under exposed rocks or earth berms for shelter where small mammals are scarce. Known only from the San Joaquin Valley and adjacent foothills.	No Potential. The site has been used for agricultural use since the 1930s and is highly disturbed. Alkali and scrub habitat preferred by the species is not present.
	California tiger salamander – central California DPS (<i>Ambystoma californiense</i> pop. 1)	FT, ST	Grassland, savanna, or open woodland habitats in vacant or mammal-occupied burrows throughout most of the year. Lays eggs on submerged stems and leaves, in shallow ephemeral or semipermanent pools and ponds that fill during heavy winter rains or in permanent ponds.	No Potential. The site lacks abundant small burrows of small mammals, which this species relies upon for hibernation and shelter. The site does not provide breeding habitat and both Melga Canal and Settler's Ditch lack suitable breeding habitat for this species due to lack of emergent vegetation to attach their eggs.
	Western spadefoot (<i>Spea hammondi</i>)	SSC	This species lives in a wide range of habitats; lowlands to foothills, temporary pools, low gradient creeks, grasslands, shrubland/chaparral, savanna, playa/salt flat, cropland, woodland. grasslands, open chaparral, pine-oak woodlands. It prefers shortgrass plains, sandy or gravelly soil (e.g., alkali flats, washes, alluvial fans). It is fossorial and breeds in temporary rain pools and slow-moving streams.	No Potential. The site lacks breeding habitat and lacks sandy and gravelly soils that this species prefers for aestivation. Additionally, adjacent Melga Canal and Settler's Ditch are ephemeral or intermittent and do not exhibit the relatively permanent surface inundation needed to support the toad's lifecycle.
	Western pond turtle (<i>Emys marmorata</i>)	PFT, SSC	Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking.	No Potential. The site lacks suitable habitat. The Adjacent Melga Canal and Settler's Ditch do not provide suitable hydrology, vegetation, or basking sites.

Taxonomic Group	Species	Status ¹	Preferred Habitat	Likelihood of Potential Occurrence ²
Plants	Alkali sink goldfields (<i>Lasthenia chrysantha</i>)	1B.1	Found in vernal pools and alkali flats.	No Potential. Vernal pools and alkali flats are absent from the site. The site has been used for agricultural uses since the 1930s and is highly disturbed.
	Brittlescale (<i>Atriplex depressa</i>)	1B.2	Alkaline, Clay; Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland and Vernal pools at 1 to 320 meters (5 -1.050 feet) in elevation. Known from Alameda, Colusa, Contra Costa, Fresno, Glenn, Kings, Merced, Solano, Tulare, and Yolo Counties.	No Potential. The site lacks suitable habitat and has been used for agricultural use since the 1930s and is highly disturbed.
	California alkali grass (<i>Puccinellia simplex</i>)	1B.2	Vernally mesic alkaline flats, sinks, and lake margins in chenopod scrub and grassland areas below 3,100 feet (930 meters) elevation. Known from the Mojave Desert, Central Valley, and San Francisco Bay areas of California. Also occurs in Utah.	No Potential. The site lacks suitable habitat and has been used for agricultural use since the 1930s and is highly disturbed.
	Earlimart orache (<i>Atriplex cordulata</i> var. <i>erecticaulis</i>)	1B.2	Valley and foothill grassland at 40 to 100 meters (130 to 330 feet) in elevation. Known from Fresno, Kern, Kings, and Tulare Counties.	No Potential. The site lacks suitable habitat and has been used for agricultural use since the 1930s and is highly disturbed.
	Heartscale (<i>Atriplex cordulata</i> var. <i>cordulata</i>)	1B.2	Sometimes alkaline Chenopod scrub. meadows and seeps and Valley and foothill grassland (sandy) at 0 to 560 meters (10-2,590 feet) in elevation. Known from Alameda, Butte, Colusa, Contra Costa, Fresno, Glenn, Kern, Madera, Merced, San Joaquin, Solano, Stanislaus, Tulare, and Yolo Counties.	No Potential. The site lacks suitable habitat and has been used for agricultural use since the 1930s and is highly disturbed.
	Mud nama (<i>Nama stenocarpa</i>)	2B.2	Marshes and swamps (lake margins, riverbanks) at 5 – 500 meters (15 – 1,640 feet) in elevation. Known from Imperial, Kings, Los Angeles, Orange, Riverside, San Diego	No Potential. The site lacks suitable habitat and has been used for agricultural use since the 1930s and is highly disturbed. No suitable habitat is present.
	Lesser saltscale (<i>Atriplex minuscula</i>)	1B.1	Alkaline sinks or sandy alkaline soils in grasslands at 15 to 200 meters (50 to 700 feet) elevation. Known only from Butte, Fresno, Madera, Merced, and Tulare Counties.	No Potential. The site lacks suitable habitat and has been used for agricultural use since the 1930s and is highly disturbed.
	Recurved larkspur (<i>Delphinium recurvatum</i>)	1B.2	Alkaline Chenopod scrub. Cismontane woodland and Valley and foothill grassland at 3 to 790 meters (0 -1.835 feet) in elevation. Known from Alameda, Butte, Contra Costa, Fresno, Kern, Kings, Madera, Merced, Monterey, San Benito, San Joaquin, San Luis Obispo, Santa Barbara, Solano, Sutter, Tulare, and Yuba Counties.	No Potential. The site lacks suitable habitat and has been used for agricultural use since the 1930s and is highly disturbed.
	Sanford’s arrowhead (<i>Sagittaria sanfordii</i>)	1B.2	Marshes and swamps (shallow freshwater) at 0 – 650 meters (0 – 2,135 feet) in elevation. Known from Butte, Del Norte, El Dorado, Fresno, Kings, Los Angeles, Madera, Marin, Mariposa, Merced, Napa, Orange, Sacramento, San Bernardino, San Joaquin, San	No Potential. The site lacks suitable habitat and has been used for agricultural use since the 1930s and is highly disturbed.

Taxonomic Group	Species	Status ¹	Preferred Habitat	Likelihood of Potential Occurrence ²
			Mateo, Santa Clara, Shasta, Solano, Sutter, Tehama, Tulare, Ventura, and Yuba Counties.	
	Subtle orache (<i>Atriplex subtilis</i>)	1B.2	Alkaline, Valley and foothill grassland at 40 – 100 meters (130 – 330 feet) in elevation. Known from Butte, Fresno, Kern, Kings, Madera, Merced, Stanislaus, and Tulare Counties.	No Potential. The site lacks suitable habitat and has been used for agricultural use since the 1930s and is highly disturbed.

Source: USFWS IPaC; CDFW CNDDDB and CNPS Rare Plant Inventory. *Sensitive Species include state or federally listed threatened, endangered or candidate species, state-listed species of special concern, or fully protected species, and native plants with a California rare plant rank of 1, 2 or 3.

¹FE=Federal Endangered; FP = Fully Protected; FT=Federal Threatened; FC=Federal Candidate; PFT = Proposed Federally Threatened, ST=State Threatened; SE=State Endangered; BGEPA = Bald and Golden Eagle Protection Act, SSC = CDFW species of special concern in California, FP = CDFW fully Protected in California, CRPR 1B.1 = Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California. CRPR 1B.2 = Plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California

² **No Potential:** Habitat is clearly unsuitable for the species requirements (outside the range, unsuitable elevation, soil, topography, plant community, land history, disturbance regime, etc.). **Potential:** the minimum habitat components that meet the species' requirements are present and records for the species occur within 10-miles of the Project Site.

3.2 Desktop—Aquatic Resources

The site is located within the Guernsey Slough sub-watershed (Hydrologic Unit Code-12 18030012200) of the Tulare-Buena Vista Lakes watershed. An agricultural channel (Settlers Ditch) runs north-south along North 7 ½ Avenue within the western portion of the proposed gen-tie route. Settlers Ditch is an earthen lined ditch that is artificially irrigated as indicated by the presence of manually operated gates. Therefore, pursuant to 33 CFR 328.3 (b)(4), Settler's Ditch does not qualify as Waters of the U.S.¹ Settler's Ditch may qualify as Waters of the State. However, discharge of fill to artificially irrigated, ephemeral ditches is excluded from permitting as detailed in the Sections IV.D.2.c.i and IV.D.2.c.iv, State Water Resource Control Board's State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2021).²

A second aquatic feature, the Melga Canal, diverts flows from Kings River South north of the Study Area for agricultural use, including irrigation water for the Project Site parcel. Surface flows in the Melga Canal travel southward to the Tulare Lake Canal, which is tributary to the Tule River, which rejoins the Kings River, and ultimately discharges to Tulare Dry Lake. None of these receiving waters have been designated Traditional Navigable Waters nor do they discharge to designated Traditional Navigable Waters. Therefore, Tulare Dry Lake is an intrastate isolated water without a surface water connection to a Traditional Navigable Waters. As such, Melga Canal would also be considered isolated and would not be regulated under the Clean Water Act (33 CFR § 328.3).¹ Similar to Settler's Ditch, Melga Canal may qualify as Waters of the State. However, discharge of fill to ephemeral and artificially irrigated ditches constructed in upland areas is excluded from permitting as detailed in Sections IV.D.2.c.i and IV.D.2.c.iv of the State Water Resource Control Board's State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2021). Both ditches may qualify as CDFW-regulated streambed based on the presence of bed and banks.³

¹ This jurisdictional determination is based upon current regulations and case law, ERM's technical specialists' professional judgement, and standard agency practices as experienced during the Jurisdictional Determination Approval Process and Clean Water Act Section 404 permitting process. The USACE or EPA make the final determination regarding whether aquatic features qualify as Waters of the U.S. pursuant to the Clean Water Act and its implementing regulations. Should discharge of fill to Settler's Ditch or Melga Canal be required, an approved jurisdictional determination from the U.S. Army Corps of Engineers is recommended prior to the commencement of construction.

² This jurisdictional determination is also based upon current regulations and case law, ERM's technical specialists' professional judgement, and standard agency practices as experienced during the 401 Certification and request for Waste Discharge Requirements in the past two decades. The SWRCB or Regional Water Quality Control Board make the final determination regarding whether an aquatic feature qualifies as Waters of the State pursuant to Porter Cologne Act and its implementing regulations.

³ This jurisdictional determination is also based upon current regulations and case law, ERM's technical specialists' professional judgement, and standard agency practices as experienced during the Streambed Alteration Notification process in the past two decades. CDFW makes the final determination regarding whether an aquatic feature qualifies as a CDFW-regulated streambed pursuant to California Fish and Game Code Section 1600.

3.3 Field Survey

3.3.1 Baseline Habitat Conditions

Habitat on-site consists of bare ground, cultivated crops (vineyard), and ruderal/disturbed areas. Upland ruderal/disturbed areas make up most of the site. Where vegetation is present in intermittent patches in the road shoulders it consists of non-native perennial ryegrass (*Lolium perenne*, FAC), cheese weed (*Mallow parviflora*, UPL), pepperweed (*Lepidium latifolium*, FAC), Russian thistle (*Salsola tragus*, FACU), foxtail barley (*Hordeum murinum*, FACU), prostrate knotweed (*Polygonum aviculare*, FAC), London rocket (*Sisymbrium irio*, UPL), red stemmed filaree (*Erodium cicutarium*, UPL), ripgut brome (*Bromus diandrus*, UPL), pineapple weed (*Matricaria discoidea*, FACU), wild oats (*Avena fatua*, UPL), native saltgrass (*Distichlis spicata*, FAC), fiddleneck (*Amsinckia menziesii*, UPL) and tarplant (*Centromadia pungens*, FAC)⁴. The vineyard area is characterized by highly disturbed soil mapped as Kimberlina fine sandy loam, saline-alkali, Bermuda grass (*Cynodon dactylon*, FACU), and grape vine plants (*Vitis vinifera*, UPL). Kimberlina fine sandy loam, saline-alkali, is listed as hydric where it occurs in sloughs.

Melga Canal is located adjacent to but outside the eastern boundary of the site. During the 2023 site visit, the habitat surrounding the site consists of active, cultivated crops (tomato) to the east, and (corn) to the north. During the 2024 site visit the agricultural field to the north was bare and appeared to have been recently disced in preparation for planting. The agricultural field to the east supported barley. Vineyards surround the crops in the southern and western directions. The geography of the site is flat, with no considerable sloping or hills.

No sensitive vegetation communities occur on site. Four red-tailed hawks (*Buteo jamaicensis*) were observed foraging over the Study Area, and multiple mourning doves (*Zenaida macroura*) and European starlings (*Sturnus vulgaris*) were observed perching within the Study Area and passing over.

3.3.2 Potential Habitat for Special Status Species

Based on the desktop review and the on-site evaluations, the site contains no suitable habitat for special-status plants and potentially suitable, albeit low quality, foraging habitat for one special status wildlife species. The majority of the special status species identified during the desktop review have no likelihood of occurrence due to habitat conditions on-site (e.g., the site has been used for agricultural use since the 1930s and is highly disturbed).

Swainson's Hawk

Although Swainson's hawk was not observed on site, three adult Swainson's hawks were observed during the field survey on 22 June 2023. One adult Swainson's hawk was observed on the ground in a fallow field approximately 2,000 feet southwest of the site. Two adult Swainson's hawks were observed soaring above an empty agricultural field southeast approximately 2,500 feet from the site. Two residential buildings along Grangeville Boulevard, north of the site, include planted cultivar trees and Eucalyptus trees that provide potential Swainson's hawk nesting habitat

⁴ Wetland Indicator Status Ratings: Obligate (OBL) = Almost always occurs in wetlands; Facultative Wetland (FACW) = Usually occurs in wetlands but may occur in non-wetlands; Facultative (FAC) = Occurs in wetlands and non-wetlands; Facultative Upland (FACU) = Usually occurs in non-wetlands but may occur in wetlands; Upland (UPL) = Almost never occurs in wetlands.

and there are records of Swainson's hawk nesting in that habitat in 2012. Swainson's hawk was not observed at the 2012 nesting site or elsewhere within or in the vicinity of the Project site during the 15 April 2024 site visit, which coincided with Swainson's hawk breeding season. The vineyard on the site provides low quality foraging habitat, however, due to the lack of trees, there is no suitable nesting habitat (Craig, et al 2008).

Migratory Birds

Ground and shrub nesting birds could utilize the project site for nesting.

3.3.3 Observations of Aquatic Resources

Melga Canal is located along the eastern boundary of the proposed battery storage facility parcel, but it is outside of the proposed battery storage facility development footprint and separated from the planned development area by an existing dirt road. Settlers Ditch crosses under Grangeville Blvd. within the proposed gen-tie trench alignment. Melga Canal exhibits a predominantly unvegetated bed and bank with periodic surface flows and likely qualifies as a CDFW-regulated streambed pursuant to the California Fish and Game Code Section 1600. An ordinary high-water mark is indicated by sediment deposit, shelving, changes in soil character and destruction of terrestrial vegetation. Where vegetation occurred at the fringes of the ordinary high water mark during the 2023 site visit, it consists primarily of upland species including horseweed (*Erigeron bonariensis*, FACU), Johnsongrass (*Sorghum halepense*, FACU) and stinkwort (*Dittrichia graveolens*, UPL) with a few small, patches of pepperweed intermixed. During the 2024 site visit, the fringe vegetation included seep monkeyflower (*Erythranthe guttata*, OBL), nut sedge (*Cyperus erogrostis*, FACW), and curly dock (*Rumex crispus*, FAC) with horseweed, pepperweed, ripgut brome and cudweed (*Gnaphalium luteo-album*, UPL) emerging higher on the banks. Based on the predominance of hydrophytic species observed on the margins of the inundated portion of the canal, the canal may support narrow strips of wetland. Melga Canal exhibited surface inundation during both site visits.

Settlers Ditch exhibits similar characteristics to Melga Canal except that vegetation is absent within the bed and banks. Where the canal exhibits a bed and bank, it is also likely to qualify as a streambed pursuant to the California Fish and Game Code Section 1600. Surface inundation was absent during both site visits.

As discussed in the Desktop – Aquatic Resource Section above, although Melga Canal and Settler's Ditch exhibit indicators of an ordinary high-water mark, neither qualify as Waters of the U.S. Both ditches may qualify as Waters of the State. However, both ditches would also be excluded from permitting per the State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State if a discharge of fill within the ordinary high-water mark is required.

4. CONCLUSIONS

4.1 Biological Resources

4.1.1 Sensitive Vegetation Communities

The proposed Project would not impact special status vegetation communities as none are present onsite.

4.1.2 Special-Status Species

The proposed Project would not impact special-status plant species as none have the potential to occur onsite.

4.1.2.1 Swainson's Hawk

The site provides potentially suitable, low quality foraging habitat for Swainson's hawk. The species has potential to breed nearby and forage on the site.

Construction

After implementation of avoidance and minimization measures including reduced speed limits, pre-construction surveys and environmental awareness training, construction of the proposed Project is not expected to directly impact Swainson's hawk. Vehicles would move slowly enough on site to stop if a hawk is detected on the ground and contractors would be made aware of the potential for sensitive raptor species to occur on the site. During construction of the BESS facilities and installation of the underground gen-tie line, noise, and night lighting, if required, could result in indirect impacts to Swainson's hawk if nesting adjacent to the proposed Project. After implementation of avoidance and minimization measures, including construction avoidance buffers if an active Swainson's hawk nest is identified adjacent to the Project, construction of the proposed Project is not expected to indirectly impact Swainson's Hawk.

For Swainson's hawk with a mean home range of approximately 40 km², 10 acres of potentially suitable foraging habitat would equate to approximately 0.1-percent of a pair's territory (Babcock 1995). The loss of 0.1-percent of low-quality foraging within a single territory would not be expected to significantly impact survival of a pair or its young. Therefore, these potential impacts would be less than significant.

Operations

Operation of the gen-tie line is not anticipated to impact these species because it will be placed underground. Operation of the BESS requires minimal staffing and does not produce emissions that could impact wildlife.

During Project operations, a potential source of noise associated with the facility could be from the battery enclosure ventilation fans and battery storage module heating, ventilation, and cooling systems. When these systems operate at full power, the ventilation fans and cooling systems cycle on and off. As with construction, increases in baseline noise levels and lighting could adversely affect Swainson's hawk if they nested adjacent to the proposed Project. BESS operational equipment would be located approximately 100 feet south of the street frontage at Grangeville Boulevard and extend southward toward the interior of the parcel.

A detailed noise analysis was prepared for the facility (Catalyst 2024). This report is provided in Appendix D of the Outlaw BESS CUP application package. The noise analysis predicted the noise levels at the nearest receptors from construction, and from operation of the proposed Project onsite stationary sources (i.e., concurrent operation of battery enclosures, HVAC units, PCS units, and substation transformer). The modeled noise levels at the nearest residential receptor property line (a distance of 106 feet from the Project property line) would be less than 50 dBA L_{eq} and would thus conform with Kings County development standards. Based on the noise analysis, noise levels at the nearest historic nesting location are not anticipated to exceed the traditionally accepted 60 dBA threshold used for evaluating noise impacts of nesting birds, as well as more conservative estimates that suggest a threshold as low as 50 dBA may be more appropriate depending upon species and noise sources. Therefore, noise levels at the nearest historic nesting location are not anticipated to change significantly and no long-term impacts to nesting Swainson's hawks utilizing nesting habitat in the vicinity of the project would be anticipated.

4.1.2.2 Migratory Birds

Construction

Without appropriate mitigation measures, construction activities have potential to impact migratory bird nests directly or indirectly. Direct impacts include nests in the immediate path of construction being crushed or dislodged during vegetation removal or ground disturbance. Indirect impacts include nest abandonment due to equipment noise or intrusion into habitat by personnel or equipment. While these impacts could be significant, no impacts to nesting migratory birds are anticipated with the implementation of pre-construction nesting bird surveys and the establishment of nest avoidance buffers during the bird breeding season.

Operations

Migratory birds are not anticipated to be attracted to the BESS site as there are no open water features or vegetation proposed on the site. The gen-tie line will be placed underground in the south shoulder of Grangeville Blvd. Therefore, no impacts to migratory birds are anticipated.

4.1.3 Proposed Avoidance and Minimization Measures

ERM recommends the following avoidance and minimization measures to comply with the state, federal and local regulations related to biological resources. These measures are typical for projects in Kings County that have potential to impact similar biological resources as the proposed Project. Environmental regulatory agencies may provide additional recommendations through the California Environmental Quality Act Process:

- Prior to construction, a qualified biologist shall conduct an education program for construction personnel. Topics to be discussed would include occurrence and distribution of Swainson's hawk, take avoidance measures being implemented during the Project, reporting requirements if incidental take occurs, and applicable definitions and prohibitions under the California Endangered Species Act. A fact sheet conveying this information shall be prepared for distribution to Project personnel.
- Prior to construction, a qualified biologist shall conduct pre-construction surveys for nesting birds (including raptors) on and closely adjacent to the Project Site no more than 10 days prior

to any ground disturbance, if ground disturbance is to occur during the breeding season (February 1 to August 31). These surveys shall be based on the accepted protocols (for example, the current Swainson's hawk protocol) for the target species.

- If an active nest is detected, a 200-foot work avoidance buffer shall be implemented for non-raptors, a 500-foot work avoidance buffer shall be implemented for raptors, other than Swainson's hawk, and a ½ mile buffer shall be implemented for Swainson's hawk.
 - Alternatively, a qualified biologist shall continuously monitor identified nests for the first 24 hours prior to any construction related activities to establish a behavioral baseline. Once work commences, the biologist shall continuously monitor all nests to detect any behavioral changes when work is initiated, when work activities increase in intensity or when work moves closer to the nest location. If behavioral changes are not observed, then a 100-foot work avoidance buffer shall be implemented for non-raptors, a 250-foot work avoidance buffer shall be implemented for raptors other than Swainson's hawk, and a ¼ mile buffer shall be implemented for Swainson's hawk. Continue monitoring nests as described above. If behavior changes are detected then implement the full 200-foot, 500-foot and ½ mile buffers described above.
 - In the event an active SWHA nest is detected, and a 1/4-mile no-disturbance buffer is not feasible, then the Project Applicant shall consult with CDFW regarding additional avoidance and minimization measures or obtaining an Incidental Take Permit (ITP), pursuant to Fish and Game Code section 2081 subdivision (b) if take is unavoidable.
-
- Project-related vehicles shall observe a daytime speed limit of 20 miles per hour throughout the site in all Project areas, except on county roads and State and Federal highways. Nighttime construction shall be minimized to the extent possible. However, if it does occur, then the speed limit shall be reduced to 10 miles per hour. Off-road traffic outside of designated Project areas shall be prohibited.
 - To prevent inadvertent entrapment of wildlife during the construction phase of the Project, all excavated, steep-walled holes, or trenches more than 2 feet deep shall be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill, or wooden planks shall be installed. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals.
 - All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the Project Site.
 - No firearms shall be allowed on the Project Site, excluding law enforcement personnel.
 - No pets, such as dogs or cats, shall be permitted on the Project Site.
 - All spills of hazardous materials shall be cleaned up immediately.

- In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape.
- Use of rodenticides and herbicides in project areas should be restricted.
- Should any vertical tubes, such as solar mount poles, chain link fencing poles, or any other hollow tubes or poles be utilized on the Project Site, the poles shall be capped immediately after installation to prevent entrapment of birds.
- Shield and direct lighting to minimize potential impacts to suitable Swainson's hawk nesting habitat located in the immediate vicinity of the Proposed Project.
- The Fresno Field Office of CDFW shall be notified in writing within three working days in case of the accidental death of or injury to Swainson's hawk or burrowing owl during project-related activities. Notification must include the date, time, location of the incident or of the finding of a dead or injured animal, and any other pertinent information.

4.2 Aquatic Resources

Aquatic resources are not impacted by the project. The gen-tie line will cross over or under the Grangeville Road culvert below grade at Settlers Ditch. The culvert is not a regulated aquatic resource. No discharge of fill or modification of bed and bank would occur to either Settler's Ditch or Melga Canal.

Should impacts to Melga Canal or Settler's Ditch be required, several regulatory frameworks should be considered. An approved jurisdictional determination from the U.S. Army Corps of Engineers is recommended before discharging fills to potential non-jurisdictional waters of the U.S. Additionally, these features exhibit a bed and bank and may qualify as streambeds pursuant to the California Fish and Game Code Section 1600. As such, if impacts cannot be avoided, substantial modification to bed or bank would require a state Streambed Alteration Agreement prior to making modifications to the feature. The feature may also qualify as waters of the state regulated by the State Water Resource Control Board and the Central Valley Regional Water Quality Control Boards pursuant to the Porter-Cologne Act. The definition of waters of the state is broadly defined as "any surface water or groundwater, including saline waters, within the boundary of the state." However, pursuant to the State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures) dated April 2021, intermittent agricultural ditches that are not a relocated water of the state or excavated in a water of the state or that do not drain wetlands that qualify as waters of the state are excluded from the application procedures for regulation of discharges of dredged or fill material to waters of the state.

