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Petition for Post-Certification Amendment
Border Peaker Project (01-EP-14)

Border 52-Megawatt
Battery Energy Storage System Project

Hermes BESS LLC

August 2022

2060 Sanyo Avenue
San Diego, CA 92154

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1.0 INTRODUCTION

CalPeak Power-Border LLC ("CalPeak") hereby files this amendment on behalf of and for the benefit of Hermes BESS LLC. Hermes BESS LLC proposes to implement a 52-megawatt ("MW") Battery Energy Storage System ("BESS") project (the "Border BESS" or the "BESS") at the existing nominal 52 MW Border Peaker Plant ("BPP") located on Otay Mesa at 2060 Sanyo Avenue in San Diego, California (see Figures 1 and 2).

The BPP is owned and operated by CalPeak. The BPP was licensed by the California Energy Commission ("CEC") in 2001 as an emergency project (CEC Docket No. 01-EP-14). BPP is authorized under its Generator Interconnection Agreement (as amended) with San Diego Gas & Electric Company ("SDG&E") and the California Independent System Operator ("CAISO") to provide up to net of 52 MW to the grid.

The BPP and BESS will be co-located on the same CEC-jurisdictional site. Specifically, the entire Assessor Parcel No. 646-130-58 is owned by CalPeak Power-Border, LLC. A lease or easement will be provided to Hermes BESS LLC, which will own and operate the BESS within that same parcel.

While they will be co-located, the BPP and BESS will not be operated in a coordinated "hybrid" configuration. Instead, the BPP and the BESS will operate independently and will be entirely separate resources. The BPP and the BESS will each have their own metering equipment and CAISO Resource ID numbers. The BPP will remain responsible for the operations of the natural gas facility and will remain as the party responsible for compliance with the Commission Conditions and applicable laws, ordinances, regulations, and standards ("LORS") for the BPP. In like fashion, the Hermes BESS LLC will have legal responsibility for the operation of the BESS and will be the responsible party for compliance with the Commission Conditions and applicable LORS for the BESS.

The BESS will connect to the grid through the existing generator step-up unit/main power transformer ("GSU") for the adjacent gas-fired Border Peaking Plant. The two facilities will share the GSU, Gen-Tie and a common point of interconnect ("POI") with the CAISO controlled/PG&E owned transmission system (the "Common Facilities"). The facilities will not change the CAISO Aggregate Capability Constraint ("ACC") of 52 MW at the POI.

The Border BESS Project would be charged exclusively from the grid, particularly when excess renewable energy is available, storing this energy for peak periods when renewable energy is less available, resulting in lower total greenhouse gas ("GHG") emissions. Furthermore, dispatches

from the Border BESS Project would replace energy that would otherwise be generated by other system assets, most likely gas-fired facilities.

The requested amendment would allow for the BESS project to be constructed and operated adjacent to the BPP. The BESS project will be constructed in part to support California's current need for additional electrical energy storage available for dispatch during peak load demand time periods in the summer and would advance the State's and the California Public Utility Commission's ("CPUC's") policy of 60% renewable power by 2030 and 100% by 2045 (Senate Bill 100). The Border BESS Project offers the CAISO a reliable dispatchable energy resource to the electrical grid.

The proposed Border BESS Project will not result in an increase in the BPP's hourly or annual air emissions above currently permitted limits. The environmental impact assessment presented in Section 5 and Appendices B through H hereto concludes no potentially significant environmental impacts are associated with the implementation of the actions specified in this Petition for Post-Certification Amendment, and that the Project, as specified herein, will comply with all applicable LORS.

Given the relationship between the BPP and the BESS, the CEC Staff has determined that the CEC has permitting jurisdiction over Hermes BESS LLC and the BESS project. Accordingly, CalPeak Power-Border LLC makes the following requests.

First, CalPeak Power-Border LLC requests an amendment to the certification for the BPP (CEC Docket No. 01-EP-14) pursuant to Title 20, California Code of Regulations, Section 1769(a)(1) to allow for interconnection of the Hermes BESS LLC project. The amendment is a change to project description that includes the interconnection of the BESS at the low side of the GSU and the use of the Common Facilities.