4.3 Consistency with Local Ordinances, Planning Policies and Habitat Conservation Plans

There are no habitat conservation plans that include the Project Site. Relevant local planning policies from the County of Kings 2023 General Plan are provided below:

4.3.1 Natural Plant and Animal Habitats

Resource Conservation (RC) GOAL D1 Preserve land that contains important natural plant and animal habitats.

The proposed project is consistent with RC Goal D1. Per the recommended Biological Review Criteria, a reconnaissance survey was conducted based on the Project Site falling within and adjacent to quad maps with species status species or sensitive habitats. As described herein, no significant impacts to important biological resources are anticipated. Although not anticipated, should take of Swainson's hawk per CESA become unavoidable, the applicant would consult the California Department of Fish and Wildlife to obtain appropriate authority for any such take.

RC GOAL D2 Maintain the quality of existing natural wetland areas as required by the California Department of Fish and Game, the United States Fish and Wildlife Service and the United States Army Corp of Engineers.

The proposed project is consistent with RC Goal D2. Wetlands are not impacted by the Proposed Project.

RC GOAL D3 Protect and manage riparian environments as valuable resources.

The proposed project is consistent with RC Goal D3. Riparian resources are not impacted by the Proposed Project.

4.3.2 Threatened and Endangered Species

RC GOAL E1 Balance the protection of the County's diverse plant and animal communities with the County's economic needs.

The proposed project is consistent with RC Goal E1. The Proposed Project avoids impacts to native habitat and limits potential impacts on special status biological resources to less than significant after implementation of proposed avoidance and minimization measures.

Additionally, the Project falls within the planning area for the USFWS Recovery Plan for Upland Species of the San Joaquin Valley. This multispecies recovery plan provides a framework for recovery efforts within the San Joaquin Valley. The recovery plan uses an ecosystem-level strategy to address recovery and conservation of 11 listed species and 23 additional special status species. The discretionary strategy includes several elements that relate to the management of public land:

- The primary focus of recovery should be on publicly owned lands;
- Conservation efforts should focus on fewer larger blocks of land rather than smaller more numerous parcels;
- Blocks of conservation lands should be connected by natural land or land with compatible uses that allow for movement between blocks;

- Emphasis should be placed on the San Joaquin kit fox as an umbrella species. Since most other species require less habitat, fulfilling the management and habitat needs of the San Joaquin kit fox will also meet the needs of many other species;
- The giant kangaroo rat and San Joaquin kangaroo rat are keystone species in their communities. Protection of these keystone species should be a high priority since they provide an important or essential function for many other listed and special status species;
- Uses and actions on public land, such as livestock grazing, oil, gas, and mineral exploration and extraction, hunting, and recreation should occur so as to minimize degradation of habitat for special status species;
- Use specialty preserves or small reserves to manage species with highly restricted geographic ranges or specialized habitat requirements or that are vulnerable to traditional land uses;
- Target existing natural lands occupied by special status species over unoccupied natural land and retired farmland for conservation;
- Coordinate carefully agricultural land retirement with endangered species recovery for species where sufficient occupied natural land does not exist, but where it is needed to increase population size or promote movement between populations;
- Enhance landscape features that allow successful survival and movement from population centers on the valley floor to the valley perimeter for species such as the kit fox that can live in or move through the farmland matrix; and
- Implementing the recovery plan should be complementary to existing and future habitat conservation plans.

The lack of suitable habitat for target species on the Project site makes it a poor option for conservation and it is not identified in the recovery plan as an area targeted for protection. Therefore, the Proposed Project would not adversely affect implementation of the recovery plan.

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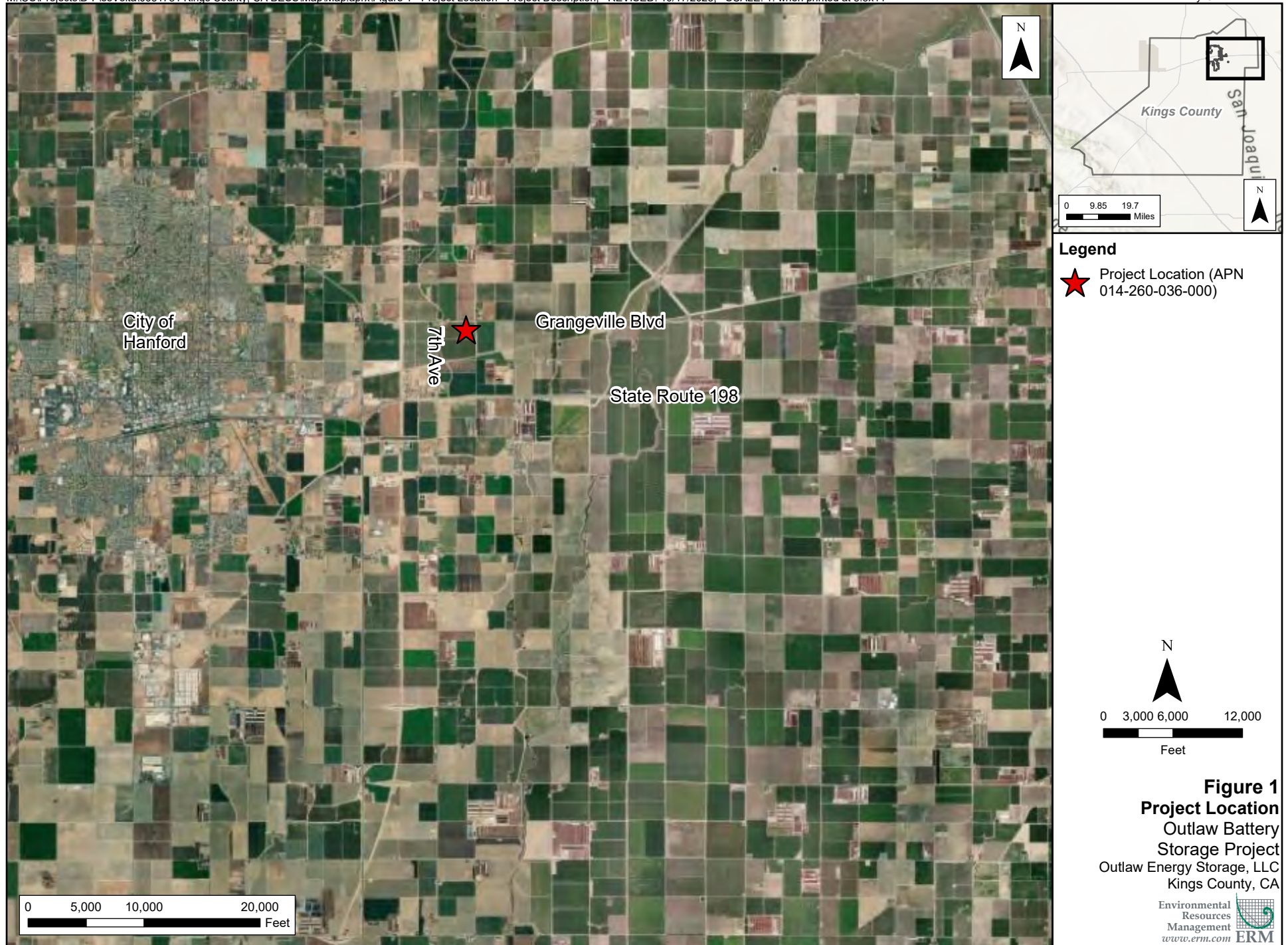
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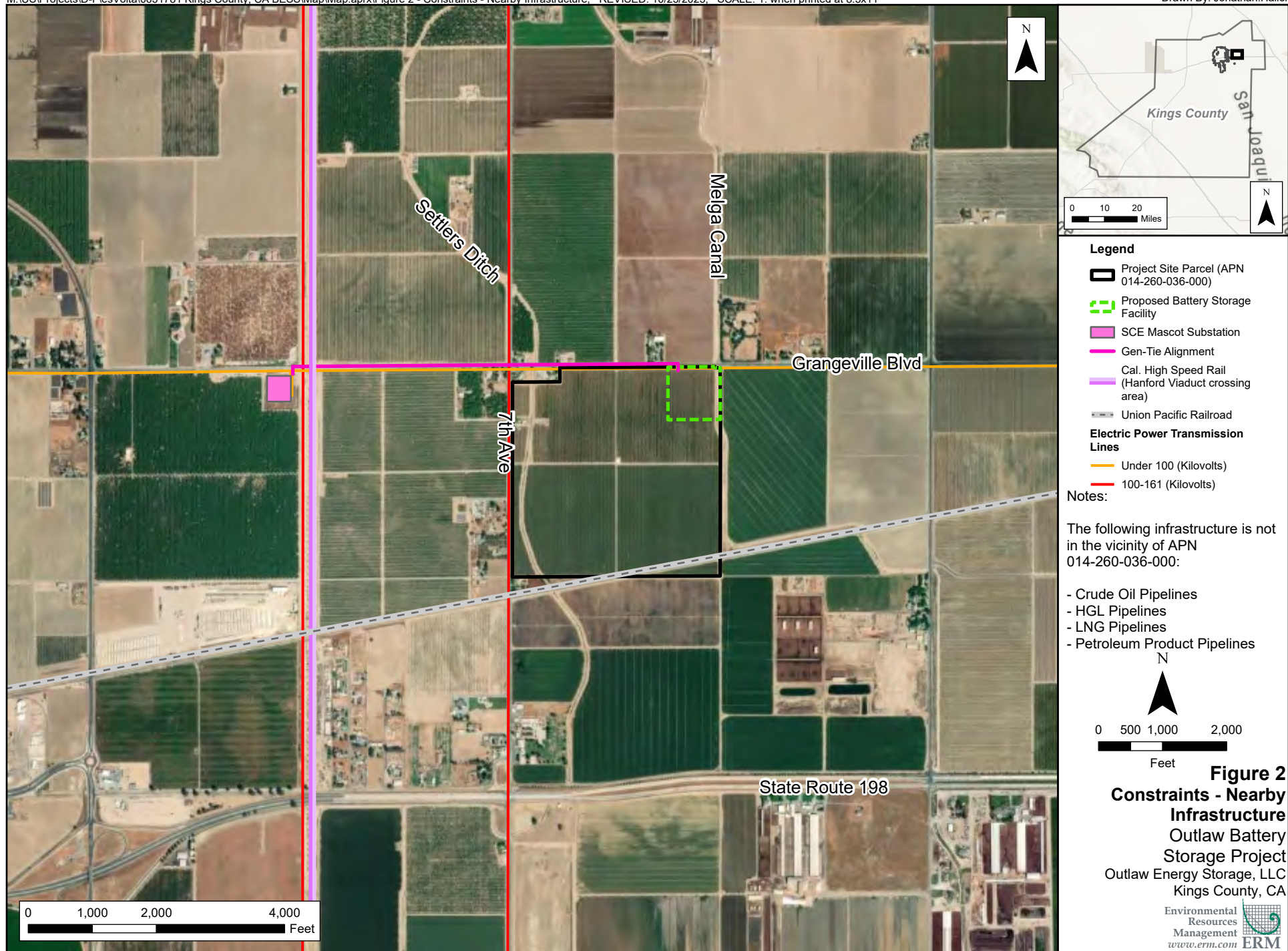
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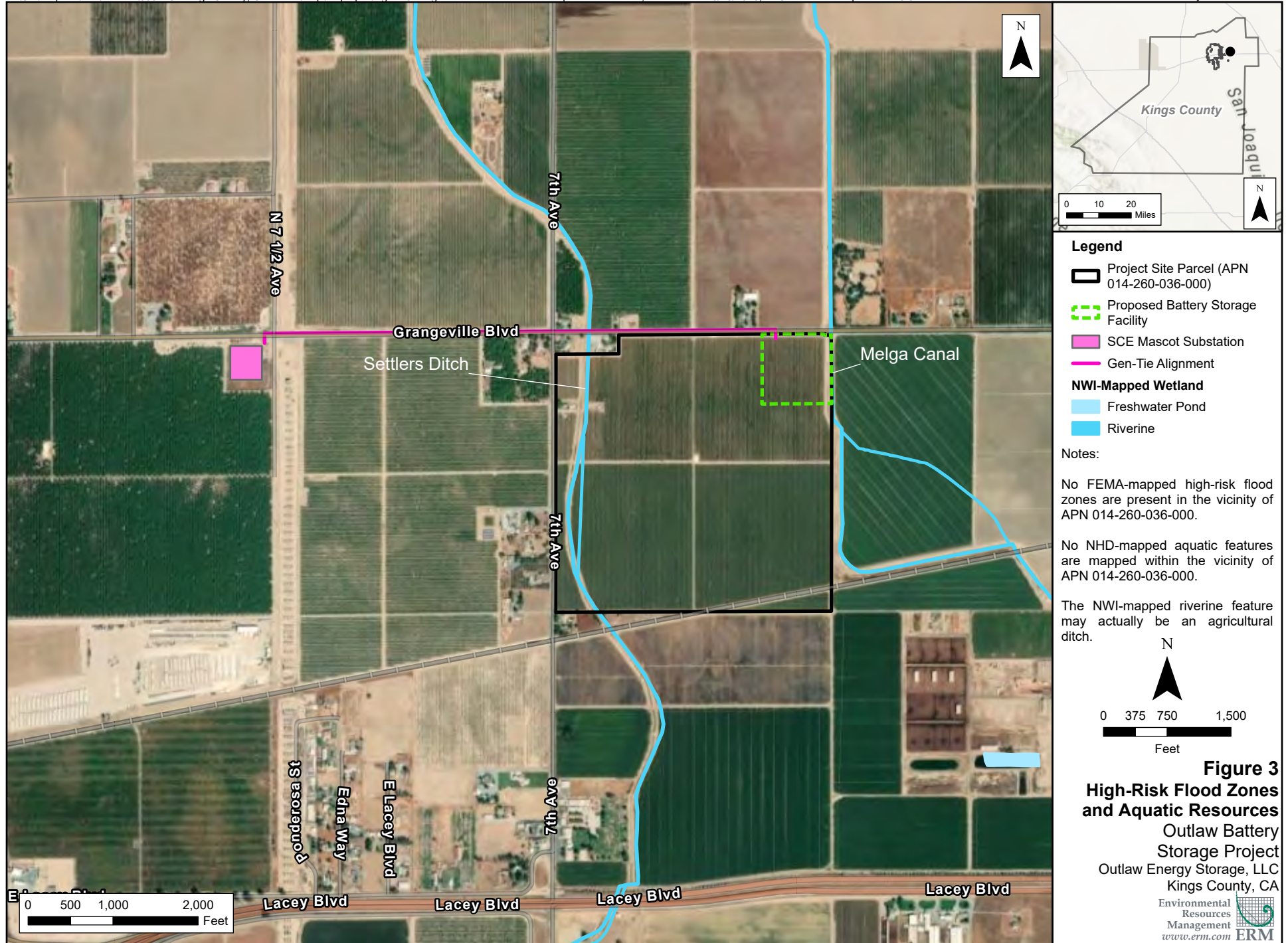
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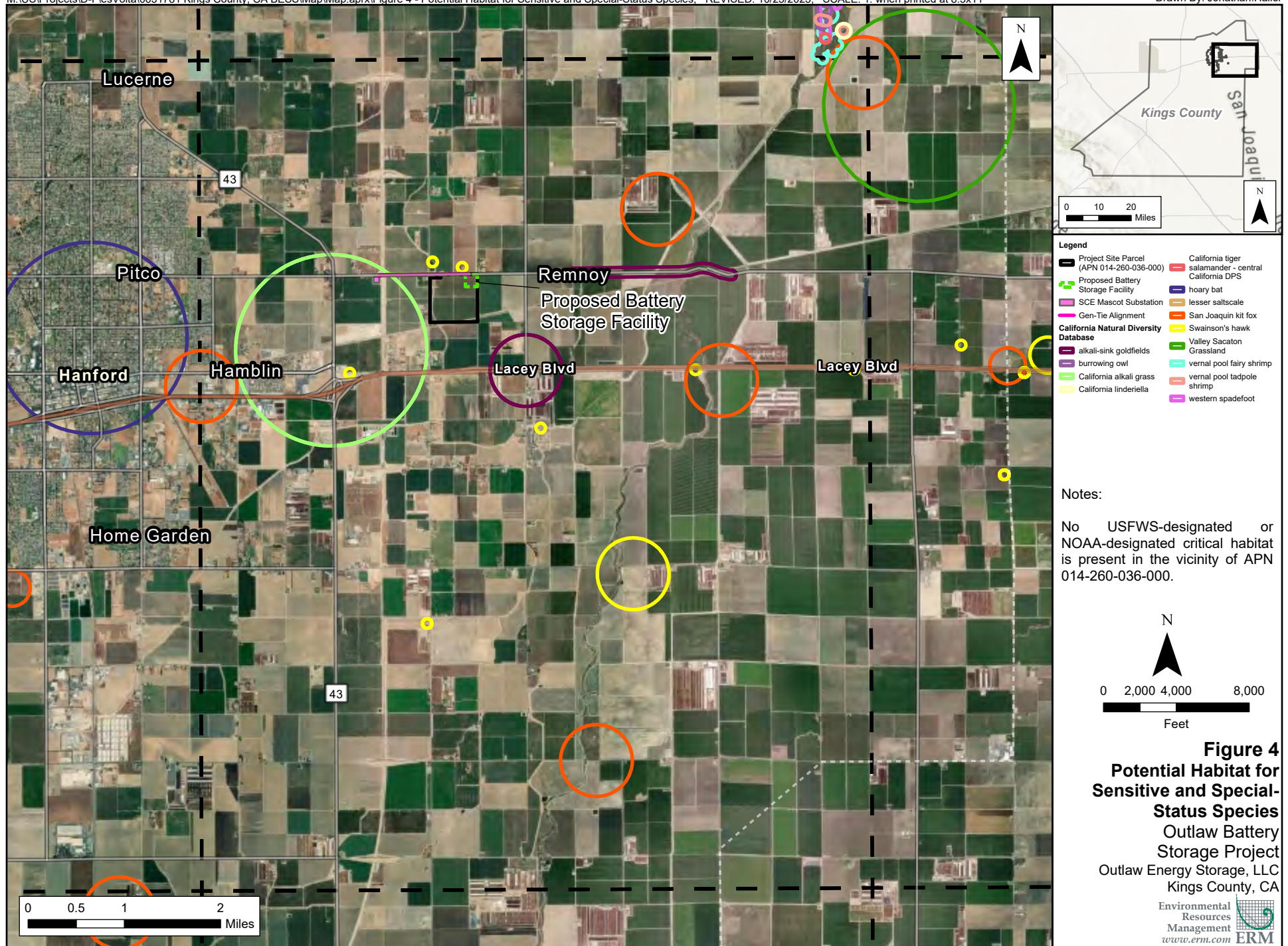
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ATTACHMENT A FIGURES









ATTACHMENT B PHOTOGRAPH LOG

Attachment B. Site Area Photographs

Project Name: esVolta LP Outlaw BESS Project



Photo Number: 1

Date: June 22, 2023

Location: Hanford, CA

Description: Facing south from Grangeville Boulevard. Highly disturbed agricultural land use. Wine grapes are predominant within the Site Area.



Photo Number: 2

Date: June 22, 2023

Location: Hanford, CA

Description: Looking west at the eastern edge of the Site. Melga Canal can be seen in the foreground. Wine grapes can be seen in the background.



Photo Number: 3

Date: June 22, 2023

Location: Hanford, CA

Description: Facing west. Potential inactive and abandoned San Joaquin Kit fox burrow located on the western side of Melga Canal (outside footprint of Site Area).



Photo Number: 4

Date: June 22, 2023

Location: Hanford, CA

Description: Oval shaped opening of burrow measures approximately 10 inches wide. No signs of scat, feather, matted down vegetation, or prey remains.



Photo Number: 5

Date: June 22, 2023

Location: Hanford, CA

Description: Grangeville Boulevard can be seen in the foreground. Facing upstream of Melga Canal. Eucalyptus trees can be seen on the right, provide potential nesting habitat for Swainson's hawk.



Photo Number: 6

Date: June 22, 2023

Location: Hanford, CA

Description: Looking west. Gen-tie location. Grangeville Boulevard on the left. Cracked soil layer can be seen on the right. Evidence of water possibly due to corn crop overflow.



Photo Number: 7

Date: June 22, 2023

Location: Hanford, CA

Description: Facing downstream of Melga Canal. Ruderal/disturbed and unvegetated banks on both sides of ditch can be seen.



Photo Number: 8

Date: June 22, 2023

Location: Hanford, CA

Description: Facing north from south end of greater parcel. No burrows were observed in soil. Straight lines indicate signs of soil disturbance of an actively managed agricultural cropland.

ATTACHMENT C USFWS IPAC REPORT

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Project information

NAME

Battery Energy Storage System Project

LOCATION

Kings County, California



DESCRIPTION

None

Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📠 (916) 414-6713

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

-
1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
 2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of

Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Fresno Kangaroo Rat <i>Dipodomys nitratoides exilis</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5150	Endangered
San Joaquin Kit Fox <i>Vulpes macrotis mutica</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2873	Endangered
Tipton Kangaroo Rat <i>Dipodomys nitratoides nitratoides</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7247	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard <i>Gambelia silus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/625	Endangered

Amphibians

NAME	STATUS
California Tiger Salamander <i>Ambystoma californiense</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS

Delta Smelt *Hypomesus transpacificus*

Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/321>

Insects

NAME

STATUS

Monarch Butterfly *Danaus plexippus*

Candidate

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9743>

Crustaceans

NAME

STATUS

Conservancy Fairy Shrimp *Branchinecta conservatio*

Endangered

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/8246>

Vernal Pool Fairy Shrimp *Branchinecta lynchi*

Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/498>

Vernal Pool Tadpole Shrimp *Lepidurus packardii*

Endangered

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/2246>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON

<p>Belding's Savannah Sparrow <i>Passerculus sandwichensis beldingi</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8</p>	Breeds Apr 1 to Aug 15
<p>Bullock's Oriole <i>Icterus bullockii</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds Mar 21 to Jul 25
<p>California Gull <i>Larus californicus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Mar 1 to Jul 31
<p>Common Yellowthroat <i>Geothlypis trichas sinuosa</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084</p>	Breeds May 20 to Jul 31
<p>Nuttall's Woodpecker <i>Picoides nuttallii</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410</p>	Breeds Apr 1 to Jul 20
<p>Oak Titmouse <i>Baeolophus inornatus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656</p>	Breeds Mar 15 to Jul 15

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey

effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

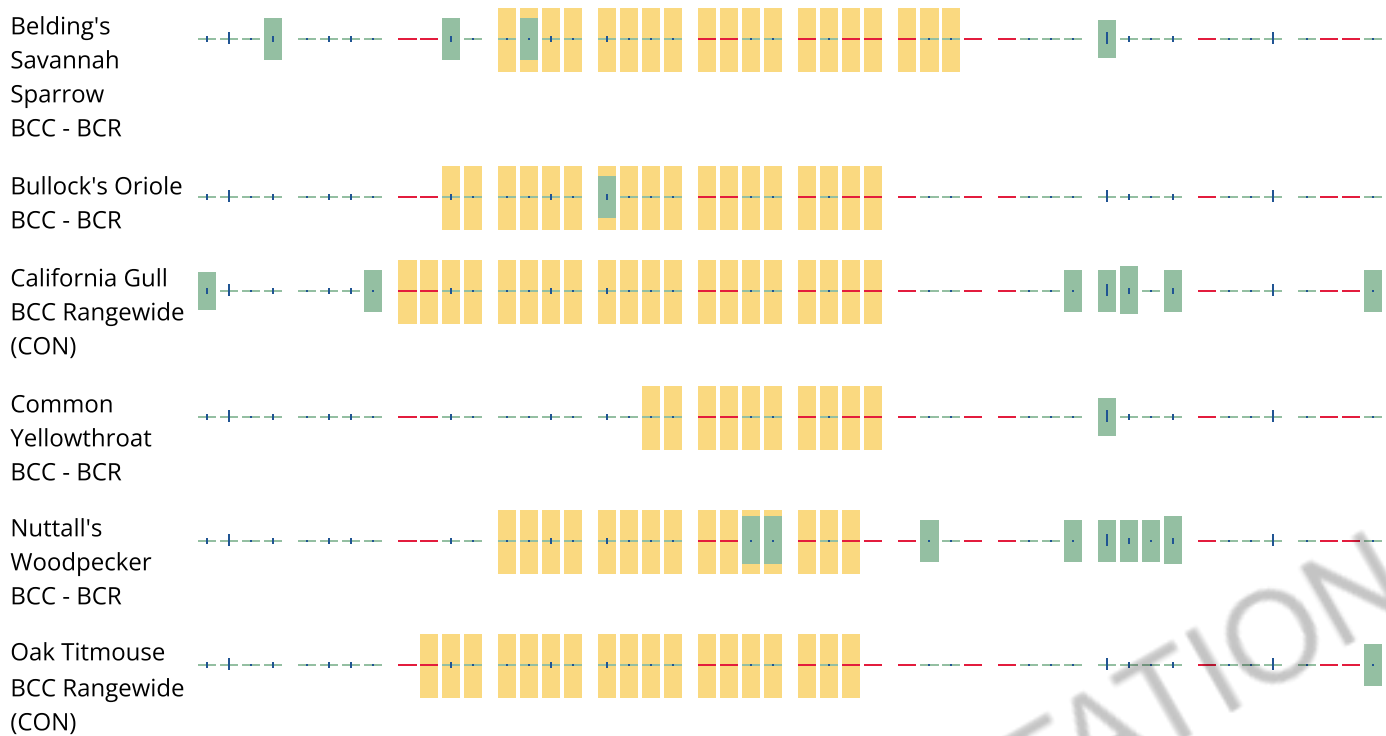
No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local

government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

Appendix C Cultural Resources Technical Report



**Outlaw Energy Storage,
LLC**

Cultural Resources Assessment

Outlaw Battery Energy Storage Project

23 October 2023

Project No.: 0676533

Document details	The details entered below are automatically shown on the cover and the main page footer. PLEASE NOTE: This table must NOT be removed from this document.
Document title	Cultural Resources Assessment
Document subtitle	Outlaw Battery Energy Storage Project
Project No.	0676533
Date	23 October 2023
Version	1.0
Author	Alex R. Wechter
Client Name	Outlaw Energy Storage, LLC

Document history

Version	Revision	Author	Reviewed by	ERM approval to issue		Comments
				Name	Date	
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Draft	01	Alex R. Wechter	Shawn Fackler	Shawn Fackler	9/27/2023	Client comments, undergrounding assessment, CEQA mitigation

Signature Page

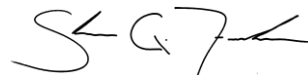
23 October 2023

Cultural Resources Assessment

Outlaw Battery Energy Storage Project



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Acronyms and Abbreviations

Name	Description
BERD	Built Environment Resource Directory
BESS	Battery Energy Storage System
BLM	Bureau of Land Management
BP	before present
cal	calibrated radiocarbon
CCR	California Code of Regulations
CDA	Community Development Agency
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
CRHR	California Register of Historical Resources
ERM	Environmental Resources Management, Inc.
gen-tie	generation tie
GLO	General Land Office
MLD	Most Likely Descendant
NAHC	Native American Heritage Commission
NRHP	National Register of Historic Places
Outlaw Energy Storage	Outlaw Energy Storage, LLC
PRC	Public Resources Code
SCE	Southern California Edison
SHPOPRC	State Historic Preservation Office Public Resources Code
U.S.	United States
USGS	United States Geological Survey

MANAGEMENT SUMMARY

On behalf of Outlaw Energy Storage, LLC, Environmental Resources Management, Inc. (ERM) performed a cultural resources assessment in support of a proposed 10-acre Battery Energy Storage System (BESS) site in unincorporated Kings County, California. Outlaw Energy Storage, LLC proposes to build the facility within the northeast corner of Assessor's Parcel Number 014-260-036-000, occupying approximately 10 acres of a 154-acre parcel. The Project includes an approximately 1.0-mile generation-tie line route from the site to the Southern California Edison (SCE) Mascot substation on Grangeville Boulevard. This assessment was prepared for site planning, and to support Kings County's environmental review process for compliance with the California Environmental Quality Act (CEQA).

ERM archaeologist, Alex Wechter conducted a literature search through the California Historical Resources Information System (CHRIS) and performed a systematic pedestrian cultural resource survey on 22 June 2023. Two cultural resources (P-16-000250 and P-16-000251) were identified within the Project Area as a result of a record search conducted by the Southern San Joaquin Valley Information Center and the pedestrian survey. One additional cultural resource (P-16-000122) is recorded within a 0.5-mile study area surrounding the proposed BESS site. This resource will not be impacted by the proposed Project and no effects to historical resources are expected as a result of Project implementation. According to previous researchers, site P-16-000250 is ineligible for the California Register of Historical Resources (CRHR) and the National Register of Historic Places (NRHP) because it is a utilitarian structure that lacks association with important people or events, does not embody the distinctive characteristics or a type, period, or method of construction, or represent the work of a master, or represent a significant and distinguishable entity whose components lack individual distinction. As a landscape feature, it does not appear to be eligible because it lacks significance as well as integrity (Love and Tang 2002). Site P-16-000251 has been determined to be not eligible for the California Register of Historical Resources and the National Register of Historic Places due to re-alignments and maintenance using modern equipment and methods that have altered the original design and workmanship of the canal (Parr 2009). No new cultural resources were identified within the Project Area. Therefore, ERM recommends no further cultural resource investigations.

Recommended measures are included to address the low-to-moderate potential for inadvertent discovery of cultural resources during construction. These measures are consistent with Kings County standard practices and include notations on construction plans; pre-construction worker briefing; stop-work procedures; mitigation procedures for discovered cultural resources; opportunities for Native American Monitoring; procedures for disposition of cultural resources; and State-mandated procedures in the unlikely event that human remains are encountered.

A copy of this report and the completed site forms will be filed with the Southern San Joaquin Valley Information Center of the California Historical Resources Information System (CHRIS) located at California State University Bakersfield.

1. INTRODUCTION

On behalf of Outlaw Energy Storage, LLC (Outlaw Energy Storage), Environmental Resources Management, Inc. (ERM), performed a cultural resource assessment of a proposed Battery Energy Storage System (BESS) site in unincorporated Kings County, California, approximately 2.7 miles east of the City of Hanford. The assessment included a review of previous studies and a systematic pedestrian surface survey of all areas of proposed ground disturbance. ERM archaeologist Alex Wechter, B.A., completed the field survey and associated report.

The proposed BESS site is planned to be installed within an active agriculturally zoned parcel (AG-20 zone) and will interconnect to the Southern California Edison (SCE) Mascot substation via an approximately 1.0-mile-long generation-tie (gen-tie) route. The parcel is in active use as a vineyard with an on-site irrigation system. Adjacent to the parcel is other agricultural land and private rural residences.

The cultural resources inventory was conducted in compliance with Section 5024.1 of the California Public Resources Code (PRC) to identify archaeological or historical resources in the Project Area. "Historical Resource" is a California Environmental Quality Act (CEQA) term referring to a resource eligible for or listed on the California Register of Historical Resources (CRHR) and generally older than 50 years of age by definition. Cultural resources include prehistoric and historic archaeological sites; districts and objects; standing historic structures, buildings, districts, and objects; and locations of important historic events, or sites of traditional/cultural importance to various groups.

1.1 Project Area

The Project Area consists of the 10-acre footprint within an agricultural parcel (No. 014-260-036-000) and a 1.0-mile gen-tie route in Kings County, California. Specifically, the Project Area is in Township 18 South, Range 22 East, Section 27; and Township 18 South, Range 22 East, Section 28 on the Remnoy, California, 7.5-minute United States Geological Survey (USGS) topographic quadrangle (Figure 1 and 2).

2. REGULATORY SETTING

According to CEQA Guidelines, Appendix G (State of California 2002), impacts on cultural resources would be considered significant if the project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.
- Disturb any human remains, including those interred outside of formal cemeteries.

A historical resource is a resource listed in, or determined to be eligible for listing in, the CRHR. Historical resources as defined in subdivision (k) of Section 4020.1, and included as such in a local register, or deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1, are presumed to be historically or culturally significant for purposes of this section, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant. 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, or not deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1, shall not preclude a lead agency from determining whether the resource may be a historical resource.

Pursuant to Section 15064.5 (*Determining the Significance of Impacts to Archaeological and Historical Resources of the State California Environmental Quality Act*), a resource shall be considered to be historically significant if it meets the criteria for listing on the CRHR (PRC Section 5024.1, Title 14 California Code of Regulations (CCR), Section 4852), including the following:

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States (U.S.) (Criterion 1).
- It is associated with the lives of persons important to local, California, or national history (Criterion 2).
- It 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 (Criterion 3).
- It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation (Criterion 4).

In addition to the above criteria, a resource must retain integrity to be considered historically significant. Integrity is the authenticity of the physical identity that is evidenced by the survival of characteristics that existed during the resource's period of significance. Historical resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Rehabilitation or restoration does not necessarily discount a resource from eligibility. Integrity must also be evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR, if it maintains the potential to yield significant scientific or historical information or specific data.

An adverse effect on a cultural resource is defined as follows:

- Substantial adverse change in the significance of a historical resource by physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings.
- Demolishes or materially alters those physical characteristics of a historical resource that convey its significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR, or inclusion in a local register.

Section 7052 of the State Health and Safety Code establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives. Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historical or archaeological interest located on public or private lands, but specifically excludes the landowner. Section 5097.5 of the PRC defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands.

2.1.1 California Register of Historical Places

As provided in PRC Section 5020.4, the California Legislature established the CRHR in 1992. The CRHR is used as a guide by state and local agencies, private groups, and citizens to identify the state historical resources and to include which properties are to be protected, to the extent prudent and feasible, from substantial adverse change. The CRHR, as instituted by the PRC, automatically includes all California properties already listed in the National Register of Historic Places (NRHP). It also includes those formally determined to be eligible for listing in the NRHP (Categories 1 and 2 in the State Inventory of Historical Resources), as well as specific listings of the State Historical Landmarks and in the State Inventory of Historical Resources, as well as specific listings of State Historical Landmarks and State Points of Historical Interest. The CRHR may also include other types of historical resources that meet the criteria for eligibility, including the following:

- Individual historic resources
- Resources that contribute to a historic district
- Resources identified as significant in historic resource surveys

Resources with a significance rating of Categories 3 through 5 in the State Inventory (Categories 3 and 4 refer to potential eligibility for the NRHP; Category 5 indicates a property with local significance). The CRHR follows the NRHP in using the 50-year threshold. A resource is usually considered for its historical significance after it reaches the age of 50 years. This threshold is not absolute but was selected as a reasonable span of time after which a professional evaluation of historical value and importance can be made. The cultural investigation of the Project Area was conducted pursuant to CEQA, PRC Chapter 2.6, Sections 21083.2 and 21084.1; and the Title 14 CCR, Chapter 3, Article 5, Section 15064.5.

3. ENVIRONMENTAL SETTING

The Project Area falls within the California Central Valley Level III ecoregion. This region is flat, and consists of intensively farmed plains with long, hot, dry summers and mild winters, which distinguish it from neighboring ecoregions that are either hilly or mountainous, covered with forest or shrub, and generally non-agricultural. The California Central Valley Level III ecoregion includes the flat valley basins of deep sediments adjacent to the Sacramento and San Joaquin Rivers, as well as the fans and terraces around the edge of the valley (Griffith et al. 2016). Specifically, the Project is within the Granitic Alluvial Fans and Terraces ecoregion in the Level IV Ecoregion. This ecoregion consists of nearly level to very gently sloping alluvial fans and basins. Elevations range from 100 to 500 feet. Natural vegetation included grasslands and valley oak on the fans, cottonwood and willow along streams, and emergent wetland species in basins. Almost the entire region is now cropland, hay and pastureland, and some urban and suburban uses (Griffith et al. 2016).

The elevation of the Project Area is approximately 250 feet above mean sea level. The climate ranges from 38 to 64 degrees Fahrenheit in the winter, to 88 to 104 degrees Fahrenheit in the summer. The City of Hanford receives an average of 8 inches of rain per year (Western Regional Climate Center 2016).

3.1 Biology

During the Early Holocene, San Joaquin Valley vegetation consisted of pine, oak, sagebrush, and greasewood in the uplands and greasewood on salt flats near the lakes (West et al. 2007). Approximately 7000 years before present (BP), the greasewood died out and a more drought-tolerant shrub community spread throughout the valley. Tule marshes resulted from lowering water levels. This drier period lasted until about 4000 BP. Wetter conditions prevailed for the next 2,000 years. By approximately 1000 BP, the climate warmed and became more arid (West et al. 2007). Early Europeans described large tule swamps and prairies throughout much of the Central Valley (Moratto 1984). Vegetation would have also included swamp-growing coarse grasses, tules, and cattails, which were useful to early valley residents. These items could provide food, house materials, and fiber. Outside of the waterways, valley vegetation was largely a Lower Sonoran grassland. Game in this grassland included tule elk, antelope, and deer (Moratto 1984).

Prior to the early 1800s, riparian forest grew along San Joaquin Valley watercourses. Riparian vegetation along rivers in the San Joaquin Valley was not as diverse or as large as that along the Sacramento River and its tributaries (West et al. 2007). Trees found along waterways included sycamore, cottonwood, box elder, and Oregon ash trees. Wild grapes, California blackberries, and blue elderberries also grew within the riparian corridor (Moratto 1984). Much of the water in the San Joaquin Valley is a result of Sierra snowmelt; and prior to the modern era, much of the valley contained several shallow lakes and wetlands. The largest lake was Tulare Lake, located in the southern San Joaquin Valley (West et al. 2007).

Most of the riparian forests in the San Joaquin Valley are now gone or much reduced, as a result of the rapid development of agriculture throughout the valley (Warner and Hendrix 1984). The tule marshes and floodplains were reclaimed for agriculture; and levees, which also impacted the forests, were built to prevent flooding (Warner and Hendrix 1984).

3.2 Geography and Soils

San Joaquin County is within the Great Valley Geomorphic Province, an asymmetrical synclinal trough, approximately 50 miles wide and 400 miles long. The region is an unusual lowland in that sediments within the basin are relatively under formed, while the surrounding rock units are highly deformed. Little geologic variation exists within the Great Valley, with surficial deposits consisting primarily of unconsolidated Quaternary sediments. The Great Valley is flanked on the east by the west-sloping Sierran bedrock surface, which continues westward beneath alluvium and older

sediments. The Western border is underlain by east-dipping Cretaceous and Cenozoic strata that form a deeply buried synclinal trough. The San Joaquin Valley comprises the southern portion of the Great Valley, while the Sacramento Valley is present in the northern portion. Oil fields follow anticlinal uplifts that mark the southwestern border of the San Joaquin Valley and its southernmost basin (Bartow 1991).

According to the U.S. Department of Agriculture Web Soil Survey, the Project Area is comprised of Kimberlina Fine Sandy loam (130), with 0 to 2 percent slopes. The Kimberlina series consists of moderately deep, well-drained soils that formed in alluvium derived from igneous and sedimentary rock (U.S. Department of Agriculture-Natural Resources Conservation Service 2023).

3.3 Current Land Use

The Project Area is a portion of an active vineyard that is adjacent to other agricultural fields and rural residential structures that fall outside of the Project Area. Landcover types that were identified during the site visit included grapevines and annual grasses.

3.4 Precontact Setting

The general trend throughout California prehistory has been an increase in population density over time, coupled with greater sedentism and the use of a greater diversity of food resources. There is abundant evidence that humans were present in the Americas for at least the past 11,500 years. There is also fragmentary, but growing, evidence that humans were present long before that date. Linguistic and genetic studies suggest that human colonization of the Americas might have been possible 20,000 to 40,000 years ago. The evidence of this earlier occupation is not yet conclusive, but it is beginning to be accepted by archaeologists. The Meadowcroft Rockshelter in Pennsylvania, and Monte Verde in Chile, for instance, are two early sites that have produced apparently reliable dates as early as 12,500 years BP. These earliest known remains indicate very small, mobile populations, apparently dependent on hunting large game animals as the primary subsistence strategy.

In attempts to develop a chronology for the San Joaquin Valley, archaeologists have been confronted with numerous challenges for the past 100 years. Archaeologists have faced difficulties in documenting and analyzing the cultural resource records due to the level of destruction of surface cultural resource sites as a result of agricultural practices, levee building, erosion, and extensive looting. In the early 1970s, Frederickson (1973) proposed three basic periods for the Central and San Joaquin Valley: Paleo-Indian, Archaic, and Emergent. Rosenthal et al. (2007) further refined these time periods based on newly calibrated radiocarbon (cal) dates.

3.4.1 Paleoindian (11,550–8550 cal B.C.)

The Paleoindian period has a relatively faint cultural resource footprint in California. The earliest sites in the San Joaquin Valley are Fluted Point Tradition and Western Pluvial Lakes Tradition sites found at Tracy, Tulare, and Buena Vista Lakes. These sites are few in number and remain undated by scientific means, but the assemblage types indicate probable ages of 11,500 to 7,500 years old (Moratto 1984). Human bone tested from the Witt site at Tulare Lake yielded dates of 11,379 to 15,802 cal BP (Rosenthal et al. 2007). No sites of this antiquity are known to exist within the Project Area.

3.4.2 Lower Archaic (8550–5550 cal B.C.)

Similar to the Paleoindian era, the Lower Archaic occupation sites are represented by isolated finds such as stemmed points, crescents, and early concave base projectile points. Many of these isolates occur along the shores of Tulare Lake. Located on the southwestern shore of Buena Vista Lake, Site CA-KER-116 and Witt Site (CA-KIN-32) are two of the best known sites in the southern San Joaquin Valley. The sites had deep buried components that contained crescents and a Western Stemmed Series points dating back 9175 to 8450 BP (Fredrickson 1973; Hartzell 1992). These points along with

faunal remains show that hunting ungulates such as deer, elk, and pronghorn was a major subsistence focus of the Lower Archaic. Milling Features are rare, so little is known about plant usage. Evidence of regional interaction can be seen through the presence of marine shell beads and obsidian from the eastern Sierra Nevada Mountains.

3.4.3 Middle Archaic (5550–550 cal B.C.)

The beginning of the Middle Archaic saw a substantial shift in climate with the advent of warmer and drier conditions. Tulare Lake diminished in area and this period of desiccation saw many other Central Valley lakes dramatically reduce in size and ultimately vanish. More distinct cultural adaptations for the valley floor and foothills are visible in sites that date to the Middle Archaic. Artifact assemblages for the foothill tradition are composed of flaked stone dart points and cobble tools similar to those of the Lower Archaic. Tabular pendants, incised slate, and perforated stone plummets are rather rare, but nevertheless, have wide distribution. Middle Archaic foothill sites are also characterized by rock-filled hearths and ovens, and “cairn capped” graves (Rosenthal et al. 2007:153).

Sites of the valley tradition in the later Middle Archaic are well represented in the archaeological record. The “archetypal Middle Archaic Expression” (Rosenthal et al. 2007: 154) is the Windmill Pattern, but the genesis, spatial distribution, and variation across the regional landscape is not clearly defined at this time. Situated in riverine, marshland, or valley floor settings, as well as on small knolls above prehistoric seasonal floodplains, this adaptation suggests permanent, year-round habitations and were accompanied by a complex, sophisticated material culture. Windmill Pattern sites contain ventrally extended burials that are oriented to the west. These sites contain large amounts of mortuary artifacts with indications of social hierarchy and often include large projectile points and a variety of fishing gear such as net weights, bone hooks, and spear points. In addition, evidence of trade and interaction is inferred from the presence of non-local utilitarian and ceremonial items. Faunal remains imply a hunting economy that included both large and small mammals.

The beginnings of other technologies such as cordage, twined basketry, basketry awls, simple pottery and other baked clay objects, stone plummets, bird bone tubes, and shell beads appear in the Middle Archaic. The presence of exotic items, such as obsidian and shell ornaments, suggests an active exchange system.

3.4.4 Upper Archaic (550 cal B.C.–cal A.D. 1100)

The Upper Archaic is characterized by onset late Holocene. the environment of the San Joaquin Valley became cooler, wetter, and more stable. The amount of differing artifact styles, which included Rose Spring Projectile Points, saddle and saucer Olivella beads, stone beads and cylinders, and ceremonial blades, suggests a wide range of cultural diversity at this time. Evidence from residential sites such as CA-KER-116 display diverse array of architectural features including house floors and significant deposits of refuse materials representing both land and water associated subsistence activities. Milling features are present at time and indicate the exploitation of resources like seeds and nuts.

3.4.5 Emergent Period (cal A.D. 1100–Historic)

The archaeological record for this period is the most complete and diverse. Intensification of plant procurement and a decrease in hunting marks this most recent cultural period. The bow and arrow are introduced and replaces the former dart and atlatl. Cottonwood style arrow points, similar to those found to the east in the Great Basin, are recognized by about 700 years ago (ca. A.D. 1300) and cultural traditions ancestral to those recorded ethnographically are readily identifiable.

Stone beads and cylinders, clamshell disks, tubular smoking pipes, arrow-shaft straighteners, flat-bottomed mortars, cylindrical pestles, and small side-notched arrow points mark the cultural inventory of typical archaeological sites from this era. Burial posture is tightly flexed on the side or supine with a moderate amount of associated mortuary related offerings. Protohistoric and historic era sites contain

Euro–American trade items, such as glass beads, brass buttons, and other introduced non-native artifacts. Specialized sites of local shell bead manufacturing are now recognized in the Southern San Joaquin Valley Region as indicated by the presence of bead blanks and manufacturing debris (Hartzell 1992).

3.5 Ethnographic Setting

The Project Area is within the traditional areas of the South Valley Yokuts. The Southern Valley Yokuts are members of the Penutian language group. The Southern Valley Yokuts inhabited from the Lower Kings River to Tehachapi Mountains. Specifically, the City of Hanford was once occupied by the Tachi Yokuts. The Tachi lived in large permanent villages along water sources such as creeks, springs, and sloughs, as well as flat ridges and terraces. These permanent villages were made up of two types of structures:

- Simple single-family dwellings with oval floor plans constructed of large tule mats over a wooden frame.
- Multifamily dwellings, these structures had large, slanted roofs and were sectioned off for individual families.

Many Tachi occupation, hunting, and gathering sites have been found along the shore of Tulare Lake (Heizer 1978). The Tachi relied heavily on Tulare Lake for their subsistence. They followed a mixed subsistence strategy, which emphasized fishing, hunting waterfowl, along with collecting shellfish, roots, and seeds. The Tachi, like a majority of the Southern Valley Yokuts, relied heavily on tule for many of their everyday tools including baskets, canoes, trays, and cooking bowls. The Southern Valley Yokuts encountered the Spanish in 1772, however, very few succumbed to missionization (Heizer 1978). However, following the U.S. annexation of California, the Southern Valley Yokut tribes were the target of state-sponsored extermination in 1852. They were removed from their lands and moved to the Tule River Reservation, which was officially established in 1873. Some members of the Tachi settled near Lemoore on the northern banks of Lake Tulare. This area would officially become the Santa Rosa Reservation in 1934 (Tachi Yokut Tribe 2023).

3.6 Historic Setting

In 1542, Juan Rodriguez Cabrillo explored the California coast by ship. Much of the early exploration of California was conducted this way, and the interior of California, including the Sacramento Valley, remained unexplored by Europeans until the beginning of the Spanish Period. In California, the historic era is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

3.6.1 Spanish/Mission Period

The Spanish/Mission period in California began with the establishment of Spanish Colonial military outposts, the first of which was Mission San Diego de Alcalá, built in 1769. It was not until March 1772 that the first formal European expedition, led by Pedro Fages, entered the Central Valley. Fages went in search of the first Europeans to actually enter the Central Valley, Spanish deserters. The other purpose of the Fages expedition was to find an overland route to Point Reyes, and the company kept to the shoreline until they reached the mouth of the San Joaquin River and first observed the valley (Smith 2004). Shortly after the Fages expedition returned to Monterey, Father Francisco Garcés entered the Central Valley and made the first scientific observations of the valley, which included native villages, wide rivers, large tule swamps, and huge herds of tule elk.

3.6.2 Rancho Period

In 1821, Mexico gained independence from Spain; and in 1848, the U.S. formally obtained California in the Treaty of Guadalupe Hidalgo (Cleland 1964). The period from 1821 to 1848 is referred to as the Mexican Rancho Period. The Decree of Secularization, passed in 1834, ended the Mission Period in

California. The following years were marked by the proliferation of cattle ranching throughout the region, as the Mexican Governor granted vast tracts of land to Mexican (and some American) settlers. The mission lands were then opened for grants by the Mexican government to citizens who would colonize the area and develop the land, generally for grazing cattle and sheep (Lech 2004).