Second, CalPeak Power-Border LLC on behalf of Hermes BESS LLC requests an amendment to the BPP certification identifying Hermes BESS LLC as the party that will have legal responsibility for the operation of the BESS and will be the responsible party for compliance with the Commission Conditions of Certification and applicable LORS for the BESS. A list of proposed BESS-only Conditions of Certification resulting from this request is attached hereto as Appendix H.

1.1 Background

The Border BESS site is located within Assessor Parcel No. 646-130-58. The Project site and adjacent properties are zoned light industrial. The Border BESS Project site area within the overall 10.12-acre BPP parcel is located on previously disturbed land that is actively maintained by weed abatement and grading. The Border BESS would be capable of providing up to 52 MW of BESS electricity for short duration (e.g., 1-2 hours). The Border BESS Project will be designed to complete one or two cycles of charge and discharge per day for a total of up to 104 MW hours ("MWh") per day and 730 cycles per year assuming two cycles per day.

The entire Assessor Parcel No. ("APN") 646-130-58 is owned by CalPeak Power-Border, LLC. A lease or easement will be provided to Hermes BESS LLC, which will own and operate the Border BESS Project. The Border BESS Project will have its own metering equipment and CAISO Resource ID. Hermes BESS will have legal responsibility for the operation of the Border BESS Project. The Border BESS Project will connect to the grid through the existing GSU for the adjacent gas-fired Border Peaking Plant, and the two plants will share the GSU, Gen-Tie and a common point of interconnect ("POI") with the CAISO controlled/SDG&E owned transmission system (the "Common Facilities"). The proposed Project would not increase the output of the BPP beyond the CEC licensed capacity and would not exceed the CAISO Aggregate Capability Constraint ("ACC") of 52 MW at the POI.

The battery system will be controlled by an Energy Management System ("EMS") controller, which will be connected to the existing Power Plant Control ("PPC") system at the Border Peaking Plant. The direct current ("DC") block EMS will ramp up and down as directed by the BPP PPC to not exceed 52 MW at the POI. The PPC active power control at the BPP consists of power curtailment, ramp rate control, frequency control, power limit control and plant start and shutdown. The PPC controls active power injection at the point of interconnection such that plant never exceeds the maximum MW based on interconnection request. The power curtailment feature of the PPC maintains active power at POI below the curtailment setpoint. The BPP and BESS would operate simultaneously during ramp up and ramp down between BESS and BPP operation, but the combined output would never exceed 52 MW at the POI.

CalPeak owns the BPP property (APN 646-130-58) which occupies 10.12 acres. The BPP facilities occupy 4.5 acres within the property. The planned Border BESS facilities will be located on an approximately 1.7-acre area east of the existing BPP in the central portion of the overall 10.12-acre BPP property (see attached Preliminary Site Plan on Figure 2). The approximately 1.7-acre BESS site has been previously disturbed. The past disturbance has been associated with historical agricultural use, development of the BPP in the early 2000's, and annual mowing to control vegetation. The Border BESS Project also includes grading and use of up to approximately 1.3

acres of the BPP site for temporary construction laydown and construction personnel parking. The BESS laydown area has also been previously disturbed. The BPP is interconnected to the SDG&E Border Substation to the north via an existing nominal 69 kilovolt ("kV") transmission line that crosses State Route 905 ("SR-905").

The Border BESS Project will include an onsite 13.8 kV switchyard that will connect to the low side (13.8 kV) of the existing nominal 13.8 kV/69 kV GSU before entering the BPP switchyard. This connection will be made using a short underground or overhead 13.8 kV cable. The high side of the existing GSU at the BPP is connected to the 69 kV line that connects to the SDG&E Border Substation to the north. Connecting the Border BESS to the low side of the BPP GSU will allow the BESS to provide energy and capacity at transmission voltage to the SDG&E Border Substation without requiring an additional step-up transformer at the Border BESS switchyard. High voltage modifications to the BPP switchyard or the CAISO network are not expected to be required since the existing BPP GSU and 69 kV line will be utilized for the Border BESS connection. Operation of the Border BESS facility will be integrated with the existing BPP.

The BESS will be charged exclusively from the electrical grid most likely during solar peak production hours and not from the BPP. The BESS is not electrically connected to and cannot be charged by the BPP.

The BPP simple cycle, natural gas-fired peaking plant was licensed by the CEC as a 49.5 MW emergency project in 2001 (Docket No. 01-EP-14). The BPP project was certified by the CEC on July 11, 2001, and began commercial operation on October 26, 2001.