3.6.3 American Period

Following the signing of the Treaty of Guadalupe Hidalgo in 1848, the U.S. took possession of California. The treaty bound the U.S. to honor the legitimate land claims of Mexican citizens residing in captured territories. The Land Act of 1851 established a Board of Land Commissioners to review these records, adjudicate claims, and charged the Surveyor General with surveying confirmed land grants. To investigate and confirm titles of California, American officials acquired the provincial records of the Spanish and Mexican governments that were located in Monterey. Those records, most of which were transferred to the U.S. Surveyor General's Office in San Francisco, included land deeds and sketch maps (Gutierrez and Orsi 1998).

From 1852 to 1856, a Board of Land Commissioners determined the validity of grant claims. Often, the Commissioners rejected submitted land claims and the land became public domain and fair game for squatters. Ranch titles represented little as collateral. Although the claims of some owners were eventually substantiated, many of the owners lost their land through bankruptcy or the inability to meet the exorbitant interest on their legal debts. Many of the original rancho owners eventually lost their land to the U.S. Unsurveyed land boundaries created a loophole through which squatters could occupy plots on the fringes of land grants and eventually come to own those plots through squatters' rights (Gutierrez and Orsi 1998).

The cattle industry in California reached its greatest prosperity during the first years of the American Period. Mexican Period land grants had created large, pastoral estates in California, and a high demand for beef during the Gold Rush led to a cattle boom that lasted from 1849 to 1855. In 1855, however, the demand for California beef began to decline as a result of sheep imports from New Mexico, cattle imports from the Mississippi and Missouri valleys, and the development of stock breeding farms. When the beef market collapsed, the California ranchers were unprepared. Many had borrowed heavily during the boom, mortgaging their land at interest rates as high as 10 percent per month. The collapse of the cattle market meant that many of these ranchos were lost through foreclosure, and others were sold to pay debts and taxes (Cleland 1964).

During the American Period, in addition to cattle and sheep ranches, a growing number of farms appeared. A rural community cultural pattern existed in the study area from approximately 1870 to 1930. This pattern consisted of communities made up of population aggregates that lived within well-defined geographic boundaries, shared common bonds, and cooperated to solve shared problems. They lived on farmsteads, tied together by a common school district, church, post office, and country store, and frequently, irrigation districts.

3.6.4 The City of Hanford

The City of Hanford is located west of the Project Area. The city was named for railroad executive James Madison Hanford, and was founded in 1877, after the Southern Pacific Railroad was built through a sheep camp from which a town soon sprang up (Brown and Richmond 1940). The introduction of the railroad in this area allowed for the expansion of agriculture and animal husbandry. Hanford is an important commercial and cultural center in the region and serves as the county seat.

4. METHODS

4.1 Literature Search

ERM requested a literature search for the Outlaw BESS at the California Historical Resources Information System (CHRIS) Southern San Joaquin Valley Information Center at the California State University in Bakersfield on 6 June 2023. A 0.5-mile buffer zone around the Project Area was included in this search. The literature and records review included a review of all recorded archaeological sites as well as all known cultural resource survey and excavation reports. The National Register of Historic Places, the California Register, California Historical Landmarks, California Points of Historical Interest, and the Directory of Properties in the Historic Property Data File for Kings County, as well as historic topographic and aerial maps, were all examined. State and local listings were consulted for the presence of historic buildings, structures, landmarks, points of historical interest, and other cultural resources. A review of the State Historic Preservation Office's (SHPO) Build Environment Resource Directory (BERD) was conducted to determine the eligibility status of the resources present within the Project Area.

4.1.1 Historic Map Review

ERM reviewed historic maps General Land Office (GLO) records held online by the Bureau of Land Management (BLM) and United States Geologic Survey (USGS) historic topographic maps. The following maps were reviewed:

- 1855 GLO Plat Map
- 1927 Remnoy California USGS 15-Minute Quadrangle.
- 1954 Remnoy California USGS 15-Minute Quadrangle

4.2 Field Methods

Fieldwork methodology is based on survey requirements and the nature of expected resources and archaeological characteristics. The survey scope required ERM to identify all resources greater than 50 years in age within the 10-acre Project Area, even if very small (i.e., fewer than five artifacts or features) are present. Modern land surface conditions, the landform context, existing geomorphic data, and the potential for buried sites within all proposed disturbance areas were considered.

An intensive systematic pedestrian surface survey of the Project Area was performed by ERM archaeologist Alex Wechter, B.A., on 22 June 2023. The topography of the Project Area is relatively level and systematic survey methods using parallel transects spaced at 15-meter intervals were used. Subsurface exposures, including rodent burrows and canal or ditch cut banks, were closely examined. A smartphone was used to navigate via Google Earth and to capture photographs.

Table 1: Previous Cultural Resource Studies within 0.5-Mile of the Project Area

Report Number	Title	Year	Author
KI-00028	Cultural Resources Inventory Report for the Proposed Mojave Northward Expansion Project	1995	Hatoff, Brian; Voss, Barb; Waechter, Sharon; Benté, Vance; and Wee, Stephen
KI-00109	Historic Property Survey Report: Cross Valley Rail Corridor Project Between the Cities of Visalia and Huron Tulare, Kings, and Fresno Counties, California	2002	Love, Bruce and Tang, Bai "Tom"
KI-00110	Archaeological Survey Report: Cross Valley Rail Corridor Project Between the Cities of Visalia and Huron Tulare, Kings, and Fresno Counties, California	2002	Love, Bruce and Tang, Bai "Tom"

Report Number	Title	Year	Author
KI-00111	Historic Study Report/Historical Resources Evaluation Report: Cross Valley Rail Corridor Project Between the Cities of Visalia and Huron Tulare, Kings, and Fresno Counties, California	2002	Love, Bruce and Tang, Bai "Tom"
KI-00179	Cultural Resource Assessment for the Proposed Southern California Edison Company Mascot Substation Project near the City of Hanford Kings County, California	2009	Parr, Robert E.
KI-00315	Fresno to Bakersfield Project Section-Final Historic Architectural Survey Report Addendum No. 5 (Primary Re-Exam Area)	2016	California High-Speed Rail Authority and the Federal Railroad Administration

Table 2: Previously Recorded Resources within 0.5-Mile of the Project Area

Site Number	Site Description	CRHP/NRHP Eligibility	Date
P-16-000122	Historic Structure, Site San Joaquin Valley Railroad, Southern Pacific Railroad	6Y Not Eligible	2001
P-16-000250	Historic Structure, Settlers Ditch	6Y Not Eligible	2003
P-16-000251	Historic Structure, Melga Canal	6Y Not Eligible	1998

5. RESULTS

5.1 Literature Review Results

The records search revealed that six cultural resource investigations have been conducted within the 0.5-mile study area; however, none covered the Project Area (Table 1; Figure 3). The studies revealed the presence of historic linear features, and sites associated with railroad activities in the vicinity of the Project Area.

The records search determined that three previously recorded historic-period cultural resources are within 0.5-mile of the Project Area (Table 2; Figure 4). No prehistoric cultural resources have been previously identified. Two of the historic-period resources are agricultural irrigation canals that are still in use. The remaining resource is associated with the Southern Pacific Railroad and includes sections of industrial lead and secondary tracks. All three of the resources P-16-000250, P-16-000251, and P-16-000122 have been evaluated and deemed not eligible for listing on the NRHP or CRHR (Parr 2009). In 2003, SHPO determined that P-16-000250 is not eligible for listing on the NRHP.

5.2 Historic Map Review Results

The earliest map found of the Project Area was the 1855 GLO survey map; no features are shown within the vicinity of the Project Area (BLM 1855). Historic Remnoy 7.5-minute quadrangles (USGS 1927, 1954) show the alignment of P-16-000250 (Settlers Ditch) along the gen-tie route, along with P-16-000251 (Melga Canal) which runs north-south within the eastern portion of the Project site parcel adjacent to the battery operational area. Additionally, the United States Geological Survey maps also depict several structures adjacent to the northern portion of the Project Area and along the gen-tie route. A review of the Kings County Historical Sites Map in the 2035 Kings County General Plan indicates that no historical sites are documented within the Outlaw Battery Energy Storage Site or its immediate vicinity (Kings County Community Development Agency, 2010).

5.3 Survey Results

ERM completed a systematic pedestrian cultural resource survey of the Project Area for the proposed 10-acre BESS site and associated 1.0-mile gen-tie route on 22 June 2023. The Project Area is an active agriculture field with modern lattices built for the cultivation of grapes with no other structures present (Figures 5 through 14). A historic-period irrigation canal (P-16-000251) runs north-south along the eastern boundary of the Project Area and will not be impacted by the proposed project. Vegetation within the Project Area consisted of wine grapes and invasive grasses. Site soil consisted of loose silty loam due to the soil being recently tilled. All portions of the Project Area were accessible at the time the survey was conducted and there is a well-maintained dirt access road along the eastern boundary of the Project Area. The grapevine rows of the Project Area have in-use modern irrigation systems that are comprised of plastic tubes with small permeations to slowly irrigate the rows. The ground visibility within the Project Area and gen-tie route was nearly 100 percent.

The survey within the Project Area involved walking north-south oriented transects spaced no more than 15 meters apart. The systematic pedestrian cultural resource survey of the 1.0-mile-long gen-tie route involved walking east to west along the length of the gen-tie route. Soils along the gen-tie route consisted of silty loam mixed with fill from the construction of the road. The Project Area was relatively clean with very little trash or debris located within the 10-acre BESS site. One previously recorded resource—Settlers Ditch (P-16-000250), a 30-foot-wide historic era irrigation ditch—spans the western edge of the parcel and runs north-south and crosses under Grangeville Blvd. via a modern concrete culvert. The southern end of the culvert has a modern water control gate and is marked with the date 12 December 1981. The northern end of the culvert had no visible water control gate and was filled with standing water, trash, and vegetation debris. The banks of the ditch appear to be lined with rock, that is covered with a dense layer of silt and annual grasses. ERM completed a DPR form

for the segment of the canal that falls within the Project Area. No newly identified cultural resources were encountered within the Project Area

6. MANAGEMENT RECOMMENDATIONS

ERM performed a cultural resources survey on 22 June 2023. The work was conducted in support of site planning and CEQA review. One cultural resource—Settlers Ditch (P-16-000250)—is within the Project Area and associated gen-tie route; Settlers Ditch is not eligible for listing in the NRHP and is not considered a historic property. The proposed work activities will not have any effect on any previously recorded resources within the Project Area. Therefore, no further cultural resource investigations are recommended.

The Outlaw Battery Energy Storage Site includes no historic properties determined to be eligible or potentially eligible for inclusion on the NRHP or the CRHR. However, there is a low-to-moderate potential for the discovery of significant subsurface materials from the historic era within the Project Area, and it is possible that isolated historical materials may be encountered during subsurface excavation.

Construction activity could result in the inadvertent exposure of historical resources that could be eligible for inclusion on the CRHR. Potential Project impacts to historic resources can be reduced to a less-than-significant level through the implementation of the following recommended measures.

Recommended Measure CR-1: Protection of Cultural Resources. In order to avoid the potential for impacts to historic and prehistoric archaeological resources, the following measures should be implemented, as necessary, during construction of the Outlaw Battery Energy Storage Project:

- a. **Cultural Resources Alert on Project Plans.** Project plans should include a note indicating that there is a potential for exposing buried cultural resources during ground disturbing activities.
- b. **Pre-Construction Briefing.** The Santa Rosa Rancheria Cultural Staff should be retained to provide pre-construction Cultural Sensitivity Training to construction staff regarding the discovery of cultural resources and the potential for discovery during ground disturbing activities. Training should include information on potential cultural material finds and the procedures to be enacted if resources are found.
- c. **Stop Work Near any Discovered Cultural Resources.** A professional archaeologist should be retained on an “on-call” basis during ground disturbing construction for the project to review, identify and evaluate cultural resources that may be inadvertently exposed during construction. If previously unidentified cultural resources are discovered during construction of the project, the project proponent should cease work within 100 feet of the resources, and Kings County Community Development Agency (CDA) should be notified immediately. The archaeologist should review and evaluate any discoveries to determine if they are historical resource(s) and/or unique archaeological resources under CEQA.
- d. **Mitigation for Discovered Cultural Resources.** If the professional archaeologist determines that any cultural resources exposed during construction constitute a historical resource and/or unique archaeological resource, he/she should notify the project proponent and other appropriate parties of the evaluation and recommended mitigation measures to mitigate the impact to a less-than-significant level. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing and data recovery, among other options. Treatment of any significant cultural resources should be undertaken with the approval of the Kings County CDA. The archaeologist should document the resources using DPR 523 forms and file said forms with the California Historical Resources Information System, Southern San Joaquin Valley Information Center. The resources should be photo-documented and collected by the archaeologist for submittal to the Santa Rosa Rancheria’s Cultural and Historical Preservation Department. The archaeologist should be required to submit to the County for review and approval a report of the findings and method of curation or protection of the resources. Further grading or site work within the area of discovery should not be allowed until the preceding steps have been taken.

e. **Native American Monitoring.** Prior to any ground disturbance, the project proponent should offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground disturbing activities during both construction and decommissioning. Tribal participation would be dependent upon the availability and interest of the Tribe.

f. **Disposition of Cultural Resources.** Upon coordination with the Kings CDA, any prehistoric archaeological artifacts recovered should be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.

Subsurface excavation for the Outlaw Battery Energy Storage Project could potentially result in the disturbance of buried human remains. This potential impact can be reduced to less-than-significant levels through implementation of the following recommended measure.

Recommended Measure CR-2: Protection of Buried Human Remains. In order to avoid the potential for impacts to buried human remains, the following measures should be implemented, as necessary, in conjunction with the construction of each phase of the Outlaw Battery Energy Storage Project:

Pursuant to State Health and Safety Code Section 7050.5(e) and PRC Section 5097.98, if human bone or bone of unknown origin is found at any time during on- or off-site construction, all work shall stop within 25 feet of the discovery, the Kings County Coroner shall be notified immediately, and the resource should be protected in compliance with applicable state and federal laws. If the remains are determined to be Native American, the Coroner shall notify the California State Native American Heritage Commission, who shall identify the person believed to be the Most Likely Descendant (MLD) pursuant to PRC Section 5097.98. The project proponent and MLD, with the assistance of the archaeologist, shall make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Sec. 15064.5(d)). The agreed upon treatment shall address the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. California PRC allows 48 hours for the MLD to make their wishes known to the landowner after being granted access to the site. If the MLD and the other parties do not agree on the reburial method, the project will follow PRC Section 5097.98(e) which states that "... the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."

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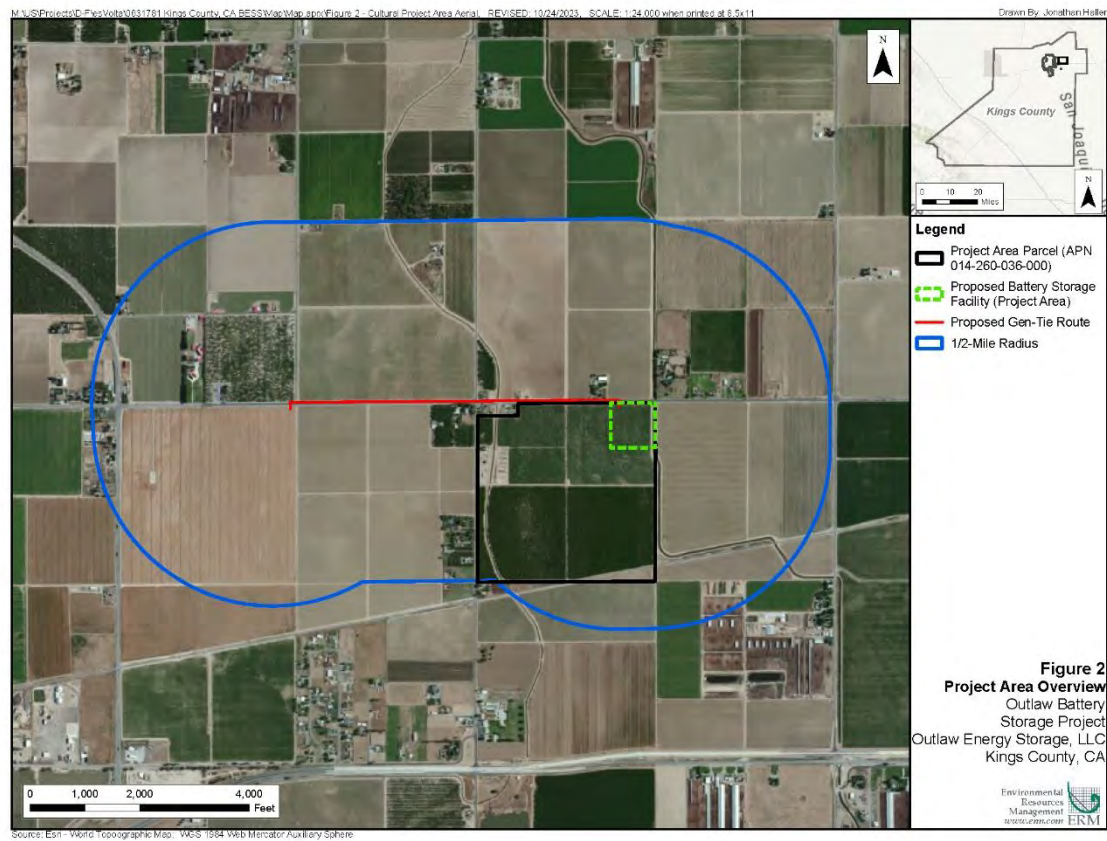


Figure 2: Satellite imagery of the Project Area

8.2 Record Search Results Maps

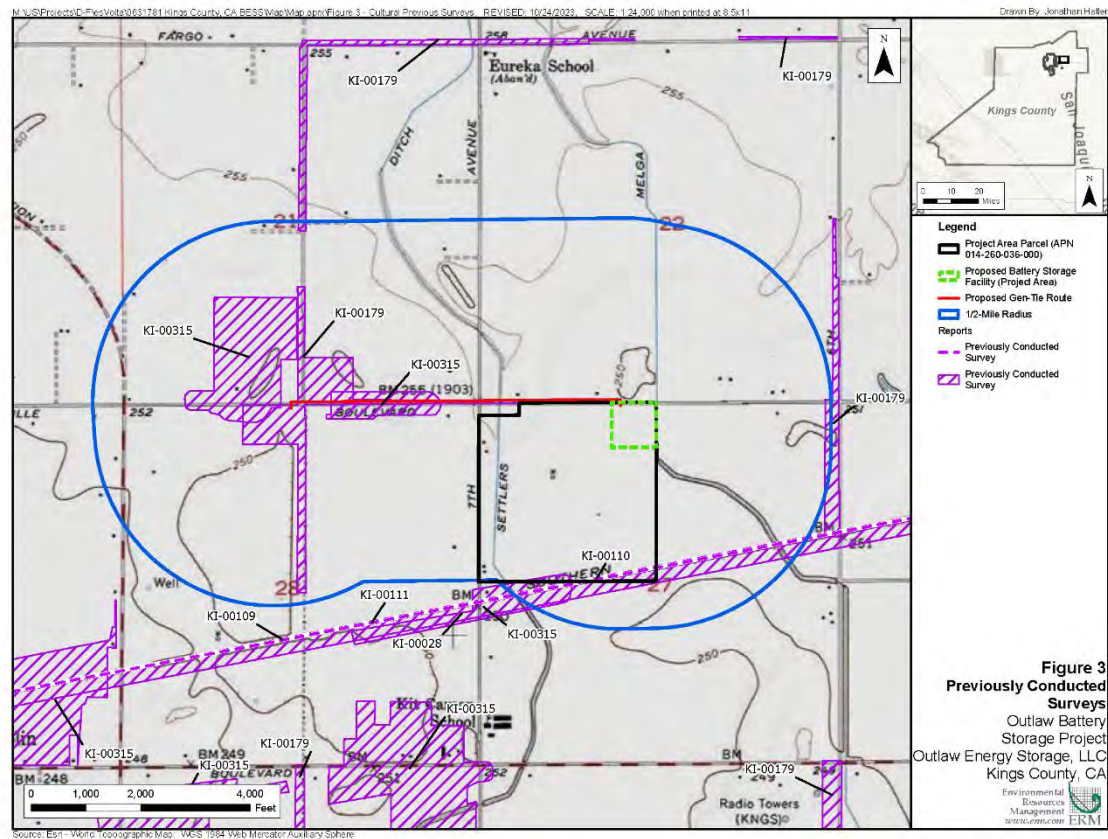


Figure 3: Previously Conducted Surveys within 0.5-Mile Radius

Figure 4: Previously Recorded Resources within 0.5-Mile Radius

California Government Code Section 6254.10 exempts archaeological sites from the California Public Records Act, as the locations of archaeological sites and tribal cultural resources are confidential. Further, the CHRIS program receives federal financial assistance for the maintaining information systems with historical resources; the location of cultural resources is therefore also confidential under Section 304 of National Historic Preservation Act.

8.3 Survey Photos



Figure 5: General View Across the Project Area, Facing South



Figure 6: General View Across the Project Area, Facing North



Figure 7: General View across the Project Area, Facing Northwest



Figure 8: General View Across Gen-tie Route, Facing South



Figure 9: General View of Gen-tie Route, Facing West



Figure 10: General View Across Melga Canal at Eastern Boundary of Survey Area, Facing South



Figure 11: General View Across Melga Canal at Eastern Boundary of Survey Area, Facing North



Figure 12: General View Settlers Ditch, Along Gen-Tie Route, Facing South



Figure 13: General View Settlers Ditch, Along Gen-Tie Route, Facing North



Figure 14: Western End of Gen-Tie Route, Facing West

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Appendix D Noise Assessment Technical Report

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SECTION 1 Introduction

Catalyst Environmental Solutions Corporation (Catalyst) has prepared this report to evaluate the potential for impacts related to noise resulting from implementation of esVolta Development, LLC's (Applicant) proposed Outlaw Energy Storage Project (Project) at 9135 7th Avenue, Hanford in Kings County, California. This report includes an evaluation of potential impacts associated with temporary and permanent increases in noise in the vicinity of the Project site and whether Project-induced noise is in excess of standards established by the applicable local jurisdiction (i.e., Kings County). Information given in this report is based on information obtained from the Applicant and available public resources including the 2035 Kings County General Plan Noise Element (2010) and the City of Hanford 2035 General Plan (2014).

1.1 Project Overview

1.1.1 Project Location and Description

The proposed Project site consists of development of a utility-scale lithium-ion battery storage facility (BESS) with an onsite electrical substation, an approximately 1-mile-long interconnecting gen-tie transmission line, and associated electrical and site improvements. The Project site is located at 9135 7th Avenue, within unincorporated Kings County, California in Section 27, Township 18 South, Range 22 East Mount Diablo Principal Meridian, California (Figure 1). The BESS facility will be located on a portion of Assessor Parcel Number (APN) 014-260-036-000. The Project proposes to subdivide the 154-acre parcel (APN 014-260-036-000) into two parcels with the approximately 10-acre Project site parcel created in the northeast corner. The gen-tie line will traverse the Project site and continue within the Grangeville Boulevard right-of-way, and terminate at the existing substation at APN 014-260-101-000. The site is zoned for *General Agriculture-20 Acre (AG20)* uses and is presently used for grape cultivation. Surrounding land uses consist primarily of agricultural and rural residential uses with the existing Southern California Edison (SCE) Mascot Substation located approximately 1-mile west of the proposed BESS Facility and the California High-Speed Rail and Kings/Tulare High-Speed Rail Station currently being constructed on the west boundary of the substation near the intersection of State Route (SR) 198 and SR 43, just east of the Hanford city limits. The proposed Project would have a disturbance footprint of 10 acres with 8.5 acres developed with battery storage infrastructure and 1.5 acres to remain as an open area for staging and as a buffer from the adjacent agricultural operations. Site access will be provided by an existing, approximately 14-foot wide driveway located off Grangeville Boulevard. A gate will be installed at the BESS Facility entrance, outfitted with Knox locks to provide for fire and police department access in the event of an emergency.

As shown in Figure 1, the site is located in a rural area. The Project site is bounded immediately to the north by Grangeville Boulevard and the existing 66 kilovolt (kV) SCE transmission line corridor running east to west. The BESS Facility is located approximately 0.4 miles east of 7th Avenue and 1-mile east of SCE's Mascot Substation. The Project site is currently cultivated with grape vines with associated irrigation infrastructure.



Figure 1 Project Site Map

1.1.2 Proposed Development

Figure 2 illustrates the preliminary site plan. The BESS facility will be capable of storing up to 110 megawatts (MW)/440 megawatt hours (MWh) from the SCE electrical grid and then subsequently discharging that energy back onto the electrical grid. The BESS Facility equipment will be comprised of lithium-ion battery racks housed within standardized, purpose-built, all-weather outdoor enclosures. The enclosures will be paired with cooling systems, safety systems, inverters, controls, metering/telemetry and interconnection equipment.

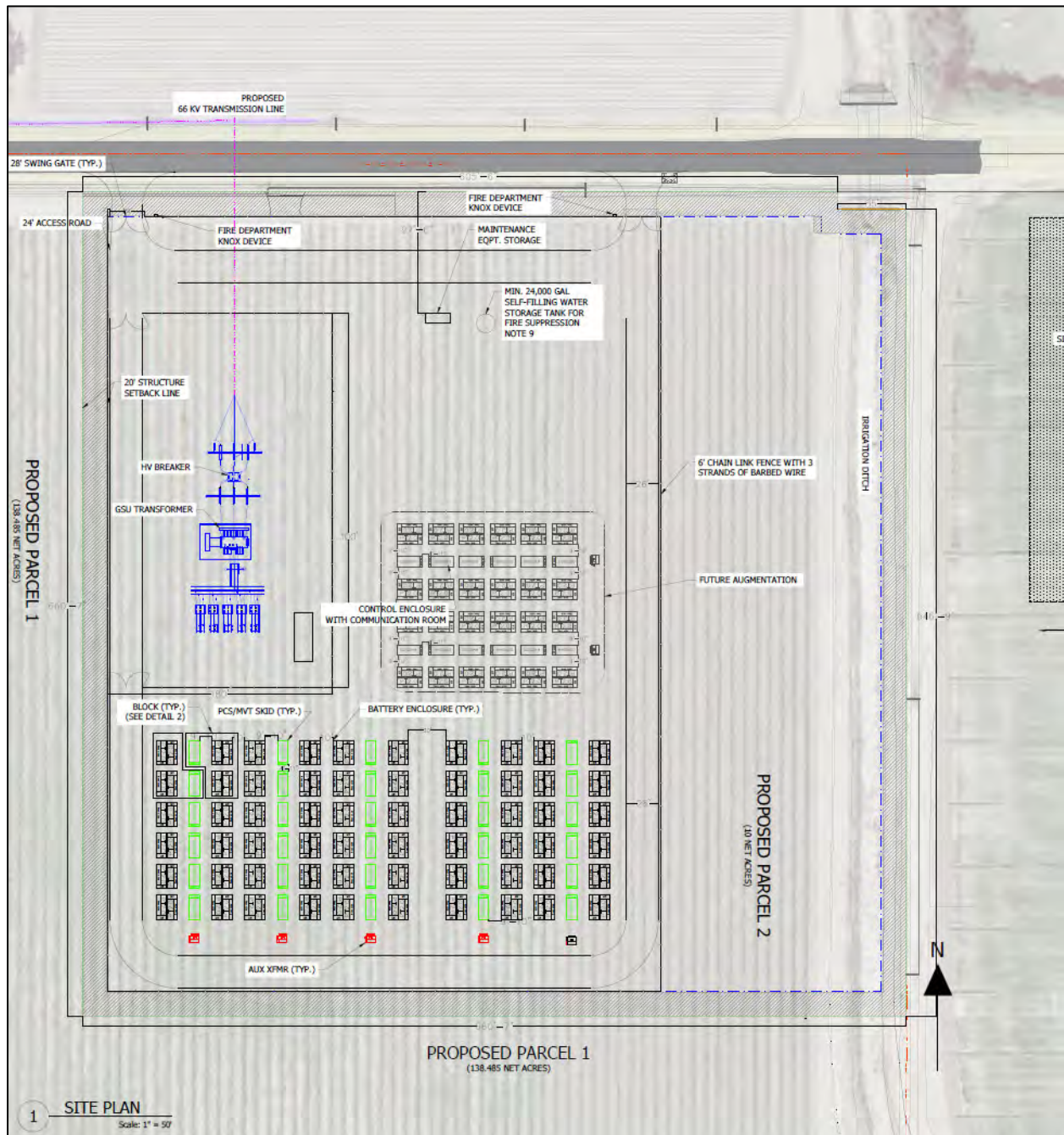


Figure 2 Preliminary Site Plan

The ultimate technology providers for the BESS facility have not yet been selected at this time but will be procured via a competitive solicitation of reputable Tier 1 BESS suppliers. For the purposes of this noise assessment, the SUNGROW PowerTitan2.0 (2H) liquid-cooled energy storage system technology is assumed as a likely candidate for selection at the Project site. Augmentation of the lithium-ion batteries will be required over the lifespan of the BESS facility. Depending on technology selection, augmentation could include replacement of the lithium-ion batteries within enclosures and/or the phased installation of new enclosures over the life of the BESS Facility. In order for Kings County to fully analyze the potential impacts from the Project, the estimated full buildout of all BESS enclosures that could be constructed through the life of the facility were included on the BESS facility's preliminary site plan.

A typical BESS enclosure is about the same size as a standard shipping container; however, the number, size, layout and capabilities of each enclosure varies depending on the final system manufacturer selected for the Project. On average, the enclosure will be approximately 10 feet in height (inclusive of the foundation) and roughly 8 feet in depth. The lengths of the enclosures vary due to the modular nature of these units. Regardless of the manufacturer, the BESS Facility's footprint and overall capability will not materially change. The BESS enclosures will be arranged in neat rows on the Project Site (see Figure 2). As conceptually designed, the BESS enclosures will be constructed 500 feet or further from the closest offsite residential receptor.

The BESS enclosures and transformers will be arranged in rows separated by internal access roads surfaced with asphalt or other all-weather surface material. To secure the BESS Facility, it will be bound by an approximately six-foot-tall chain-link fence. The BESS facility's on-site substation is tentatively planned to be located in the northwest corner of Project site. The on-site substation will be a separate and secure area within the BESS facility. The on-site substation will consist of high voltage electrical equipment, auxiliary transformers, circuit breakers, relays, meters and communications equipment. This equipment includes the power distribution center and main step-up transformer. The main step-up transformer increases voltage from that of the inverter-transformer skids to the grid interconnection voltage for discharging operation and vice-versa for charging operation. The on-site substation will be connected to the nearby SCE Mascot Substation located on Grangeville Boulevard via an approximately 1-mile-long gen-tie line. This physical connection to the SCE electrical grid allows the BESS facility to be charged from the grid and then discharged to the grid on-demand, providing critical electrical reliability services to the region.

1.1.2.1 Operations

Energy stored in the BESS Facility will be discharged to the grid when the energy is needed throughout the day and night; as such, the BESS Facility will be available to operate 24 hours per day/seven days per week. In accordance with operational norms, it is expected that the BESS Facility will fully charge and discharge once per day. The BESS Facility site will be unmanned, and the site will not contain any habitable enclosures or facilities for on-site personnel. The Project will typically generate approximately one vehicle trip per month during the first year of facility operation for equipment maintenance purposes. Vehicle trips may be reduced to one trip every other month after the Project's first year of operation. Equipment maintenance activities at the Project site will typically consist of inspections by a technician. If necessary, the technician will remove and replace battery modules as needed. Any removed battery modules will be disposed of in accordance with applicable regulations and per the

manufacturer's instructions. Other Project-related trips will be for occasional site and landscape maintenance.

Over the course of the Project's lifetime, periodic augmentations will occur. An augmentation could include replacement of the lithium-ion batteries within existing battery enclosures and/or the phased installation of new battery enclosures within the site boundary, and connection of these enclosures to the existing on-site equipment. This is done to ensure the Project's energy capacity is maintained above the target capacity as the system gradually degrades over time and use. These augmentation installations will be spaced out periodically at multi-year intervals. The detailed augmentation schedule is subject to the battery equipment vendor's plan and the operation of the Project. In order for Kings County to fully analyze the potential impacts from the BESS Facility, the estimated full buildout of all BESS enclosures that could be constructed through the life of the BESS Facility have been included on the preliminary site plan (Figure 2).

Dispatch will be managed remotely from a regional control center. After commissioning and during the operational life of the Project, qualified technicians will routinely inspect the BESS and conduct any necessary maintenance to ensure safe operational readiness.

A detailed inspection and maintenance of the BESS will be performed several months after installation and annually thereafter, or more often if necessary, following the initial inspection period. More frequent inspections may occur due to unplanned maintenance visits. Inspections will originate from the San Joaquin Valley area.

Maintenance procedures are primarily visual inspections and verifications of proper operations. Annual inspection and maintenance typically encompass a visual inspection of the battery system including opening of the battery cabinets to inspect for blown fuses, swelling of the battery modules, abnormal noise, and other visual and auditory anomalies; replacement of consumable parts as needed (e.g., fuses, fans, DC Protections, Battery Modules, and Battery Management Systems in later years); adjusting of torque on bolts in modules and racks; routine maintenance and servicing of thermal management systems; and other adjustments as required by the battery equipment manufacturer.

Unplanned maintenance needs will principally be identified through the operation of the vendor's controller. Certain events will cause event alarms notifying the operator of the need for support. The controller interfaces with the Battery Management System, the power conversion system controller, and the controllers for the various ancillary systems such as fire suppression. In addition to relaying warning signals from each of those systems individually, the controller will alert the operator for events that are not identified individually by any sub-component control system.

1.1.2.2 Construction Process

Construction of the BESS Facility is anticipated to occur over approximately 8 months, beginning no earlier than mid-2026. BESS construction includes removal of existing agricultural infrastructure, site preparation and vegetation clearing, rough and fine grading, installing the BESS foundations and BESS enclosures, laying the undergrounding electrical collection and communication lines, assembling accessory electrical components including transformers, and installing high-voltage equipment such as the on-site switchyard and gen-tie line. Table 1 provides a breakdown of the preliminary construction schedule. Construction crews would generally work Monday through Friday during daytime hours

(typically from 8:00 a.m. to 5:00 p.m.). Nighttime construction work is not anticipated for the proposed Project.

Table 1. Project Construction Process/Phasing

Construction Phase	Tentative Schedule
Construction Kick-off/Staging (including mobilization)	April 6-10, 2026 (5 days)
Demolition/Site Clearing	April 13-17, 2026 (5 days)
Site Preparation/Rough Grading	April 20-24, 2026 (5 days)
Fine/Pad Grading, Excavation for Underground Conduit/Utilities, and Stormwater LID Areas	April 27- May 22, 2026 (20 days)
Construction of Concrete Pads	May 25- July 3, 2026 (30 day)
BESS Enclosure and PCS Unit Installation	July 6 - Aug 14, 2026 (30 days)
Onsite Project Substation/SCE Switchyard Installation	July 6 - October 23, 2026 (80 days)
Paving for Drive Aisles	August 17-21, 2026 (5 days)
Landscaping, Lighting, Architectural Finishes	August 17 - October 30, 2026 (60 days)
Testing	Nov 2 - 27, 2026 (20 days)
Commercial Operational Date	Dec 2026
TOTAL	8 Months

The Project is estimated to require 500 cubic yards (cy) of cut and 800 cy of fill, with a net import of approximately 300 cy of soil for BESS foundations. Raw materials required for construction include gravel for drive aisles; concrete, sand and cement for foundations; and water for concrete installation, dust control and erosion control.

SECTION 2 Fundamental of Noise and Vibration

2.1 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 (there are also B- and C-weighting filters). 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 (Federal Highway Administration [FHWA] 2018). Table 2 lists typical sound levels from representative sources.

Table 2. Typical Noise Levels (Measured at a Distance a Person Would Typically be From the Source)

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1,000 feet	— 100 —	
Gas lawn mower at 3 feet	— 90 —	
Diesel truck at 50 feet at 50 miles per hour	— 80 —	Food blender at 3 feet, Garbage disposal at 3 feet
Noisy urban area, daytime, Gas lawn mower at 100 feet	— 70 —	Vacuum cleaner at 10 feet, Normal speech at 3 feet
Commercial area, Heavy traffic at 300 feet	— 60 —	
Quiet urban daytime	— 50 —	Large business office, Dishwasher next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime	— 30 —	Library, Bedroom at night
Quiet rural nighttime	— 20 —	
	— 10 —	Broadcast/recording studio
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: California Department of Transportation (CalTrans) 2013

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 (FHWA 2011).

2.2 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. Most environmental vibrations consist of a composite or “spectrum” of many frequencies and are generally classified as broadband or random vibrations. The normal frequency range of most ground-borne vibration that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 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 1×10^{-6} in/sec. The abbreviation “VdB” is often used for vibration decibels to reduce the potential for confusion with sound decibels.

Vibration can produce several types of wave motion in solids including compression, shear, and torsion, so the direction in which vibration is measured is significant and should generally be stated as vertical or horizontal. Human perception also depends to some extent on the direction of the vibration energy relative to the axes of the body. In whole-body vibration analysis, the direction parallel to the spine is usually denoted as the z-axis, while the axes perpendicular and parallel to the shoulders are denoted as the x- and y-axes, respectively.

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. Vibration levels for typical construction-related sources of ground-borne vibration are shown in Table 3 below.

Table 3. Vibration Source Amplitudes for Construction Equipment

Equipment	PPV at 25 feet (in/sec)		Approximate Vibration Velocity Level (Velocity Level in Decibels [VdB])	
	25 feet	50 feet	25 feet	50 feet
Large Bulldozer	0.089	0.031	87	78
Caisson Drilling	0.089	0.031	87	78
Loaded Trucks	0.076	0.027	86	77
Jackhammer	0.035	0.012	79	70
Small Bulldozer	0.003	0.001	58	49

Source: Adapted from CalTrans 2020 and Federal Transit Administration (FTA) 2018

SECTION 3 Regulatory Framework

Federal, state, and local noise regulations and policies that may apply to the proposed Project are described below.

3.1 Federal

3.1.1 Noise Control Act of 1972

USEPA, pursuant to the Noise Control Act of 1972, established guidelines for acceptable noise levels for sensitive receptors such as residential areas, schools, and hospitals. The levels set forth are 55 dBA L_{dn} for outdoor use areas and 45 dBA L_{dn} for indoor use areas, and a maximum level of 70 dBA L_{dn} is identified for all areas to prevent hearing loss (USEPA 1974). These levels provide guidance for local jurisdictions but do not have regulatory enforceability. In the absence of applicable noise limits, the USEPA levels can be used to assess the acceptability of project-related noise.

3.1.2 U.S. Department of Housing and Urban Development

The U.S. Department of Housing and Urban Development (HUD) has also established guidelines for acceptable noise levels for sensitive receivers such as residential areas, schools, and hospitals (24 CFR 51). HUD's noise levels include a two-pronged guidance, one for the desirable noise level and the other for the maximum acceptable noise level. The desirable noise level established by HUD conforms to the USEPA guidance of 55 dBA L_{dn} for outdoor use areas of residential land uses and 45 dBA L_{dn} for indoor areas of residential land uses. The secondary HUD standard establishes a maximum acceptable noise level of 65 dBA L_{dn} for outdoor use areas of residential areas.

3.1.3 Federal Transit Authority

The FTA has published guidance relevant to assessing ground-borne vibration associated with construction activities, which have been applied by other jurisdictions to other types of projects (FTA 2018). For example, engineered concrete and masonry (no plaster) buildings can be exposed to ground-borne vibration levels of 0.3 inches per second without experiencing structural damage. Buildings extremely susceptible to vibration damage (e.g., historic buildings) can be exposed to ground-borne vibration levels of 0.12 in/sec without experiencing structural damage.

3.2 State

The California Code of Regulations (CCR) has guidelines for evaluating the compatibility of various land uses as a function of community noise exposure, as shown in Table 4 below.

The extensive state regulations pertaining to worker noise exposure are applicable to the proposed project (for example California Occupational Safety and Health Administration Occupational Noise Exposure Regulations [8 CCR General Industrial Safety Orders, Article 105, Control of Noise Exposure, Section 5095, et seq.]), for workers in a "central plant" and/or maintenance facility, or for those involved in the use of maintenance equipment or heavy machinery.

Table 4. Estimated Existing Noise Exposure for General Assessment

Land Use Category	Noise Exposure Ranges (dB CNEL) Normally Acceptable ¹	Noise Exposure Ranges (dB CNEL) Conditionally Acceptable ²	Noise Exposure Ranges (dB CNEL) Normally Unacceptable ³	Noise Exposure Ranges (dB CNEL) Clearly Unacceptable ⁴
Residential: Low-density Single Family, Duplex, Mobile Homes	<60	55-70	70-75	>75
Residential: Multiple Family	<65	60-70	70-75	>75
Transient Lodging: Motels, Hotels	<65	60-70	70-80	>80
Schools, Libraries, Churches, Hospitals, Nursing Homes	<70	60-70	70-80	>80
Auditoriums, Concert Halls, Amphitheaters	Undefined	<70	>65	Undefined
Sports Arena, Outdoor Spectator Sports	Undefined	<75	>70	Undefined
Playgrounds, Neighborhood Parks	<70	67-75	>73	Undefined
Golf Courses, Riding Stables, Water Recreation, Cemeteries	<75	Undefined	70-80	>80
Office Buildings, Business Commercial and Professional	<70	67-77	>75	Undefined
Industrial, Manufacturing, Utilities, Agriculture	<75	70-80	>75	Undefined

Source: California Office of Planning and Research (OPR) 2017

Notes:

1. Normally Acceptable: specified land use is satisfactory, based upon the assumption that any buildings involved are of normal construction without any special noise insulation requirements.
2. Conditionally Acceptable: New construction or development should only be undertaken after a detailed analysis of the noise reduction requirements is made and the needed insulation features included in the design.
3. Normally Unacceptable: New construction or development should generally be discouraged. If new development is to proceed, a detailed analysis of the noise reduction requirements is made, and the needed insulation features are included in the design.
4. Clearly Unacceptable: New development or construction should not be undertaken.

3.3 Local

3.3.1 Kings County General Plan

The Noise Element of Kings County General Plan include goals and policies that aim to minimize the impact of noise sources and ambient noise levels, transportation related noise, and noise impacts from sources other than transportation. The following goals and policies are directly relevant to the proposed Project:

- N GOAL B1 Protect the economic base of Kings County by preventing the encroachment of noise-sensitive land uses into areas affected by existing noise-producing uses. More specifically, to recognize that noise is an inherent byproduct of many land uses, including agriculture, and to prevent new noise-sensitive land uses from being developed in areas affected by existing noise-producing uses.
 - N OBJECTIVE B1.1 Reduce the potential for exposure of County residents and noise-sensitive land uses to excessive noise generated from Non-Transportation Noise Sources.
 - N Policy B1.1.1 Appropriate noise mitigation measures shall be included in a proposed project design when the proposed new use(s) will be affected by or include non-transportation noise sources and exceed the County’s “Non-Transportation Noise Standards” (Table N-8, shown below). Mitigation measures shall reduce projected noise levels to a state of compliance with this standard within sensitive areas. These standards are applied at the sensitive areas of the receiving use.
 - N Policy B1.1.3 Noise associated with construction activities shall be considered temporary but will still be required to adhere to applicable County Noise Element standards.

Table N-8 Non-Transportation Noise Standards Average (Leq) / Maximum (Lmax)¹				
Receiving Land Use	Outdoor Area ²		Interior ³	Notes
	Daytime	Nighttime	Day & Night	
All Residential	55 / 75	50 / 70	35 / 55	
Transient Lodging	55 / 75	---	35 / 55	4
Hospitals & Nursing Homes	55 / 75	---	35 / 55	5, 6
Theaters & Auditoriums	---	---	30 / 50	6
Churches, Meeting Halls, Schools, Libraries, etc.	55 / 75	---	35 / 60	6
Office Buildings	60 / 75	---	45 / 65	6
Commercial Buildings	55 / 75	---	45 / 65	6
Playgrounds, Parks, etc.	65 / 75	---	---	6
Industry	60 / 80	---	50 / 70	6
Notes: 1. The Table N-8 standards shall be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards of Table N-8, then the noise level standards shall be increased at 5 dB increments to encompass the ambient. 2. Sensitive areas are defined acoustic terminology section. 3. Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions. 4. Outdoor activity areas of transient lodging facilities are not commonly used during nighttime hours. 5. Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients. 6. The outdoor activity areas of these uses (if any), are not typically utilized during nighttime hours.				

- N GOAL C1 Provide sufficient noise exposure information so that existing and potential noise impacts may be effectively addressed in the land use planning and project review processes, and allow flexibility in the development of infill properties which may be located in elevated noise environments.
 - N OBJECTIVE C1.1 Ensure the sufficient provision of project and site noise information is available along with alternative mitigation approaches to better inform County staff and land use decision makers.
 - N Policy C1.1.1 All noise analyses prepared to determine compliance with the noise level standards contained within this Noise Element shall be prepared in accordance with the County's "Requirements for Acoustical Analyses Prepared in Kings County" (Table N-9).
 - N Policy C1.1.2 Where noise mitigation measures are required to satisfy the noise level standards of this Noise Element, emphasis shall be placed on the use of setbacks and site design, prior to consideration of the use of noise barriers.

3.3.2 Kings County Code of Ordinances

Article 10 of the Code of Ordinances sets forth requirements and procedures for noise abatement in the County. Section 15-211 (Certain Noise Prohibited) provides as follows:

- No person shall make, suffer, or permit upon any premises owned, occupied or controlled by such person any noises or sounds which are physically annoying to the senses of persons of ordinary sensitivity, or which are so harsh or so prolonged or unnatural or unusual in their use, time or place, as to cause physical discomfort to neighbors or to interfere with the comfortable use and enjoyment of life or property, or which constitutes a public or private nuisance, within any unincorporated territory of the County of Kings.

The Code of Ordinances provides no further detail on acceptable noise levels or limits on hours for operational or construction noise sources for non-transportation projects. As such, the General Plan Noise Element requirements and standards (reproduced above) are controlling with respect to quantitative noise thresholds.

SECTION 4 Existing Conditions

4.1 Noise 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. Potentially sensitive receptors to unwanted noise from the Project include rural residences located along Grangeville Boulevard as summarized in Table 5. Other residences and sensitive receptors are located at farther distances from the Project site.

Table 5. Sensitive Receptors in Proximity to Project Site

Sensitive Receptors	Direction	Distance from Project Site Boundary (feet)
S1 - 6900 Grangeville Blvd.	West	660
S2 - 6909 Grangeville Blvd.	West	810
S3 - 6668 Grangeville Blvd.	Northwest	106
S4 - 6454 Grangeville Blvd.	Northeast	145
S5 - 6390 Grangeville Blvd.	Northeast	530

4.2 Existing Noise Sources and Ambient Noise Levels

Existing ambient noise in the vicinity of the Project sites is consistent with a rural agricultural landscape with the dominant noise sources consisting of vehicular traffic on local roads and the operation of agricultural equipment. The major source of vehicular noise is traffic along SR 43 and SR 198 and local roads including Grangeville Boulevard and 7th Avenue to the west. SR 43 and SR 198 are principal truck routes for Kings County and carry a high percentage of heavy trucks. A Community Noise Survey was conducted as included in the Kings County General Plan Noise Element. Measured existing ambient noise levels in the Project area are summarized in Table 6.

Table 6. Kings County Short-Term Ambient Noise Survey Results in Project Area.

Location	Period	Ambient Noise L_{eq} (dBA)	Ambient Noise L_{max} (dBA)	Ambient Noise L_{dn} (dBA)	Noise Sources
2 nd Avenue Between SR 198 and Grangeville Blvd.	Morning	49	63	49	Natural Sounds, Distant Traffic
	Afternoon	44	55		
	Nighttime	42	44		

Source: Kings County 2010

The ambient noise measurements presented in Table 6 were collected in 2007. Noise levels in the Project area are believed to not have changed significantly since then due to the limited development in the area since 2007. However, it is important to note that the California High-Speed Rail is currently being constructed in the Project area and has contributed (during construction) and will continue to contribute (during operations) to an increase in noise levels in the foreseeable future. For the purposes of this analysis, we conservatively assume ambient daytime noise levels of 44 L_{eq} (dBA) (7:00 a.m. to 10:00 p.m.) and nighttime noise of 42 dBA (10:00 p.m. to 7:00 a.m.) with a Day-Night Average Sound Level (L_{dn}) of 49 dBA (i.e., equivalent sound level for a 24-hour period with an additional 10 dBA imposed on the equivalent sound levels for night-time hours of 10:00 p.m. to 7 :00 a.m.).