The existing BPP encompasses approximately 4.5 acres in the southwestern portion of the 10.12-acre property. The remainder of the overall 10.12-acre property to the north and east of the power plant consists of vacant land. The peaker plant property is bordered to the north by vacant land and State Route ("SR") 11. The overall property is bordered to the east by Sanyo Road, beyond which is an industrial complex occupied by Sanyo Energy USA Corporation, Panasonic Appliance Refrigeration Systems Corporation of America, and AT&T Mobility Corporation. The subject property is bordered to the south by vacant land and Airway Road. The subject property is bordered to the west by vacant land, beyond which is SR-905.

1.2 20 CCR Section 1769 Information Requirements

The following sections contain the information required pursuant to Title 20, California Code of Regulations (CCR), Section 1769(a)(1).

2.0 DESCRIPTION OF PROPOSED CHANGES

This section addresses the requirements of Title 20, CCR, Section 1769(a)(1)(A).

2.1 Border BESS Project Overview: Description of the Proposed Modification

2.1.1 Existing Facility Overview

Key features of the 4.5-acre power plant portion of the subject property include a pair of Pratt & Whitney ("P&W") FT8-2 natural gas combustion turbines ("CT") that are aerodynamically coupled to a single three-phase, 60 Hz, 13.8 kV Brush BDAX7-290ER turbogenerator rated at 71.176 MVA, primary and secondary control houses, a switchyard, gas compressor skid, several aboveground storage tanks ("ASTs"), and three transformers (i.e., the GSU and two auxiliary transformers). The power plant utilizes two natural gas-fired CTG units and associated ammonia and water ASTs, transformers, and an in-ground oil water separator ("OWS") unit. Ancillary structures include a natural gas intake and compression area, a catalytic reduction emissions system for controlling nitrogen oxide ("NOx") emissions, and an exhaust stack, primary and auxiliary oil-filled electrical power transformers, ASTs for water, wastewater, and aqueous ammonia, and a field office trailer. Onsite Conex storage containers are used to store spare parts and equipment used by all the CalPeak properties in California.

2.1.2 Planned Modifications

In summary, the planned Border BESS Project includes the following components:

- Batteries with 52 MWh of energy storage capacity per hour (e.g., 52 MWh for 1 hour or 26 MWh for 2 hours) to be located on an approximate 1.7-acre site within an overall 10.12-acre site owned and operated by CalPeak.
- The Border BESS Project will be designed to complete up to two cycles of charge and discharge per day for a total of up to 104 MWh per day and 730 cycles per year. The 52 MW BESS site area, including site access roadways and switchyard is shown on Figure 2.
- The battery storage technologies being considered are lithium iron phosphate ("LFP") and nickel manganese cobalt ("NMC") or other technologies that may become commercially available as the BESS Project undergoes final design. Technology selection post-Certification will not affect the BESS's potential impacts or footprint, given that all technologies are enclosed, housed systems.
- The batteries and their associated inverters account for the bulk of the associated BESS equipment and will be located within the parcel (APN 646-130-58, 2060 Sanyo Avenue) that contains the existing nominal 52 MW BPP that was licensed by the CEC in 2001.
- The 52 MW BESS site is located within an existing open area adjacent to the eastern side of the BPP. Site development for the BESS facilities, including BESS switchyard, on

approximately 1.7 acres of land will involve site grading and excavation of soil and re-compaction to accomplish site stormwater control and to support concrete pad foundations. Similar site grading activities for site stormwater control are planned for the 1.3-acre temporary construction laydown and personnel parking area on the eastern and northern portions of the overall BPP site.

- The BESS site and laydown area will be graded at the same time as one overall operation. It is estimated that up to approximately 5,000 cubic yards of balanced cut-and-fill will be required during site preparation and levelling activities. Maximum cut depths are estimated at approximately 4 feet in the southeastern portion of the laydown area. The average depth of cut-and-fill for 5,000 cubic yards of material when averaged over approximately 3 acres is roughly 1 foot.
- The 52 MW BESS will be connected to the SDG&E Border Substation to the north by installing an approximately 90-foot-long, 13.8 kV overhead line or underground concrete cable trench from the BESS 13.8 kV switchyard to the low side (13.8 kV) of the existing GSU at the BPP. Connecting to the low side (13.8 kV) of the BPP GSU will allow the BESS to provide transmission voltage to the SDG&E Border Substation without requiring an additional step-up transformer at the Border BESS switchyard. The overhead 13.8 kV line option includes the installation of two, approximately 30-feet-tall H-frame structures on concrete pad foundations, one on each side of the BPP perimeter road, to support the 13.8 kV line span crossing of the road from the BESS switchyard to the BPP connection point. The underground cable option consists of multiple conductors to be installed in a concrete trench approximately 10-foot-wide by 3-foot-deep across the BPP perimeter access road and covered with steel plates to allow future access to the cables and crossing by vehicles. The 13.8 kV connection will be installed in accordance with applicable codes and standards.
- The Border BESS Project includes repair of a section of the existing peaker plant access road between Sanyo Avenue on the east end and the peaker plant entrance gate on the western end (see Figure 2). The road segment to be prepared covers a distance of approximately 600 feet. The repair work will include removal of the existing asphalt surface for asphalt recycling, reconstruction and reconditioning of the roadway subgrade, and repaving with asphalt.
- The Project will also include a fiber optic communication/controls cabling that will connect the BESS switchyard to the BPP transmission control system interface to integrate the BESS operation with the BPP and the CAISO. The communication line will be installed either overhead or underground for the portion of the route in common with the 13.8 kV line from the BESS Switchyard to the west side of the BPP perimeter road. The communication line will then be installed in aboveground or buried conduit over a distance of approximately 80 feet to the connection point with the existing BPP transmission control system interface to the west.

- This Project has been submitted into CAISO's Post-COD Modification Review Process.

2.2 Construction

Construction of the Border BESS Project will occur over an approximately 8- to 9-month period. Construction site mobilization is currently anticipated to begin in the second quarter of 2023 with commercial operation beginning in the first or second quarter of 2024. Construction hours are expected to typically start at 7 a.m. and end at 7 p.m., Monday through Saturday. Typical worker hours and equipment usage will be 8 hours/day within the 7 a.m. to 7 p.m. window.

The construction phase will be followed by commissioning, testing, and commercial operation planned for the end of the first or second quarter of 2024.

The primary construction activities are planned as follows:

- Repair site access road from Sanyo Avenue to the peaker plant gate (approximately 600-foot-long road segment)
- Site grading of the BESS and construction laydown areas to create level development area with proper site drainage
- Install BESS equipment and switchyard foundations
- Install 13.8 kV electrical cabling and communication lines
- Set battery modules, inverters, and switchgear
- Install foundations and structures at point of interconnection (i.e., peaker plant GSU)
- Complete electrical/wire connections
- Mechanical completion

Key project details for the Border BESS Project as currently defined are summarized in Table 1. Estimated ground disturbance and excavation/fill quantities and construction equipment usage are summarized in Tables A-1 and A-2 in Appendix A.

Table 1
52 MW Border BESS Project Details

Item	BESS Details	Comments
BESS Site Acreage, including Switchyard	~1.7 acres	Vegetation on the area is mowed on an annual basis for fire prevention. Grading and excavation will be required for site levelling, drainage control, and foundations.
Temporary Construction	~1.3 acres	This area is mowed on an annual basis for fire prevention. Grading and excavation will be required for site contouring and drainage control.

Item	BESS Details	Comments
Laydown Area Acreage		
Peak Workforce	40-50	
Ave. Workforce	30-35	
Truck Trips	Ave 15/day for 10-12 weeks	Truck trips will include incoming equipment and material deliveries, and offsite disposal of segregated asphalt and roadbed material from the 600-foot-long access road segment repair and installation of the 13.8 kV underground cable installation across the BPP perimeter road if the trenching option is selected.
	Ave 5/day for additional 3-6 months	Truck trips will include incoming equipment and material deliveries.
Earthwork/Cut and Fill Summary	Site grading and excavation required to level the BESS site and construction laydown area (including providing stormwater drainage control), prepare foundations, install 13.8 kV cable (underground option), and repair access road. Estimated maximum cut and fill (including gravel and roadbed material) at ~5,900 cubic yards.	Site preparation is currently anticipated to include grading, leveling, and compaction for pad foundations and drainage control. In addition, if the underground 13.8 kV installation option is selected, excavation for an underground concrete vault will be required. Access road repair will involve excavation and removal of existing roadbed material and asphalt and roadbed repair and repaving. Cut and fill will be balanced onsite. to the extent practical. It is expected that excess cut from access road repair, installation of the 13.8 kV underground cable (if this option is selected), and the Communication Line would be recycled and/or disposed of at an approved offsite location.