4.3 Existing Vibration Environment

Similar to the environmental setting for noise, the vibration environment is dominated by traffic from nearby roadways. Heavy trucks can generate ground-borne vibrations that vary depending on vehicle type, weight, and pavement conditions. According to the FTA (2018), *Transit noise and Vibration Impacts Assessments*, “if the roadway is fairly smooth, the vibration from rubber-tired traffic is rarely perceptible.” In addition, the FTA notes that higher speeds result in higher vibration levels. As the speed limit on adjacent roadways is 45 miles per hour and roads are smooth asphalt, it is unlikely that traffic on the local roadway is perceptible.

SECTION 5 Project Noise Prediction

5.1 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.

5.1.1 Construction

5.1.1.1 Onsite Construction Noise

The potential construction noise levels onsite associated with proposed Project construction activities were estimated for each distinct construction phase. The noise model conservatively assumes that construction equipment listed in Table 7 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.

Table 7. Construction Equipment List by Project Activity.

Project Activity	Equipment	Quantity	Daytime Operating Hours	Typical Equipment L_{max} at 50 feet from Source ¹ (dBA)
Demolition/Site Clearing	Dump Trucks	1	4	84
	Excavators	1	8	85
	Rubber Tired Loaders	1	8	80
	Skid Steer Loaders	1	8	80
	Tractors/Loaders/Backhoes	1	8	80
Site Preparation/Rough Grading	Dump Trucks	2	4	84
	Graders	1	8	85
	Rubber Tired Loaders	1	8	80
	Skid Steer Loaders	1	8	80
	Tractors/Loaders/Backhoes	1	8	80
Fine/Pade Grading, Excavation for Underground Conduit/Utilities, and Stormwater LID Areas	Graders	1	8	85
	Plate Compactors	1	8	80
	Rollers	1	8	85
	Rubber Tired Loaders	1	8	80
	Skid Steer Loaders	1	8	80
	Tractors/Loaders/Backhoes	1	8	80
Construction of Concrete Pads	Cement and Mortar Mixer	1	8	85
	Concrete Pump	1	8	82

Project Activity	Equipment	Quantity	Daytime Operating Hours	Typical Equipment L _{max} at 50 feet from Source ¹ (dBA)
	Tractors/Loaders/Backhoes	1	8	80
BESS Container and Conduit Installation	Air Compressors	1	8	80
	Cranes	1	8	85
	Excavators	1	8	85
	Generator Sets	1	8	70
	Rough Terrain Forklifts	1	8	80
	Skid Steer Loaders	1	8	80
	Tractors/Loaders/Backhoes	1	8	80
Project Substation/Switchyard Installation	Aerial Lifts	2	8	85
	Air Compressors	2	8	80
	Bore/Drill Rigs	1	8	85
	Cranes	1	8	85
	Excavators	1	8	85
	Generator Sets	2	8	70
	Rough Terrain Forklifts	1	8	80
	Skid Steer Loaders	1	8	80
	Tractors/Loaders/Backhoes	1	8	80
Paving for Drive Aisles	Paver	1	8	85
	Roller	1	8	85
	Cement and Mortar Mixer	1	8	85
Landscaping, Lighting, Architectural Finishes	Tractors/Loaders/Backhoes	1	8	80
	Skid Steer Loader	1	8	80
	Air Compressors	1	8	80

Notes:

1. L_{max} noise levels adapted from FTA (2006).

5.1.1.2 Offsite Noise (Construction Traffic)

Estimated vehicle trips associated with each phase of construction is shown in Table 8. 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 exist 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.

Table 8. One-way Vehicle Trips by Project Construction Activity.

Project Activity	Average Daily Worker Trips ¹	Average Daily Vendor Truck Trips	Average Daily Haul Truck Trips
Demolition/Site Clearing	12	0	4
Site Preparation/Rough Grading	14	0	8
Fine/Pad Grading, Excavation for Underground Conduit/Utilities, and Stormwater LID Areas	8	0	0
Construction of Concrete Pads	12	4	0
BESS Container and Conduit Installation	14	18	0
Project Substation/Switchyard Installation	20	6	0
Paving for Drive Aisles	8	4	0
Landscaping, Lighting, Architectural Finishes	8	4	0

Notes:

1. The peak daily work force of approximately 25 workers is assumed (note several construction phases overlap).

5.1.1.3 Vibration

Project construction would result in temporary intervals of construction heavy equipment usage during the estimated 2- to 4-month period for site preparation and civil work. After this earthwork and civil construction period, the remaining construction activities would use less intensive off-road equipment that would generally not generate ground borne vibration. As noted in FTA (2018), rubber tires and suspension systems provide vibration isolation, and therefore, it is unusual for ground-borne vibration associated with on-road vehicle movement to be perceptible. Based on the Project's distance to sensitive receptors of greater than and other sources of vibration from off-road equipment, it is not expected that vibration associated with off-road equipment use and onsite construction activities would be perceptible at the nearest sensitive receptor. As such, vibration impacts associated with Project construction are not expected to be significant and have not been evaluated herein.

5.1.2 Operations

Project features were input as sound sources in the SoundPLAN Essential three-dimensional model space and defined with the following assumptions and available Project design information.

5.1.2.1 Onsite Stationary Sources

Expected sources of noise emission from within the boundary of the proposed Project include a variety of on-site electro-mechanical equipment that include as follows:

- **Battery enclosure coolers** – the SUNGROW PowerTitan2.0 (2H) liquid cooled energy storage system unit features a HVAC unit with air intake vents on the front and air exit vents on top of the unit. Each BESS enclosure is reported to exhibit a maximum of 74.9 dBA (as measured approximately 1 meter [3.3 feet] from the front). The noise level of 74.9 dBA was depicted in the model as a horizontal area source at a height of 2.9 meters (9.5 feet) associated with a solid “building” block representing each BESS enclosure.
- **Medium-voltage transformers** – each distinct row of battery enclosure segments is served by PCS consisting of a transformer/inverter block. These PCS units each have a reported sound

pressure level of 65 dBA at 10 meters (equivalent to a sound power level of 93 dBA at the source). These units were input as horizontal area sources).

- **Onsite substation transformer** – the Project substation would include a Generator Step Up Transformer. The substation transformer has an estimated sound power level of 102 dBA using an assumed 220 MVA as the anticipated load, based on estimation techniques found in the Electric Power Plan Environmental Noise Guide (Edison Electric Institute 1984).

These above-listed reference sound pressure (L_p) or sound power (L_w) levels were used to define point or area sources in the SoundPLAN Essential computer model space with respect to an arrangement of rendered “building” blocks that depict the rows of parallel battery segments on the proposed Project site plan. The expected topography of the graded site plan, hedges, and vegetation included in the site plan were also modeled. In addition to these sound source inputs, potential sound-occluding terrain and proposed Project features that define the three-dimensional sound propagation model space, the following assumptions and parameters are included in the SoundPLAN supported stationary noise source assessment:

- Ground effect acoustical absorption coefficient equal to 0.0, which represents the acoustically “hard” surface at the Project site;
- Reflection order of 1, which allows for a single reflection of sound paths on encountered structural surfaces such as the modeled battery enclosure segment row masses; and
- Calm meteorological conditions (i.e., no wind) with 70 degrees Fahrenheit and 70% relative humidity.

5.1.2.2 Offsite Noise (Roadway Traffic)

The routine operation of the proposed Project will not require onsite personnel, with maintenance occurring 1-2 times per month. As such, the Project’s potentially additive effect on pre-existing nearby roadway traffic volumes, such as Grangeville Boulevard, is expected to be negligible; therefore, changes to roadway traffic noise exposures are not analyzed further herein.

5.1.2.3 Vibration

Once operational, the proposed Project would not include onsite producers of groundborne vibration. Anticipated electro-mechanical systems like the battery segments and associated HVAC are designed and manufactured to feature rotating and reciprocating components (e.g., fans and refrigeration compressors) that are well-balanced with isolated vibration within or external to the equipment casings. On this basis, potential vibration impacts due to proposed Project operation are not expected to be significant and have not been evaluated further herein.

5.2 Predicted Results

5.2.1.1 Construction

Based on the types and number of equipment to be used, construction activities associated with Project substation/switchyard installation are identified to have the greatest potential to increase noise levels at the nearest residential receptors located across Grangeville Boulevard. The modeled cumulative noise

for this phase of construction is propagated to these nearest receptors to estimate the maximum change in noise levels at the nearest sensitive receptors resulting from construction activities associated with the proposed Project as summarized in Table 9 and illustrated in Figure 3. As shown in Table 9, construction activities would not exceed the Kings County noise standards.

Table 9. Modeled Maximum Project Construction Sound Levels (L_{eq} , dBA).

Sensitive Receptors	Modeled Construction Noise Level Daytime Only	Presumed Ambient Noise Level Day/Night	Noise Standard ¹ Day/Night	Exceed Standard?
S1 - 6900 Grangeville Blvd.	<6.0	44/42	55/50	No
S2 - 6909 Grangeville Blvd.	<6.0	44/42	55/50	No
S3 - 6668 Grangeville Blvd.	27.2	44/42	55/50	No
S4 - 6454 Grangeville Blvd.	35.2	44/42	55/50	No
S5 - 6390 Grangeville Blvd.	13.0	44/42	55/50	No

Notes:

- Noise standards for Non-Transportation Projects at residential receptors per Table N-8 of the Kings County Noise Element are applied.

5.2.1.2 Operations

Predicted noise levels attributed to concurrent operation of the proposed Project onsite stationary sources (i.e., battery enclosures, HVAC units, PCS units, and substation transformer) are propagated to six modeled receptors, including the two onsite residential receptors and at the property boundaries as shown in Figure 4. Table 10 presents a summary of predicted Project operational noise levels at the six modeled locations. Figure 4 illustrates the predicted daytime and nighttime sound levels associated with Project operations in the surrounding area are below, and thus in compliance with the Kings County noise standards.

Table 10. Modeled Maximum Project Operations Sound Levels (L_{eq} , dBA).

Modeled Receptors at Property Line (Location Along Property Line)	Modeled Daytime /Nighttime Operation Noise Level	Presumed Ambient Noise Level (Day/Night)	Noise Standard ¹ (Day/Night)	Exceed Standard?
S1 - 6900 Grangeville Blvd.	29.2/29.2	44/42	55/50	No
S2 - 6909 Grangeville Blvd.	29.9/29.9	44/42	55/50	No
S3 - 6668 Grangeville Blvd.	44.5/44.5	44/42	55/50	No
S4 - 6454 Grangeville Blvd.	49.9/49.9	44/42	55/50	No
S5 - 6390 Grangeville Blvd.	37.9/37.9	44/42	55/50	No

Notes:

- Noise standards for Non-Transportation Projects at residential receptors per Table N-8 of the Kings County Noise Element are applied.

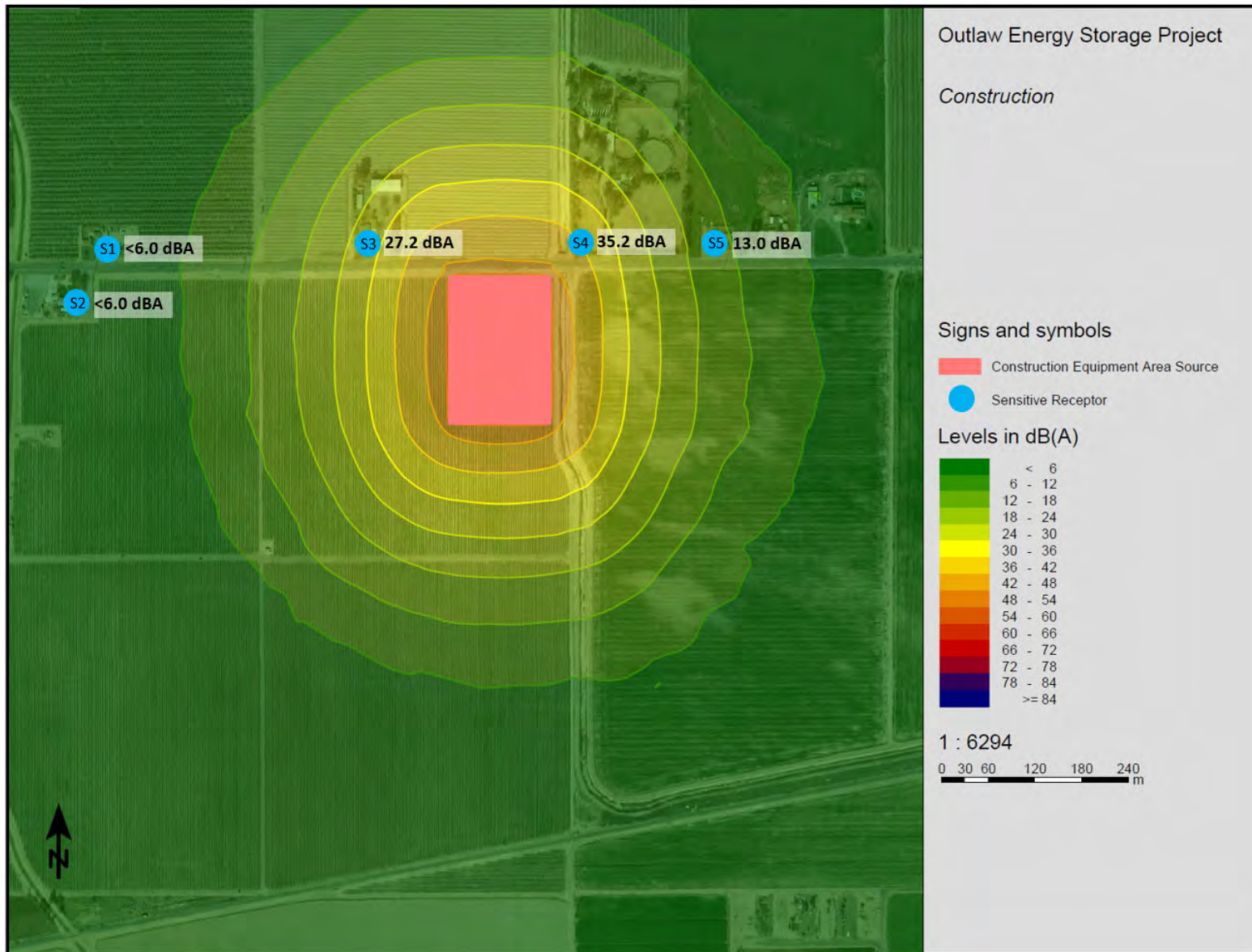


Figure 3 Modeled Construction Noise

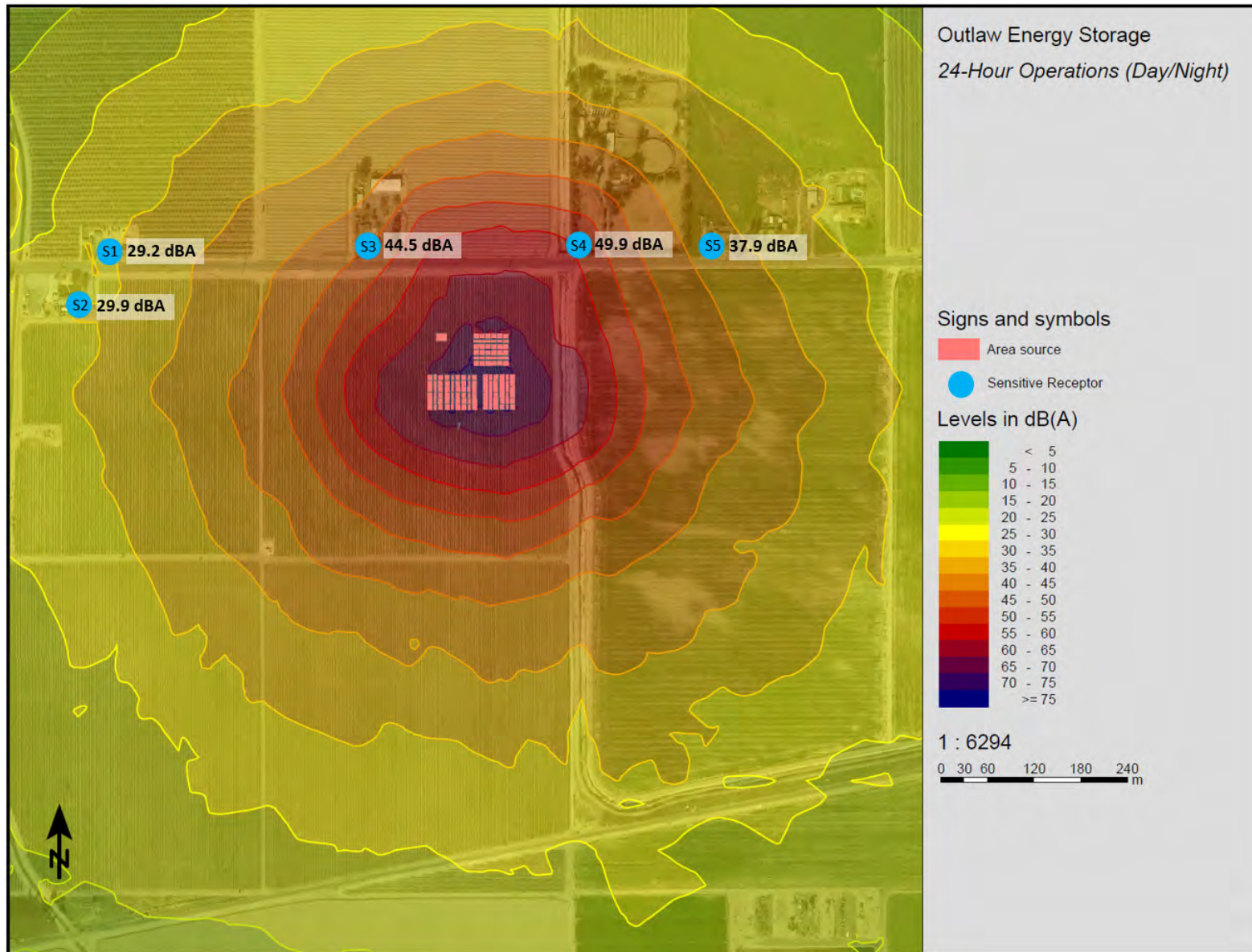


Figure 4 Modeled Operational Noise (Daytime and Nighttime)

SECTION 6 Conclusions

Based on the SoundPLAN modeling of the Project, construction and operational noise levels would not exceed local thresholds and would comply with local guidelines set forth in the Kings County General Plan Noise Element and Section 15-211 of the Kings County Noise Ordinance. Therefore, the Project would not generate significant noise levels that would disturb noise-sensitive land uses in the vicinity.

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Appendix E Preliminary Commissioning and Decommissioning Plan



Commissioning and Decommissioning Plan

Kings County, California

PREPARED FOR
Outlaw Energy Storage, LLC

DATE
7 March 2024

REFERENCE
0676533



Commissioning and Decommissioning Plan

Kings County, California

0676533



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ACRONYMS AND ABBREVIATIONS

Acronyms	Description
AC	alternating current
BESS	Battery Energy Storage System
CTIC	Commissioning Technician in Charge
DC	direct current



Acronyms	Description
EOL	End of life
HVAC	Heating, ventilation, and air conditioning
LOTO	lockout/tagout
Outlaw Energy Storage	Outlaw Energy Storage, LLC
Plan	Commissioning and Decommissioning Plan

1. INTRODUCTION

Outlaw Energy Storage, LLC (Outlaw Energy Storage) proposes to construct and operate a Battery Energy Storage System (BESS), referred to as the Outlaw Energy Storage Project (Project). The Project site parcel is an approximately 154-acre agricultural property, referred to as Assessor's Parcel Number 014-260-036-000, located at 9135 7th Avenue, Hanford, California, on the south side of Grangeville Boulevard, east of the City of Hanford, between 6th Avenue to the east and 7½ Avenue to the west in northeastern Kings County, California. The Project will occupy approximately 10 acres in the northeastern corner of the 154-acre parcel.

The Project includes a request to subdivide the 154-acre parcel into two parcels. An approximately 10-acre parcel will be created for the BESS operational area. The remaining approximately 144 acres will remain in agricultural production.

Sections 2 through 3 below describe the Commissioning and Decommissioning Plan (Plan) components for the Project.

2. COMMISSIONING PLAN

2.1 GENERAL REQUIREMENTS

2.1.1 OBJECTIVES

Implementation of this Commissioning Plan will address the following objectives:

- Through testing, the installation of the electrical system will be proved to be in accordance with design specifications, drawings, and ready to be energized.
- All equipment covered by this specification will be functionality verified.
- All discrepancies in the system will be identified and corrected.
- The Commissioning Technician in Charge (CTIC) shall be cognizant of and comply with the customer's safety practices and will use Personnel Protective Equipment as required.
- The tests performed on equipment shall be in accordance with standards or with manufacturer's recommendations and will be such that any warranties or guarantees of the equipment will not be voided by these tests.
- To safely energize and commission all equipment covered under this specification.

2.1.2 GENERAL REQUIREMENTS

The following general requirements apply to this Commissioning Plan:

Commissioning Technician in Charge: The Project Manager of Commissioning and Energization shall identify a Commissioning Technician in Charge (CTIC). The CTIC shall be responsible for onsite project testing and technical aspects of the work. The CTIC is the primary person on site during testing and shall be in charge during all Energizing and Cutovers, if requested by customer.

Planning: A detailed plan, schedule and test result documentation for inspection and testing activities will be presented for review and approval from the owner's representative.

Organization Chart: A Commissioning Organization Chart will be presented.

Repairs and Modifications: All questionable repairs, modifications, tests, and checks shall be clarified with the Outlaw Energy Storage Representative.

Testing Personnel: Fully qualified personnel will be utilized to perform testing and inspection work.

Standards: All test data shall be evaluated as per the manufacturer's literature or other standards referred to herein (e.g., ANSI/IEEE, NEMA, NETA, IEC).

Daily Log: The CTIC will maintain a detailed daily activity log.

Test Data: Test data shall be made available for review and approval. All test data shall be evaluated for acceptability to manufacturer's literature, industry, or NETA and SEL standards.

The CTIC shall provide a final report to the Outlaw Energy Storage Project Manager.

2.1.3 COORDINATION/AVAILABILITY

- The CTIC shall be present during energization and cutovers if required in the scope.
- The CTIC shall assist to arrange for Permitting and Isolation of Affected equipment/line outages through the Plant.
- If in scope, the CTIC will support energization.
- The CTIC shall support the subcontractors when connecting to or working near existing energized equipment or circuits. The support may include as required:
 - An evaluation of the impact on equipment when lifting existing leads or cutting wires.
 - An evaluation of the impact on equipment when landing new wires including testing to demonstrate lack of shorts and grounds, etc.
 - Supporting an evaluation of risk associated with an installation activity.
 - Identification of protective trips that may need to be opened.
 - Interfacing with customer representatives on impact of opening trips.
- Client TG-CTIC interface. The following summarizes the delegation of work:
 - Tests of equipment listed in section 1 of this specification.
 - Providing support to customer during energization activities.
 - Completing testing of communication, and controls, if applicable.
 - Providing support to customer during energization activities, if applicable.

2.1.4 LABELING

- All panels shall be labeled, to include arc flash labels.
- All test switches and equipment shall be labeled.
- All fuses or breakers shall be labeled with brief description of service.
- All distribution panel schedules shall be updated.

2.2 EQUIPMENT ELECTRICAL TESTING REQUIREMENTS

2.2.1 GENERAL TESTING REQUIREMENTS (APPLIES TO ALL EQUIPMENT AS APPLICABLE)

- Control wire connections shall be checked for tightness.
- Control wire crimps shall be inspected to ensure that the wire protrudes through the lug barrel.
- At existing installations, it shall be ensured that no inadvertent ground is introduced into the battery circuit.
- Ensure proper testing of all control circuits that are disturbed in the process of installing, wiring, or testing new equipment. At a minimum, the tests on these circuits shall prove the integrity of the circuit.
- Verify fusing is in accordance with the design drawings.

- Verify phase rotation and phasing on all equipment to assure that all alternating current (AC) connections are correct and are in accordance with all design drawings.

2.3 COMPONENT TESTING

2.3.1 SURGE ARRESTERS, MEDIUM- AND HIGH-VOLTAGE

- Compare equipment nameplate data with drawings and specifications.
- Inspect physical and mechanical condition.
- Inspect anchorage, alignment, grounding, and clearances.
- Verify the arresters are clean.
- Verify tightness of accessible bolted electrical connections by calibrated torque-wrench.
- Verify that the ground lead on each device is individually attached to a ground bus or ground electrode.
- Verify that the stroke counter is correctly mounted and electrically connected if present.
- Record the stroke counter reading.
- Perform resistance measurements.
- Perform an insulation-resistance test.
- Test grounding connection.
 - *Perform a watts-loss test.