Item	BESS Details	Comments
Foundation Type	-Concrete pad or driven pile foundations -An estimated 2,400 cubic yards of gravel and concrete will need to be imported for the concrete pad foundation option.	It is expected that BESS facilities will be installed on concrete pad foundations requiring up to a total of approximately 1,000 cubic yards of concrete. If driven pile foundations were chosen during detailed design in lieu of concrete pad foundations, it is estimated that 8, 15-foot-long, H-frame piles would be required per BESS and inverter enclosure. This equates to 480 piles needed, including accommodation for augmentation. It is expected that a percussion rig could install about 16 piles per day per rig.
Construction Water Usage/Day	<5,000 gal/day	Short-term construction water needs to be met via existing Otay Water District supply at the Border Peaker site and/or water trucked to site from offsite source by construction contractor. Water for dust control and other construction needs is estimated at up to 5,000 gallons per day for the first 2 to 3 months during site grading and leveling activities and to average 2,000 – 3,000 gallons per day for the balance of construction activities involving ground disturbance such as trenching and other dust generating activities.
Construction Equipment	Various	During construction, a variety of equipment and vehicles would operate on the BESS project site and construction laydown area. Construction equipment to be utilized would be expected to include graders and excavators, backhoes, water trucks, sheep's foot compactors, front end loaders, concrete trucks, dump trucks, trash trucks, and flatbed trailers. Cranes, man-lifts, portable welding units, line trucks, and mechanic trucks will also be required. All equipment and vehicles would comply with the noise requirements of the City of San Diego. The City of San Diego's Noise requirements relate to nuisance and are specified in the City of San Diego Municipal Code, Chapter 5 – Public Safety, Morals and Welfare, Article 9.5: Noise Abatement and Control, Division 4 Limits, §59.5.0401 Sound Level Limits, and §59.5.0404 Construction Noise. The provisions for §59.5.0404 Construction Noise include: (a) It shall be unlawful for any person, between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in Section 21.0104 of the San Diego Municipal Code, with exception of Columbus Day and

Item	BESS Details	Comments
		Washington's Birthday, or on Sundays, to erect, construct, demolish, excavate for, alter or repair any building or structure in such a manner as to create disturbing, excessive or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator. In addition, the project will utilize construction equipment with Tier 4, CARB certified off-road diesel engines, as applicable.
Construction Hours	7 am – 7 pm	Construction noise will comply with City of San Diego Noise Ordinance construction noise limitations by either limiting construction hours to 7 a.m. – 7 p.m., by limiting noise generating activities so as not to be disturbing, excessive or offensive before 7 a.m. or after 7 p.m., and/or by obtaining a variance.
Planned Construction Schedule	Start Date 2nd Quarter 2023	Key construction activities involving ground disturbance are planned to occur over an approximately 3-month period.
Planned Commercial Operation Date	1st or 2nd Quarter 2024	Subject to change depending on market conditions and equipment availability.
Maintenance Workforce	2 workers, 1 day per week	
Noise Levels (Ops)		Packaged inverters and accompanying medium voltage transformers may be supplied by Power Electronics or other manufacturers capable of providing equipment of similar design and capacity. Manufacturer specifications indicate that these units generate a noise level of between 75 and 79 dBA at 1 meter. BESS battery enclosures would be provided as self-contained packaged units manufactured by CATL or other Tier 1 battery manufacturers. Battery manufacturer's specifications indicate that these units generate a noise level of 75 dBA at 1 meter. City of San Diego Municipal Code, Chapter 5 – Public Safety, Morals and Welfare, Article 9.5: Noise Abatement and Control, Division 4 Limits, §59.5.0401 Sound Level Limits provisions include noise level limitations based on land use on adjacent properties and the one-hour average

Item	BESS Details	Comments
		sound level projected beyond the applicable property line as follows: Commercial, 7 p.m. – 7 a.m. = 60 dBA; Industrial, Anytime, 75 dBA. The Border peaking plant parcel, including the proposed BESS facilities, and all adjacent parcels are zoned IL-2-1 (Light Industrial) by the City of San Diego.
Operational Phase Water Supply/Usage	Unmanned facility	Assumed that water may be required for Fire Water and for landscaping, as applicable. BPP water supply is from Otay Water District (OWD), and it is assumed that the Border 52 MW BESS Project operational water supply needs would be met by OWD supply too. Water supply needs to be determined once landscaping plans are developed, as applicable.
Battery Augmentation	Add modules every 2-5 years	The pad foundations for the future module additions will be installed at the time of construction (see Preliminary Site Layout in Appendix A).
Planned Project Life	40 years	

2.3 Operation and Maintenance

Once constructed, the Border BESS Project would be capable of operating seven days per week and 365 days per year. The BESS facilities would be designed to be operated remotely and limited customers or visitors are expected. Periodic inspections and maintenance activities would occur. No permanent onsite BESS staff are anticipated. Security would be maintained through installation of chain-link fencing. The BESS project facilities would also be protected by the existing security measures at the Border Peaker Plant.

Operation and maintenance of the Project would generate minimal noise, primarily from fans used to cool electrical equipment and transformers. The BESS project facilities will be designed to comply with applicable City noise standards. Periodic on-site maintenance is expected to be required following commissioning. Operations and maintenance activities would require several workers performing visual inspections, monitoring BESS performance, executing minor repairs, and responding to needs for BESS adjustment.

It is anticipated that battery module augmentation via installation of additional or replacement batteries will be required to make up for decreased battery performance over time. The frequency and extent of such augmentations over the life for the BESS project is currently

estimated to occur every 4 to 5 years. The expected infrequent maintenance and augmentation activities would generate little traffic during operations. The areas surrounding the inverters and switchgear would be graveled and would have adequate space for parking several vehicles.

Operations and maintenance vehicles would include light duty trucks (e.g., pickup, flatbed) and other light equipment and hand tools for maintenance. Heavy equipment would not be utilized during normal operation. Large or heavy equipment may be brought to the facility infrequently for equipment repair or battery replacement.

Sanitary disposal needs for operations would be provided through the existing Border Peaker Plant's facilities (porta potties). Other wastes from equipment replacement or other work would be removed from the site at the end of the day, or as needed. As applicable, spent batteries removed during infrequent battery module augmentation events would be handled and transported as Universal Waste prior to offsite recycling. Normal operation of the Project is not expected to require use of new hazardous materials and/or to generate additional hazardous wastes in reportable quantities.

As applicable over time, combustible vegetation on and around the BESS project boundaries would continue to be actively managed to minimize fire risk. Additionally, the BESS project would comply with all applicable City and County fire standards.

2.4 Decommissioning

The proposed Border BESS Project is currently anticipated to be capable of operating for 40 years or more. Once BESS operations are terminated, the facility would be decommissioned in accordance with then-applicable laws, ordinances, regulations, and standards. Many of the parts of the proposed BESS systems are recyclable including a substantial percentage of the battery and other electrical components. Spent batteries would be managed and transported as Universal Waste prior to offsite recycling at an approved location. Metal, scrap equipment, and parts that do not have free-flowing oil can be sent for salvage. Equipment containing any free-flowing oil such as oil filled transformers, as applicable, would be managed as waste and would require evaluation. Oil and lubricants removed from equipment would be managed as used oil.

3.0 NECESSITY OF PROPOSED CHANGE

This section addresses the requirements of Title 20, CCR, Section 1769(a)(1)(B).

The requested amendment would allow for the Border BESS Project to be constructed and operated adjacent to the BPP. The Border BESS Project will be constructed in part to support California's current need for additional renewable electrical energy supply especially during peak

load demand time periods in the summer and would advance the State's and the California Public Utility Commission's ("CPUC's") policy of 60% renewable power by 2030 and 100% by 2045 (Senate Bill 100). The Border BESS Project offers the CAISO a renewable dispatchable energy resource to the electrical grid and responds to the CAISO requirement to provide additional Resource Adequacy capacity and capability to California's existing transmission system.