2.3.2 SWITCHES, AIR, MEDIUM- AND HIGH-VOLTAGE, OPEN

- Compare equipment nameplate data with drawings and specifications.
- Inspect physical and mechanical condition.
- Inspect anchorage, alignment, grounding, and required clearances.
- Verify the unit is clean.
- Perform mechanical operator tests.
- Verify correct operation and adjustment of motor operator limit switches and mechanical interlocks, if applicable.
- Verify correct blade alignment, blade penetration, travel stops, arc interrupter operation, and mechanical operation.
- Verify operation and sequencing of interlocking systems.
- Verify that each fuse has adequate mechanical support and contact integrity, if applicable.
- Verify that fuse sizes and types are in accordance with drawings, short-circuit study, and coordination study.
- Verify tightness of accessible bolted electrical connections by calibrated torque-wrench.
- Verify correct operation of all indicating and control devices, if applicable.
- Verify appropriate lubrication on moving current-carrying parts and on moving and sliding surfaces.
- Record as-found and as-left operation counter readings.

- Perform contact-resistance test across each switchblade and fuse holder.

2.3.3 INSTRUMENT TRANSFORMERS, COUPLING-CAPACITOR VOLTAGE TRANSFORMERS

- Compare equipment nameplate data with drawings and specifications.
- Inspect physical and mechanical condition.
- Verify correct connection of transformers with system requirements.
- Verify that adequate clearances exist between primary and secondary circuit wiring.
- Verify the unit is clean.
- Verify tightness of accessible bolted electrical connections by calibrated torque-wrench.
- Verify that all required grounding and connections provide contact.
- Verify correct primary and secondary fuse sizes for voltage transformers.
- Verify appropriate lubrication on moving current-carrying parts and on moving and sliding surfaces.
- Perform as-left tests.
- Perform resistance measurements through bolted connections with a low-resistance ohmmeter, if applicable.
- Perform insulation-resistance tests winding-to-winding and each winding-to-ground.
- Perform a polarity test on each transformer to verify the polarity marking.
- Perform a ratio test on all tap positions.
- Measure voltage circuit burdens at transformer terminals.
- *Perform a dielectric withstand test on the primary windings with the secondary windings connected to ground.
- Measure capacitance of capacitor sections.
- Perform power-factor or dissipation-factor tests in accordance with test equipment manufacturer's published data.
- Verify that the coupling-capacitor voltage transformer circuits are grounded and have only one grounding point.

2.3.4 CIRCUIT BREAKERS, SF6

- Compare equipment nameplate data with drawings and specifications.
- Inspect physical and mechanical condition.
- Inspect anchorage, alignment, and grounding.
- Verify that all maintenance devices such as special tools and gauges specified by the manufacturer are available for servicing and operating the breaker.
- Verify the unit is clean.
- When provisions are made for sampling, remove a sample of SF6 gas and test in accordance with Table 100.13. Do not break seal or distort "sealed-for-life" interrupters.

- Inspect operating mechanism and/or hydraulic or pneumatic system and SF6 gas-insulated system.
- Verify correct operation of alarms and pressure-limit switches for pneumatic, hydraulic, and SF6 gas pressure.
- If recommended by manufacturer, slow close/open breaker and check for binding, friction, contact alignment, and penetration. Verify that contact sequence is in accordance with manufacturer's published data.
- Perform all mechanical operation tests on the operating mechanism.
- Verify tightness of accessible bolted electrical connections by calibrated torque-wrench.
- Verify the appropriate lubrication on moving current-carrying parts and on moving and sliding surfaces.
- Perform time-travel analysis.
- Record as-found and as-left operation counter readings.
- Perform a contact/pole-resistance test.
- Perform insulation-resistance tests on all control wiring with respect to ground.
- Perform minimum pickup voltage tests on trip and close coils.
- Verify correct operation of any auxiliary features such as electrical close and trip operation, trip-free, and anti-pump function. Reset all trip logs and indicators.
- Trip circuit breaker by operation of each protective device.
- Perform power-factor tests on each pole with the breaker open and on each phase with the breaker closed.
- Perform power-factor tests on each bushing equipped with a power-factor/capacitance tap.
- Verify operation of heaters.
- Test instrument transformers.

2.3.5 TRANSFORMERS, LIQUID-FILLED

- Compare equipment nameplate data with drawings and specifications.
- Inspect physical and mechanical condition.
- Inspect anchorage, alignment, and grounding.
- Verify removal of any shipping bracing after placement.
- Verify bushings are clean.
- Verify that alarm, control, and trip settings on temperature and level indicators are as specified.
- Verify operation of control and trips circuits from temperature and level indicators, pressure relief device, gas accumulator, and fault pressure relay, if applicable.
- Verify tightness of accessible bolted electrical connections by calibrated torque-wrench.
- Verify correct liquid level in tanks and bushings.
- Verify valves are in the correct operating position.

- Verify that positive pressure is maintained on gas-blanketed transformers.
- Perform inspections and mechanical tests.
- Test load tap-changer.
- Verify presence of transformer surge arresters.
- Verify de-energized tap-changer position is left as specified.
- Perform turns-ratio tests at all tap positions.
- Perform insulation power-factor test on all windings.
- Perform power-factor tests on each bushing.
- Perform excitation-current tests.
- DGA oil sample.
- Standard Screen oil sample.
- Test instrument transformers.
- Test surge arresters if present.
- Test transformer neutral grounding impedance device if present.
- Verify operation of cubicle or air terminal compartment space heaters.

2.3.6 CIRCUIT BREAKERS, VACUUM, MEDIUM-VOLTAGE

- Compare equipment nameplate data with drawings and specifications.
- Inspect physical and mechanical condition.
- Inspect anchorage, alignment, and grounding.
- Verify that all maintenance devices such as special tools and gauges specified by the manufacturer are available for servicing and operating the breaker.
- Verify the unit is clean.
- Perform mechanical operation tests on the operating mechanism.
- Measure critical distances such as contact gap as recommended by manufacturer.
- Verify tightness of accessible bolted electrical connections by calibrated torque-wrench.
- Verify cell fit and element alignment.
- Verify racking mechanism operation.
- Verify appropriate lubrication on moving, current-carrying parts and on moving and sliding surfaces.
- Perform contact-timing test.
- Record as-found and as-left operation counter readings.
- Perform resistance measurements.
- Perform insulation-resistance tests.
- Perform a static contact/pole-resistance test.
- Perform minimum pickup voltage tests on trip and close coils.

- Verify correct operation of any auxiliary features such as electrical close and trip operation, trip-free, and anti-pump function.
- Trip circuit breaker by operation of each protective device. Reset all trip logs and indicators.
- Perform vacuum bottle integrity test.
- Perform a dielectric withstand voltage test.
- Verify operation of heaters.
- Test instrument transformers.

2.3.7 GROUNDING SYSTEMS

- Verify ground system is in compliance with drawings, specifications, and NFPA 70 National Electrical Code Article 250.
- Inspect physical and mechanical condition.
- Verify tightness of accessible bolted electrical connections by calibrated torque-wrench.
- Inspect anchorage.
- Perform resistance measurements through bolted connections with a low-resistance ohmmeter, if applicable.
- Perform fall-of-potential or alternative test in accordance with ANSI/IEEE 81 on the main grounding electrode or system.
- Perform point-to-point tests to determine the resistance between the main grounding system.

2.3.8 PROTECTIVE RELAYS, MICROPROCESSOR-BASED

- Record model number, style number, serial number, firmware revision, software revision, and rated control voltage.
- Inspect physical and mechanical condition.
- Verify that the frame is grounded in accordance with manufacturer's instructions.
- Download settings and logic from the relay. Provide a copy of the settings for the report.
- Connect backup battery.
- Set clock if not controlled externally.
- Apply voltage or current to all analog inputs and verify correct registration of the relay meter functions.
- Check operation of all active digital inputs.
- Check all output contacts or SCRs, preferably by operating the controlled device such as circuit breaker, auxiliary relay, or alarm.
- For pilot schemes, perform a loop-back test to check the receive and transmit communication circuits.
- Upon completion of testing, reset all min/max records and fault counters. Delete sequence-of-events records and all event records.
- Verify trip and close coil monitoring functions.

2.3.9 PANELBOARDS

- Inspect physical and mechanical condition.
- Inspect anchorage, alignment, grounding, and required area clearances.
- Verify the unit is clean.
- Inspect for physical damage, cracked insulation, broken leads, tightness of connections, defective wiring, and overall general condition.
- Verify that primary and secondary fuse or circuit breaker ratings match drawings.
- Verify correct functioning of drawout disconnecting contacts, grounding contacts, and interlocks.
- Perform resistance measurements.
- Perform insulation-resistance tests on each bus section, phase-to-phase, and phase-to-ground.
- Perform insulation-resistance tests on control wiring with respect to ground.
- Perform ground-resistance tests.
- Perform current-injection tests on the entire current circuit in each section of switchgear.

2.3.10 DIRECT-CURRENT SYSTEMS, CHARGERS

- Compare equipment nameplate data with drawings and specifications.
- Inspect for physical and mechanical condition.
- Inspect anchorage, alignment, and grounding.
- Verify the unit is clean.
- Verify tightness of accessible bolted electrical connections by calibrated torque-wrench.
- Inspect filter and tank capacitors.
- Verify operation of cooling fans and presence of filters.
- Verify float voltage, equalize voltage, and high voltage shutdown settings.
- Verify current limit.
- Verify correct load sharing (parallel chargers).
- Verify calibration of meters.
- Verify operation of alarms.
- Measure and record input and output voltage and current.

2.3.11 CIRCUIT BREAKERS, LOW-VOLTAGE POWER

- Compare equipment nameplate data with drawings and specifications.
- Inspect physical and mechanical condition.
- Inspect anchorage, alignment, and grounding.
- Verify that all maintenance devices are available for servicing and operating the breaker.
- Verify the unit is clean.
- Verify the arc chutes are intact.



- Inspect moving and stationary contacts for condition and alignment.
- Verify that primary and secondary contact wipe and other dimensions vital to satisfactory operation of the breaker are correct.
- Perform all mechanical operator and contact alignment tests on both the breaker and its operating mechanism.
- Verify tightness of accessible bolted electrical connections by calibrated torque-wrench.
- Perform a thermographic survey.
- Verify cell fit and element alignment.
- Verify racking mechanism operation.
- Verify appropriate lubrication on moving current-carrying parts and on moving and sliding surfaces.
- Perform adjustments for final protective device settings in accordance with coordination study provided by end user.
- Record as-found and as-left operation counter readings.
- Perform resistance measurements through bolted connections with a low-resistance ohmmeter, if applicable.
- Perform insulation-resistance tests for one minute on each pole, phase-to-phase and phase-to-ground with the circuit breaker closed, and across each open pole.
- Perform a contact/pole-resistance test.
- *Perform insulation-resistance tests on all control wiring with respect to ground.
- Determine long-time pickup and delay by primary current injection.
- Determine short-time pickup and delay by primary current injection.
- Determine ground-fault pickup and delay by primary current injection.
- Determine instantaneous pickup value by primary current injection.
- *Test functions of the trip unit by means of secondary injection.
- Perform minimum pickup voltage tests on shunt trip and close coils.
- Verify correct operation of any auxiliary features such as trip and pickup indicators, zone interlocking, electrical close and trip operation, trip-free, anti-pump function, and trip unit battery condition. Reset all trip logs and indicators.
- Verify operation of charging mechanism.

2.3.12 CABLES, MEDIUM- AND HIGH-VOLTAGE

- Compare cable data with drawings and specifications.
- Inspect exposed sections of cables for physical damage.
- Verify tightness of accessible bolted electrical connections by calibrated torque-wrench.
- Inspect compression-applied connectors for correct cable match and indentation.
- Inspect shield grounding, cable supports, and terminations.

- Verify that visible cable bends meet or exceed ICEA and manufacturer's minimum published bending radius.
- If cables are terminated through window-type current transformers, inspect to verify that neutral and ground conductors are correctly placed and that shields are correctly terminated for operation of protective devices.
- Inspect for correct identification and arrangements.
- Inspect cable jacket and insulation condition.
- Perform resistance measurements through bolted connections with a low-resistance ohmmeter, if applicable.
- Perform an insulation-resistance test individually on each conductor with all other conductors and shields grounded.
- Perform a shield-continuity test on each power cable.
- Perform a Very Low Frequency (VLF) dielectric withstand voltage test.

2.4 PROTECTION AND CONTROL

1. The relays included in this installation are all to be set by the EPC-Provided Relay Settings File:
 - Line Protection relaying
 - Transformer Protection relaying
 - Breaker failure relaying
 - Backup overcurrent relaying
 - Bus differential relaying
 - Feeder protection relaying
2. The following tests shall be performed on all protective relaying including lockout relays and associated equipment:
 - Perform physical inspection.
 - Perform acceptance tests (initial checkout) as specified in the manufacturer's manual.
 - Test relays as per manufacturer instructions.
 - Set relays as per EPC relay setting sheets.
 - Perform functional operational checks to verify proper trips/interlocks/alarms per schematics. All relay outputs must initiate appropriate devices. This will include a trip and close operation of the circuit breaker from the local controls, the station control switches, the protective relaying, and the SCADA/RTU, if applicable.
 - Functionally assert each applicable element and verify appropriate target actuation.
 - Each output should operate the end device at least once.
 - Verify all relay alarms and outputs with the schematic diagrams.
 - After completion of testing, download each relay configuration file and print out each file.

- Perform in service voltage and current measurements to verify relay is sensing the proper parameters.
 - Report should be signed, dated, and added to the final report.
3. Transmission Line Protection
- Confirm operation of communication link.
 - Test time delay of the communication path, if applicable.
 - Perform end-to-end test functional tests with the Outlaw Energy Storage testing group.
 - Perform tests required by the relay and communications specs.
 - Verify relay directionality.
 - Ensure all inputs and outputs are verified for proper operation.
4. Transformer Protection
- Verify connections as per scheme (including CT selection and polarities, etc.)
 - Ensure the phase group compensation is correct.
 - Ensure all inputs and outputs are verified for proper operation.
5. Breaker Failure Relaying
- Verify retrip and timing functions.
 - Ensure all inputs and outputs are verified for proper operation.
 - Verify contacts that trip and block close to and from the switchyard are operating correctly and are clearly marked prior to any physical connections being made.
6. Overcurrent Backup Relaying
- Verify trip and timing functions.
 - Ensure all inputs and outputs are verified for proper operation.
7. Tests on Lockout relays
- Record nameplate data.
 - Perform physical inspection and verify the relay as per specifications/drawings.
 - Perform a functional test on the lockout relays by electrical operation in accordance with the scheme.
 - Check all the contacts operated by the operation of the lockout relay as per the scheme including alarm/inputs, etc.
8. Meters and Transducers
- Verify physical and mechanical conditions.
 - Calibrate power factor and energy meters according to manufacturer's data.
 - Verify that current and voltage transformer secondary circuits are intact.
 - Check the mid and full-scale reading of panel meters by using known voltage and currents.

2.5 PRINT VERIFICATION

1. Verification requirements
 - Verify protection schematic is consistent with the relay specification.
 - All the contacts shall be tested as per the schematics with final revision.
 - Complete verification of each schematic SHALL be performed ensuring the equipment is wired and functions as indicated on the schematic. A person independent from the designer shall perform verification.
2. Wiring diagram verification requirements
 - Perform 100% review verifying that the wiring diagrams are consistent with the schematics.
 - Verify the locations of components in the equipment are exactly as reflected in the drawing.
 - Verify that the number of conductors landed at a terminal is what is shown on the wiring diagram.
3. Schematic Sign-off
 - The CTIC shall ensure that all the schematics/control drawings shall be marked up and signed to verify that a complete check has been done in accordance with the specification.
4. Errors
 - While commissioning, errors and changes found in the schematics, wiring, and current/potential will be corrected. These corrections will be highlighted accordingly. These corrections shall be affected on all as-built drawings.
5. As-Built Drawings
 - CTIC shall ensure that all the outstanding changes are incorporated in the drawings from which the as-built drawings shall be made.
 - One set of as-built drawings shall be maintained at site until the new as-built prints are sent.
 - One complete set of drawings is to be provided with the final report to customer's Project Manager for distribution to customer.
 - In addition to the control and schematic drawings, all drawings including the cable and conduit tables, relay panel physical layouts, etc., are to be accurately marked up.

2.6 ENERGIZING

The following general steps will be completed:

- A procedure shall be submitted by CTIC on proposed energizing.
- An updated set of as-built prints shall be available at site before energizing.
- All testing and commissioning shall be complete with satisfactory results before energizing.
- All site personnel will be informed about the energization and must be directed to remain in a safe area.

- Ensure all protective relays are set in for initial energization.
- Ensure all the test switches are in their normal positions.
- Ensure all control switches are in their normal positions.
- Any bypassed/opened protections will be documented.
- All AFTER ENERGIZING checks of all the major equipment shall be completed as mentioned in the respective Test and Commissioning records.

2.7 IN-SERVICE TESTING

1. General

- After energizing, verify the phasing of primary and secondary voltages, as applicable.
- Check voltage of the potential transformer secondary at every switch and relay for magnitude and phase angle with respect to the known reference.
- Current magnitude, direction and phase angle should be measured at every available location.
- Check the direction of power flow.
- Zero current values are expected in neutral and operating coil of differential relays.
- Directional relays should be checked for proper directionality.
- All results should be evaluated and compared with expected values.
- All temporary circuits used to prove proper operations shall be documented and the circuit shall be returned to normal at the end of the test and all trip circuits restored, if disabled during test.

2.8 REPORT/DOCUMENTATION

Commissioning will be documented as follows:

1. Written Procedures

- Thru Fault test procedure in accordance with Section 6.

2. Relay Data Sheet

- Station relay setting book or electronic files shall be per customer requirement.
- CTIC shall generate relay results and setting data sheets using relay software tools and test sheet for microprocessor relays after testing of relays with customer settings has been conducted.
- Pertinent information such as passwords for digital relays shall include the use of the factory defaults, unless otherwise required in writing by the customer.

3. Test Data Sheets

- The tester shall provide data and signoff indicating completion of each test required in this specification. All the data will be signed and dated by the tester.
- CTIC shall provide data and sign-off indicating completion of each test required in this specification. All data will be signed and dated by the technician performing the test.

4. Equipment Data

- Tester shall utilize the equipment and relay manuals pertinent to this project.

5. Final report

- A final report that includes the ICRs shall be generated and submitted for review upon completion of the testing.
- A copy of all inspections, electrical test data, and all associated equipment that is tested shall be signed off by the tester.
- A separate section consisting of all identified discrepancies and resolutions shall be included. This will include:
 - Affected schematic drawing.
 - Affected wiring drawing.
 - The physical location.
 - Relay setting sheets for the project (both hard and soft copies).
 - One set of as-built marked up drawings.

3. DECOMMISSIONING PLAN

Decommissioning of the Project at the end of its useful life will include removal of battery units from the foundations, disconnection of wiring, and transport of the battery units to an approved recycling facility. It is conservatively estimated that Project decommissioning would occur in 2050.

3.1 DECOMMISSIONING PROCEDURE

A qualified decommissioning contractor will be engaged by Outlaw Energy Storage to conduct decommissioning work. A site-specific safety plan and job hazard analysis will be prepared prior to commencement of any decommissioning activities. Before the system can be dismantled or removed, it will need to be shut down and disconnected from the utility system in accordance with the manufacturer's/integrator's procedures. This will include a final inspection of the system, system shut-down, and physical disconnection of the system's electrical components. The site will follow the Original Equipment Manufacturer's equipment-specific lockout/tagout (LOTO) procedures that will be used for equipment decommissioning. The scope of work typically entails the steps below:

- BESS Direct Current (DC) Power LOTO;
- BESS AC Power LOTO;
- Substation LOTO;
- BESS Cable Removal;
- PCS and Transformer Removal;
- Auxiliary Power LOTO;
- FSS and Gas Detection Removal; and
- Heating, Ventilation, and Air Conditioning (HVAC) Removal.

Solid and hazardous waste generated from decommissioning activities will be disposed in accordance with applicable local, state, and federal waste disposal regulations. The facility will participate in the battery recycle program with the manufacturer to take back full systems or partial systems at the system End-Of-Life (EOL). The battery cells at this California located facility are classified as universal waste and will be handled by a permitted universal waste handler or authorized recycling facility. Other solid waste (i.e., concrete debris, fencing) generated from decommissioning activities will be profiled for proper disposal and recycling wherever possible. For unplanned commissioning activities (i.e., emergency events), waste will be profiled for proper disposal and recycling in accordance with local, state, and federal disposal regulations.

Transportation of solid and hazardous waste for disposal and recycling will be done in accordance with local, state, and federal disposal regulations. Specific packaging, labeling, marking and documentation requirements, in addition to training required for individuals involved in the preparation for handling, shipping and transportation of dangerous goods, will be arranged.

3.2 SOIL RECLAMATION

After removal of site facilities, Outlaw Energy Storage will implement a Soil Reclamation Plan to return the land to agricultural use. Prior to the start of construction, Outlaw Energy Storage will document general pre-construction conditions of the Project site, and the site will be



photographically documented. The Soil Reclamation Plan will be prepared under separate cover and contain specific measures to restore the soil to approximate its pre-project condition.

Measures will include:

- Removal of above-ground and below-ground project fixtures, equipment, and non-agricultural driveways.
- Tilling to restore the sub-grade material to a density and depth consistent with its pre-Project condition.
- Revegetation using a Kings County-approved grasses and forbs seed mixture designed to maximize revegetation with noninvasive species shall be broadcast or drilled across the project site.
- Application of weed-free mulch spread, as needed, to stabilize the soil until germination occurs and young plants are established to facilitate moisture retention in the soil.

Kings County staff will assess whether the Project area has been restored to pre-construction conditions. Additional seedlings and applications of weed-free mulch will be applied to areas of the Project site that have been determined to be unsuccessfully reclaimed (i.e., restored to pre-Project conditions) until the entire Project area has been restored to conditions equivalent to pre-construction conditions. Waste will be recycled or disposed of in compliance with applicable law. Outlaw Energy Storage will verify completion of reclamation within 18 months after expiration of the project use permit with the Planning Division staff.

3.3 FINANCIAL ASSURANCE

Outlaw Energy Storage will post a performance or cash bond, submit a Certificate of Deposit, submit a letter of credit, or provide such other financial assurances acceptable to Kings County, in an amount provided in an Engineer's Cost Estimate, approved by the Kings County Community Development Agency, to ensure completion of the activities under the Soil Reclamation Plan. Every 5 years from the date of completion of construction of the project, Outlaw Energy Storage will submit an updated Engineer's Cost Estimate for financial assurances for the Plan, which will be reviewed every 5 years by the Kings County Community Development Agency to determine if the amount of the assurances is sufficient to implement the Plan. The amount of the assurances will be adjusted if, during the five-year review, the amount is determined to be insufficient to implement the Plan.