4.0 NEW INFORMATION OR CHANGE IN CIRCUMSTANCES THAT NECESSITATED THE CHANGE

This section addresses the requirements of Title 20, CCR, Section 1769(a)(1)(C).

The proposed modifications are not based on information that was known during the certification proceeding in 2001. California's current need and goals for additional renewable electrical energy supply were not known in 2001. In addition, the battery technology that is planned to be utilized was not available in 2001.

5.0 ANALYSIS OF THE EFFECTS THAT THE PROPOSED CHANGE WILL HAVE ON THE ENVIRONMENT AND MITIGATION MEASURES PROPOSED

This section and Appendix B address the requirements of Title 20, CCR, Section 1769(a)(1)(D). Supporting technical study documentation is also presented in Appendices C through G.

The CEC's Final Commission Decision for the CalPeak Border Project incorporated the CEC Staff Assessment dated July 5, 2001 by reference and the Commission certified the Project on July 11, 2001. The Commission approved the CalPeak Border Project as an emergency project that was exempted from CEQA pursuant to Public Resources Code 21089 (b)(4); however, the emergency peakers were not exempted from, and complied with, all applicable requirements of federal law, including but not limited to the federal Clean Air Act, Clean Water Act, and the Endangered Species Act.

The CEC Staff Assessment for the CalPeak Border Project addressed the following environmental topic areas: Land Use, Air Quality; Biological Resources, Soils and Water, Hazardous Materials Management, Cultural Resources, Paleontological Resources, Noise, Visual Resources, Traffic and Transportation, Public Services, and Environmental Justice. Although the CEC Staff Assessment did not include assessments, it did also include Conditions of Certification ("Conditions" or "CoC") for Waste Management and Worker Safety. In addition, the CEC Staff Assessment also addressed Facility Design and Transmission System Engineering.

An assessment of the effects that the proposed Border BESS Project will have on the environment with consideration of the topics addressed in the Final Commission Decision/Staff Assessment and current regulations is attached hereto as Appendix B. The assessment of potential effects presented in Appendix B (as supported with technical assessments in Appendices C through H) also considers input provided by CEC staff in 2022. Where appropriate, Appendix B includes applicant-proposed measures ("APMs") that are proposed to avoid or minimize potential environmental effects.

As set forth in detail in Appendix B (as supported with technical assessments in Appendices C through H), the Border BESS Project will avoid or minimize potentially significant effects on the environment.

6.0 MODIFICATIONS IMPACT ON LORS COMPLIANCE

CEC Siting Regulations, Title 20, CCR, Section 1769(a)(1)(E) requires "An analysis of how the proposed change would affect the project's compliance with applicable laws, ordinances, regulations, and standards". As discussed in detail in Section 5, approval of the modifications associated with implementation of the Border BESS Project will not impact compliance with applicable LORS.

7.0 POTENTIAL EFFECTS ON PUBLIC

This section discusses the potential effects on the public that may result from the modifications proposed in this Petition for Post-Certification Amendment, in accordance with CEC Siting Regulations (Title 20, CCR, Section 1769(a)(1)(F)).

With implementation of the proposed modifications to the CalPeak Border peaker facility and property, the Border BESS Project will have no adverse effect on the public. The installation and operation of the BESS facilities will comply with applicable LORS and will not result in any potentially significant impacts. Therefore, no adverse effects on the public will occur because of the changes to the CalPeak Border peaker facility as proposed in this Petition for Post-Certification Amendment.

8.0 PROPERTY OWNERS

Section 1769(a)(1)(G) requires a "list of current assessor's parcel numbers and owners' names and addresses for all parcels within 500 feet of any affected project linears and 1,000 feet of the project site." Consistent with privacy considerations, a list of current assessor's parcel numbers

and owners' names and addresses for all parcels within 1,000 feet of the project site will be provided directly to the Compliance Project Manager.

9.0 MODIFICATIONS IMPACT ON THE PUBLIC AND NEARBY PROPERTY OWNERS

This section addresses potential effects of the project changes proposed in this Petition for Post-Certification Amendment on nearby property owners, the public, and parties in the application proceeding, in accordance with CEC Siting Regulations (Title 20, CCR, Section 1769 (a)(1)(H)).