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CLIENT: Outlaw Energy Storage, LLC

PROJECT NO: 0676533

DATE: 7 March 2024

VERSION: 01.1

Appendix A
Mitigation Monitoring &
Reporting Program

**MITIGATION MONITORING AND REPORTING
PROGRAM**

OUTLAW ENERGY STORAGE, LLC

**OUTLAW BATTERY ENERGY
STORAGE PROJECT**

CUP 23-06

DRAFT

July 2024

MITIGATION MONITORING AND REPORTING PROGRAM

OUTLAW ENERGY STORAGE PROJECT CUP-23-06

Mitigation Measure	Responsible Party/Timing/Action	Monitoring Agency/Timing/Action	Verification Log
4.2 AGRICULTURE AND FORESTRY RESOURCES			
<p><u>Mitigation Measure AG-1: Soil Reclamation Plan.</u> Prior to the issuance of a building permit, the applicant shall submit, for review and approval by the Kings County Community Development Agency, a Soil Reclamation Plan (Plan) for the restoration of the entire project site at the end of the project's useful life. The Plan shall contain an analysis of general pre-construction conditions of the project site, and the site shall be photographically documented by the applicant prior to the start of construction. The Plan shall contain specific measures to restore the soil to approximate its pre-project condition, including: (1) removal of all above-ground and below-ground project fixtures, equipment, and non-agricultural driveways; (2) tilling to restore the sub-grade material to a density and depth consistent with its pre-project condition; (3) revegetation using a Kings County-approved grasses and forbs seed mixture designed to maximize revegetation with noninvasive species shall be broadcast or drilled across the project site; and (4) application of weed-free mulch spread, as needed, to stabilize the soil until germination occurs and young plants are established to facilitate moisture retention in the soil. Whether the project area has been restored to pre-construction conditions would be assessed by Kings County staff. Additional seedlings and applications of weed-free mulch shall be applied to areas of the project site that have been determined to be unsuccessfully reclaimed (i.e., restored to pre-project conditions) until the entire project area has been restored to conditions equivalent to pre-construction conditions. All waste shall be recycled and disposed of in compliance with applicable law. The applicant shall verify the completion of reclamation within 18 months after expiration of the project use permit with Planning Division staff.</p>	<p><u>Responsible Party:</u> Applicant/Operator</p> <p><u>Actions:</u> <u>Prior to Building Permit Issuance:</u> Prepare and submit Soil Reclamation Plan to Kings County CDA.</p> <p><u>During Project Decommissioning:</u> Implement Soil Reclamation Plan as approved by Kings County CDA.</p>	<p><u>Monitoring Agency:</u> Kings County CDA</p> <p><u>Actions:</u> <u>Prior to Building Permit Issuance:</u> Verify that Soil Reclamation Plan is complete and in compliance with County requirements.</p> <p><u>During Project Decommissioning:</u> Conduct field inspections to verify implementation Soil Reclamation Plan as approved.</p>	
<p><u>Mitigation Measure AG-2: Financial Assurance.</u> Prior to the issuance of a building permit, the applicant shall either post a performance or cash bond, submit a Certificate of Deposit, submit a letter of credit, or provide such other financial assurances acceptable to the County, in an amount provided in an</p>	<p><u>Responsible Party:</u> Applicant/Operator</p>	<p><u>Monitoring Agency:</u> Kings County CDA</p>	

MITIGATION MONITORING AND REPORTING PROGRAM

OUTLAW ENERGY STORAGE PROJECT CUP-23-06

Mitigation Measure	Responsible Party/Timing/Action	Monitoring Agency/Timing/Action	Verification Log
Engineer's Cost Estimate, approved by the Kings County Community Development Agency, to ensure completion of the activities under the Soil Reclamation Plan. Every 5 years from the date of completion of construction of the project, the applicant shall submit an updated Engineer's Cost Estimate for financial assurances for the Plan, which will be reviewed every 5 years by the Kings County Community Development Agency to determine if amount of the assurances is sufficient to implement the Plan. The amount of the assurances must be adjusted if, during the five-year review, the amount is determined to be insufficient to implement the Plan.	<u>Actions:</u> <u>Prior to Building Permit Issuance:</u> Submit financial assurance to Kings County CDA. <u>Every Five Years:</u> Prepare and submit revised Engineer's Cost Estimate and submit adjusted financial assurance to Kings County CDA.	<u>Actions:</u> <u>Prior to Building Permit Issuance:</u> Verify that acceptable financial assurance has been provided. <u>Every Five Years:</u> Verify completion of revised Engineer's Cost Estimate and confirm adjustment of the amount of assurance.	
4.4 BIOLOGICAL RESOURCES			
<u>Mitigation Measure BIO-1: Swainson's Hawk Pre-Construction Survey</u> A qualified biologist shall conduct focused SWHA surveys, following the SWHA Survey Protocol (SWHA TAC 2000), during the appropriate survey season prior to construction.	<u>Responsible Party:</u> Applicant/Contractor <u>Actions:</u> <u>Prior to Construction:</u> 1) Authorize qualified biologist to conduct SWHA preconstruction surveys; 2) If active SWHA nest(s) found on or near site, authorize biologist to establish exclusion zone(s) around nest(s).	<u>Monitoring Agency:</u> Kings County CDA <u>Actions:</u> <u>Prior to Construction:</u> 1) Verify completion of pre-construction SWHA surveys; 2) Conduct field inspection to verify establishment of any SWHA exclusion zone(s).	

MITIGATION MONITORING AND REPORTING PROGRAM

OUTLAW ENERGY STORAGE PROJECT CUP-23-06

Mitigation Measure	Responsible Party/Timing/Action	Monitoring Agency/Timing/Action	Verification Log
<p><u>Mitigation Measure BIO-2: General Protection Measures</u></p> <p>a. A qualified biologist shall conduct an education program for construction personnel. Topics to be discussed would include occurrence and distribution of Swainson's hawk, take avoidance measures being implemented during the Project, reporting requirements if incidental take occurs, and applicable definitions and prohibitions under the California Endangered Species Act. A fact sheet conveying this information shall be prepared for distribution to Project personnel.</p> <p>b. A qualified biologist shall conduct pre-construction surveys for nesting birds (including raptors) on and closely adjacent to the Project Site no more than 10 days prior to any ground disturbance, if ground disturbance is to occur during the breeding season (February 1 to August 31). These surveys shall be based on the accepted protocols (for example, the current Swainson's hawk protocol) for the target species.</p> <p>i. If an active nest is detected, a 200-foot work avoidance buffer shall be implemented for non-raptors, a 500-foot work avoidance buffer shall be implemented for raptors, other than Swainson's hawk, and a ½ mile buffer shall be implemented for Swainson's hawk.</p> <p>ii. Alternatively, a qualified biologist shall continuously monitor identified nests for the first 24 hours prior to any construction related activities to establish a behavioral baseline. Once work commences, the biologist shall continuously monitor all nests to detect any behavioral changes when work is initiated, when work activities increase in intensity or when work moves closer to the nest location. If behavioral changes are not observed, then a 100-foot work avoidance buffer shall be implemented for non-raptors, a 250-foot work avoidance buffer shall be implemented for raptors other than Swainson's hawk, and a ¼ mile buffer shall be implemented for Swainson's hawk. Continue monitoring nests as described above. If behavior changes are detected then</p>	<p>Responsible Party: Applicant/Contractor</p> <p><u>Actions:</u></p> <p><u>Prior to Construction:</u></p> <p>1) Authorize qualified biologist to conduct preconstruction surveys;</p> <p>2) If active nest(s) found on or near site, authorize biologist to establish exclusion zone(s) around nest(s);</p> <p>3) Direct qualified biologist to conduct employee education program.</p>	<p>Monitoring Agency: Kings County CDA</p> <p><u>Actions:</u></p> <p><u>Prior to Construction:</u></p> <p>1) Verify completion of pre-construction surveys;</p> <p>2) Conduct field inspection to verify establishment of any exclusion zone(s);</p> <p>3) Verify completion of employee education prior to ground disturbing activities.</p>	

MITIGATION MONITORING AND REPORTING PROGRAM

OUTLAW ENERGY STORAGE PROJECT CUP-23-06

Mitigation Measure	Responsible Party/Timing/Action	Monitoring Agency/Timing/Action	Verification Log
<p>implement the full 200-foot, 500-foot and ½ mile buffers described above.</p> <p>iii. In the event an active SWHA nest is detected, and a 1/4-mile no-disturbance buffer is not feasible, then the Project Applicant shall consult with CDFW regarding additional avoidance and minimization measures or obtaining an Incidental Take Permit (ITP), pursuant to Fish and Game Code section 2081 subdivision (b) if take is unavoidable.</p> <p>c. Project-related vehicles shall observe a daytime speed limit of 20 miles per hour throughout the site in all Project areas, except on county roads and State and Federal highways. Nighttime construction shall be minimized to the extent possible. However, if it does occur, then the speed limit shall be reduced to 10 miles per hour. Off-road traffic outside of designated Project areas shall be prohibited.</p> <p>d. To prevent inadvertent entrapment of wildlife during the construction phase of the Project, all excavated, steep-walled holes or trenches more than 2 feet deep shall be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals.</p> <p>e. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the Project Site.</p> <p>f. No firearms shall be allowed on the Project Site, excluding law enforcement personnel.</p> <p>g. No pets, such as dogs or cats, shall be permitted on the Project Site.</p> <p>h. All spills of hazardous materials shall be cleaned up immediately.</p> <p>i. In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape.</p> <p>j. Use of rodenticides and herbicides in project areas should be restricted.</p> <p>k. Should any vertical tubes, such as solar mount poles, chain link fencing poles, or any other hollow tubes or poles be utilized on the Project Site,</p>			

MITIGATION MONITORING AND REPORTING PROGRAM

OUTLAW ENERGY STORAGE PROJECT CUP-23-06

Mitigation Measure	Responsible Party/Timing/Action	Monitoring Agency/Timing/Action	Verification Log
<p>the poles shall be capped immediately after installation to prevent entrapment of birds.</p> <p>l. Shield and direct lighting to minimize potential impacts to suitable Swainson's hawk nesting habitat located in the immediate vicinity of the Proposed Project.</p> <p>m. The Fresno Field Office of CDFW shall be notified in writing within three working days in case of the accidental death of or injury to Swainson's hawk or burrowing owl during project-related activities. Notification must include the date, time, location of the incident or of the finding of a dead or injured animal, and any other pertinent information.</p>			
4.5 CULTURAL RESOURCES			
<p>Mitigation Measure CR-1: Curation Agreement. Prior to the issuance of the building permits, a Curation Agreement, as approved by the Santa Rosa Rancheria Tachi Yokut Tribe, shall be in place and provided to the Kings County Community Development Agency.</p>	<p>Responsible Party: Applicant/Contractor</p> <p><u>Actions:</u></p> <p><u>Prior to Issuance of Building Permit:</u></p> <p>1) Establish a Curation Agreement.</p>	<p>Monitoring Agency: Kings County CDA</p> <p><u>Actions:</u></p> <p><u>Prior to Issuance of Building Permit:</u></p> <p>1) Review and approve Curation Agreement.</p>	
<p>Mitigation Measure CR-2: Protection of Cultural Resources. In order to avoid the potential for impacts to historic and prehistoric archaeological resources, the following measures shall be implemented, as necessary, in conjunction with the construction of the Outlaw Energy Storage Project:</p> <p>a. <u>Cultural Resources Alert on Project Plans:</u> Project plans shall include a note that there is a potential for exposing buried cultural resources during ground disturbing activities.</p> <p>b. <u>Pre-Construction Briefing:</u> The project proponent shall retain Santa Rosa Rancheria Cultural Staff to provide a pre-construction Cultural Sensitivity</p>	<p>Responsible Party: Applicant/Contractor</p> <p><u>Actions:</u></p> <p><u>Prior to Issuance of Building Permit:</u></p> <p>1) Place Cultural Resources Alert on project plans.</p>	<p>Monitoring Agency: Kings County CDA</p> <p><u>Actions:</u></p> <p><u>Prior to Issuance of Building Permit:</u></p>	

MITIGATION MONITORING AND REPORTING PROGRAM

OUTLAW ENERGY STORAGE PROJECT CUP-23-06

Mitigation Measure	Responsible Party/Timing/Action	Monitoring Agency/Timing/Action	Verification Log
<p>Training to construction staff regarding the discovery of cultural resources and the potential for discovery during ground disturbing activities, which will include information on potential cultural material finds and on the procedures to be enacted if resources are found.</p> <p>c. <u>Stop Work Near any Discovered Cultural Resources:</u> The project proponent shall retain a professional archaeologist on an “on-call” basis during ground disturbing construction for the project to review, identify and evaluate cultural resources that may be inadvertently exposed during construction. Contact information for the on-call archaeologist shall be provided to the Community Development Agency prior to the issuance of building permits. Should previously unidentified cultural resources be discovered during construction of the project, the project proponent shall cease work within 100 feet of the resources, and Kings County Community Development Agency (CDA) shall be notified immediately. The archaeologist shall review and evaluate any discoveries to determine if they are historical resource(s) and/or unique archaeological resources under CEQA.</p> <p>d. <u>Mitigation for Discovered Cultural Resources:</u> If the professional archaeologist determines that any cultural resources exposed during construction constitute a historical resource and/or unique archaeological resource, he/she shall notify the project proponent and other appropriate parties of the evaluation and recommended mitigation measures to mitigate the impact to a less-than-significant level. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing and data recovery, among other options. Treatment of any significant cultural resources shall be undertaken with the approval of the Kings County CDA. The archaeologist shall document the resources using DPR 523 forms and file said forms with the California Historical Resources Information System, Southern San Joaquin Valley Information Center. The resources shall be photo-documented and collected by the archaeologist for submittal to the Santa Rosa Rancheria’s Cultural and Historical Preservation Department. The archaeologist shall</p>	<p><u>Prior to Construction:</u></p> <p>1) Arrange for Tribe to conduct pre-construction briefing.</p> <p><u>During Construction:</u></p> <p>1) If cultural resources discovered, establish 100-foot setback zone and contact archaeologist and Kings County CDA;</p> <p>2) Coordinate with Kings County CDA, archaeologist, and Santa Rosa Rancheria Tachi Yokut Tribe regarding appropriate mitigation;</p> <p>3) Coordinate with Santa Rosa Rancheria Tachi Yokut Tribe regarding monitoring during construction;</p> <p>4) Coordinate with Kings County CDA and Santa Rosa Rancheria Tachi Yokut Tribe regarding appropriate disposition of any cultural resources recovered from the site.</p>	<p>1) Confirm Cultural Resources Alert has been placed on project plans.</p> <p>2) Verify contact information for on-call archaeologist.</p> <p><u>Prior to Construction:</u></p> <p>1) Verify Tribe has completed briefing prior to construction.</p> <p><u>During Construction:</u></p> <p>1) Coordinate with applicant/contractor and archaeologist to ensure protection of cultural resources;</p> <p>2) Coordinate with applicant, archaeologist, and Santa Rosa Rancheria Tachi Yokut Tribe regarding appropriate mitigation;</p> <p>3) Verify applicant has coordinated with Santa Rosa Rancheria Tachi Yokut Tribe regarding monitoring during construction;</p> <p>4) Coordinate with applicant and Santa Rosa Rancheria Tachi Yokut Tribe regarding</p>	

MITIGATION MONITORING AND REPORTING PROGRAM

OUTLAW ENERGY STORAGE PROJECT CUP-23-06

Mitigation Measure	Responsible Party/Timing/Action	Monitoring Agency/Timing/Action	Verification Log
<p>be required to submit to the County for review and approval a report of the findings and method of curation or protection of the resources. Further grading or site work within the area of discovery shall not be allowed until the preceding steps have been taken.</p> <p>e. <u>Native American Monitoring</u>: Prior to any ground disturbance, the project proponent shall offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground disturbing activities during both construction and decommissioning. Tribal participation would be dependent upon the availability and interest of the Tribe.</p> <p>f. <u>Disposition of Cultural Resources</u>: Upon coordination with the Kings County Community Development Agency, any prehistoric archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.</p>		appropriate disposition of any cultural resources recovered from the site.	
<p>Mitigation Measure CR-3: Burial Treatment Plan. Prior to the issuance of building permits, the project proponent and the Santa Rosa Rancheria Tachi Yokut Tribe, with the assistance of the archaeologist, shall make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Section 15064.5(d)). The agreed upon Burial Treatment Plan shall address the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. The agreed-upon Burial Treatment Plan shall be provided to the Kings County Community Development Agency prior to the issuance of building permits.</p>	<p><u>Responsible Party:</u> Applicant/Contractor</p> <p><u>Actions:</u></p> <p><u>Prior to Issuance of Building Permit:</u> 1) Establish a Burial Treatment Plan.</p>	<p><u>Monitoring Agency:</u> Kings County CDA</p> <p><u>Actions:</u></p> <p><u>Prior to Issuance of Building Permit:</u> 1) Review and approve a Burial Treatment Plan.</p>	
<p>Mitigation Measure CR-4: Protection of Buried Human Remains. In order to avoid potential for impacts to buried human remains, the following measures shall be implemented, as necessary, in conjunction with the construction of each phase of the Outlaw Energy Storage Project:</p>	<p><u>Responsible Party:</u> Applicant/Contractor</p>	<p><u>Monitoring Agency:</u> Kings County CDA</p>	

MITIGATION MONITORING AND REPORTING PROGRAM

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Mitigation Measure	Responsible Party/Timing/Action	Monitoring Agency/Timing/Action	Verification Log
Pursuant to State Health and Safety Code Section 7050.5(e) and Public Resources Code Section 5097.98, if human bone or bone of unknown origin is found at any time during on or off-site construction, all work shall stop within 25 feet of the discovery and the Kings County Coroner shall be notified immediately and the resource shall be protected in compliance with applicable state and federal laws. If the remains are determined to be Native American, the Coroner shall notify the California State Native American Heritage Commission (NAHC), who shall identify the person believed to be the Most Likely Descendant (MLD) pursuant to Public Resources Code Section 5097.98. The project proponent and MLD, with the assistance of the archaeologist, shall make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Sec. 15064.5(d)). The agreed upon treatment shall address the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. California Public Resources Code allows 48 hours to for the MLD to make their wishes known to the landowner after being granted access to the site. If the MLD and the other parties do not agree on the reburial method, the project will follow Public Resources Code Section 5097.98(b) which states that ". . . the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."	<u>Actions:</u> <u>During Construction:</u> 1) If human remains are discovered, engage project archaeologist and coordinate with Kings County CDA in implementing the legally required actions as specified in the mitigation measure.	<u>Actions:</u> <u>During Construction:</u> 1) If human remains are discovered, coordinate with applicant and archaeologist to ensure that all legally required actions are implemented.	
4.7 GEOLOGY AND SOILS			
<u>Mitigation Measure GEO-1: Protection of Paleontological Resources.</u> In order to avoid the potential for impacts to paleontological resources, the following measures shall be implemented, as necessary, in conjunction with the construction of the Outlaw Energy Storage Project: <ol style="list-style-type: none"> If paleontological resources are discovered during excavation activities at the project site, work within 50 feet of the find shall cease, and a qualified professional paleontologist shall be retained to evaluate the significance of the resources and make recommendations regarding the 	<u>Responsible Party:</u> Applicant/Contractor <u>Actions:</u> <u>During Construction:</u> 1) If paleontological resources discovered, establish 100-foot	<u>Monitoring Agency:</u> Kings County CDA <u>Actions:</u> <u>During Construction:</u> 1) If paleontological resources discovered, verify	

MITIGATION MONITORING AND REPORTING PROGRAM

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Mitigation Measure	Responsible Party/Timing/Action	Monitoring Agency/Timing/Action	Verification Log
treatment, recovery, curation of the resources, as appropriate. Treatment of any significant paleontological resources shall be undertaken with the approval of the Kings County CDA.	setback zone, retain paleontologist to make recommendations regarding treatment, and notify Kings County CDA; 2) Submit treatment recommendations to Kings County CDA for approval as appropriate; 3) Implement approved treatment measures.	establishment of 100-foot setback zone pending approval of treatment plan; 2) Review and approve treatment recommendations as appropriate; 3) Verify implementation of treatment measures as approved.	
4.9 HAZARDS AND HAZARDOUS MATERIALS			
<u>Mitigation Measure HAZ-1: Hazardous Materials Business Plan</u> In order to protect the public from potential release of hazardous materials, the following measure shall be implemented during project construction, operation, and decommissioning: a. The project applicant shall prepare and implement a Hazardous Materials Business Plan (HMBP) in accordance with the requirements of, and to the satisfaction of, the Kings County Public Health Department Environmental Services Division.	<u>Responsible Party:</u> Applicant/Contractor/Operator <u>Actions:</u> <u>Prior to Construction:</u> Prepare HMBP <u>During Construction:</u> Implement HMBP <u>During Operation:</u> Implement HMBP	<u>Monitoring Agencies:</u> Kings County CDA and Public Works Department. <u>Actions:</u> <u>Prior to Construction:</u> Review and approve HMBP <u>During Construction:</u> Verify implementation of HMBP. <u>During Operation:</u> Verify implementation of post-construction elements of SWPPP.	

MITIGATION MONITORING AND REPORTING PROGRAM

OUTLAW ENERGY STORAGE PROJECT CUP-23-06

Mitigation Measure	Responsible Party/Timing/Action	Monitoring Agency/Timing/Action	Verification Log
4.10 HYDROLOGY AND WATER QUALITY			
<u>Mitigation Measure HYD-1: Stormwater Quality Protection.</u> Prior to the issuance of building permits, the applicant shall be required to file a "Notice of Intent" (NOI) with the SWRCB to comply with the General Construction Permit and prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall be prepared by a licensed engineer or Qualified SWPPP Developer (QSD) and shall detail the treatment measures and best management practices (BMPs) to control pollutants that shall be implemented and complied with during construction. Construction contracts shall include the requirement to implement the BMPs in accordance with the SWPPP. The SWPPP will specify such practices as: designation of restricted-entry zones, sediment tracking control measures (e.g., crushed stone and/or riffle metal plate at construction entrance), truck washdown areas, diversion of runoff away from disturbed areas, protective measures for sensitive areas, outlet protection, application of mulch for soil stabilization during construction, and provision for revegetation upon completion of construction within a given area. The SWPPP will also prescribe treatment measures to trap sediment once it has been mobilized, such as straw bale barriers, straw mulching, fiber rolls and wattles, silt fencing, and siltation or sediment ponds. Construction contracts will include the requirement to implement the BMPs in accordance with the SWPPP, and proper implementation of the specified BMPs is subject to inspection by the Regional Board staff.	<u>Responsible Party:</u> Applicant/Contractor/Operator <u>Actions:</u> <u>Prior to Construction:</u> 1) File NOI with SWRCB; 2) Authorize qualified engineer to prepare SWPPP. <u>During Construction:</u> 1) Implement SWPPP. <u>During Operation:</u> 1) Implement post-construction elements of SWPPP. <u>During Decommissioning:</u> 1) Implement SWPPP.	<u>Monitoring Agencies:</u> Kings County CDA and Public Works Department. <u>Actions:</u> <u>Prior to Issuance of Building Permits:</u> 1) Verify filing of NOI. 2) Verify preparation of SWPPP. <u>During Construction:</u> 1) Verify implementation of SWPPP. <u>During Operation:</u> 1) Verify implementation of post-construction elements of SWPPP. <u>During Decommissioning:</u> 1) Verify implementation of SWPPP.	
4.17 TRANSPORTATION			
<u>Mitigation Measure TR-1: Traffic Safety Measures for Solar Project Construction.</u> As a condition of project approval, and prior to the issuance of encroachment permits, the applicant shall consult with the Kings County Public Works Department regarding construction activities that may affect area traffic (such as equipment and supply delivery necessitating lane closures, trenching,	<u>Responsible Party:</u> Applicant/Contractor <u>Actions:</u>	<u>Monitoring Agencies:</u> Kings County CDA, Public Works Department, and Fire Department	

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Mitigation Measure	Responsible Party/Timing/Action	Monitoring Agency/Timing/Action	Verification Log
<p>etc.). Additionally, the project plans will be reviewed by the appropriate County departments for conformance with all applicable fire safety code and ordinance requirements for emergency access. The contractor shall implement appropriate traffic controls in accordance with the California Vehicle Code and other state and local requirements to avoid or minimize impacts on traffic.</p> <p>Traffic measures that shall be implemented during construction and decommissioning activities include the following:</p> <ul style="list-style-type: none"> a. Construction traffic shall not block emergency equipment routes. b. Construction activities shall be designed to minimize work in public rights-of-way and use of local streets. As examples, this might include the following: <ul style="list-style-type: none"> i. Identify designated off-street parking areas for construction-related vehicles throughout the construction and decommissioning periods. ii. Identify approved truck routes for the transport of all construction- and decommissioning-related equipment and materials. iii. Limit the employee arrivals and departures, and the delivery of equipment and materials, to non-peak traffic periods (e.g., avoid unnecessary travel from 7 to 9 AM and 4 to 6 PM). iv. Provide for farm worker vehicle access and safe pedestrian and vehicle access. v. Provide advance warning and appropriate signage whenever road closures or detours are necessary. c. Construction shall comply with San Joaquin Valley Air Pollution Control District standards for unpaved roads, which include a requirement to keep vehicle speeds below 15 miles per hour. 	<p><u>Prior to Issuance of Encroachment Permits:</u></p> <p>1) Consult with Kings County Public Works Department regarding appropriate traffic safety measures.</p> <p><u>During Construction:</u></p> <p>1) Implement traffic safety measures as approved by Public Works Department.</p> <p><u>During Decommissioning:</u></p> <p>1) Implement traffic safety measures as approved by Public Works Department.</p>	<p><u>Actions:</u></p> <p><u>Prior to Issuance of Encroachment Permits:</u></p> <p>1) Coordinate with Applicant/Civil/Contractor regarding appropriate traffic safety measures.</p> <p><u>During Construction:</u></p> <p>1) Verify implementation of traffic safety measures.</p> <p><u>During Decommissioning:</u></p> <p>1) Verify implementation of traffic safety measures.</p>	