The Border BESS Project additions to the BPP project site will not result in new potentially significant effects on adjacent landowners. The project region has changed since the CalPeak Border Project was licensed and constructed in 2001 and now includes roadways that have been constructed to the north, northwest, west, and southwest of the peaker property. New roadways include State Route ("SR") 11 to the north, the SR 11/SR 125 interchange to the northwest, and SR 905 construction to the west and southwest. The overall property is bordered to the east by Sanyo Road, beyond which is an industrial complex occupied by Sanyo Energy USA Corporation, Panasonic Appliance Refrigeration Systems Corporation of America, and AT&T Mobility Corporation. The subject property is bordered to the south by vacant land and Airway Road. The subject property is bordered to the west by vacant land, beyond which is SR-905.

Border BESS Project construction will be short term and will not result in any potentially significant effects on the public and nearby property owners. Implementation of the Border BESS Project will increase the developed area on the eastern portion of the 10.17-acre Border Peaker property by approximately 1.7 acres. The primary structures to be installed are low profile BESS enclosures. Normal operation of the BESS facility will not have associated air emissions and noise levels will be within applicable noise thresholds. The BESS facility will be remotely operated and will not require additional onsite workers or associated traffic generation except during maintenance and infrequent battery augmentation events. Although the BESS facility will be remotely operated, onsite BPP personnel are typically present at the adjacent peaker facility.

At the time the CEC Staff Assessment and Final Decision were prepared and issued in 2001, the zoning designation for the Border peaker plant site was Otay Mesa Industrial Subdistrict ("OMDD-I"). Major utilities and services (including central electric plants and public utility electric substations) were specifically permitted in the OMDD-1 zone, in accordance with the San Diego Municipal Code §103.1103(a)(7). In 2014, the City of San Diego Otay Mesa Community Plan Update was approved and rescinded the Otay Mesa Development District (including the OMDD-1 zone) in order to implement development regulations that were consistent with the City-wide zoning classifications. The Otay Mesa Community Plan Update was a comprehensive update to

the 1981 Community Plan. The area where the Border peaker site is located was redesignated as an Industrial-Light (IL) Zone and more specifically as Zone IL-2-1 which allows a mix of light industrial and office uses with limited commercial (San Diego Municipal Code, Chapter 13: Zones, §131.0603). The proposed Border BESS project would be consistent with this code and zoning designation.

10.0 APPLICABLE CEQA EXEMPTIONS

Section 1769(a)(1)(I) requires a discussion of any exemptions from the California Environmental Quality Act, commencing with section 21000 of the Public Resources Code, that the project owner believes may apply to approval of the proposed change.

The CEC's power plant siting process is a certified state regulatory program under the California Environmental Quality Act (Pub. Resources Code, § 21080.5; 14 C.C.R. §§ 15250-15253.) As such, it is exempt from the procedural elements of CEQA, though it must adhere to the substantive requirements of CEQA. The CEC's detailed certification process is commonly described as "CEQA-equivalent." CEQA defines a "Project" in pertinent part as "…an activity which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment." (Pub. Resources Code § 21065.)

In this case, the CalPeak Border Project was subject to environmental review in accordance with the CEC's certified regulatory program. The current operations of the Border peaker plant are not a new CEQA "project," but are part of the existing environmental baseline. Once a project is approved, CEQA does not require that it be analyzed anew every time an action is required to implement the project. Where an EIR, or in this case the CEC's CEQA-equivalent certification, has been prepared for a project, CEQA expressly prohibits agencies from requiring a subsequent or supplemental EIR, except in specified circumstances, e.g., where the project will have more severe impacts as a result of substantial changes to the project or the circumstances under which it is undertaken. (14 C.C.R. § 15162). As discussed below, the operations of the Border BESS Project with the CalPeak Border Project do not trigger any such requirement.

Even assuming that the Border BESS Project was a CEQA "project," the activities are categorically exempt. First, the modifications are categorically exempt pursuant to Title 14, Section 15301 of the California Code of Regulations as a minor alteration to an existing facility. The Border BESS Project described herein includes activities that constitute a minor modification to the peaker plant operations and property. The changes will all be interior to the property boundary and will involve no expansion of the existing use of the Border peaker for power generation.

Second, CEQA Guidelines section 15303 exempts construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure. The BESS system will consist primarily of modular battery enclosures, inverters with MV transformers, a switchyard, and electrical controls and connections.

In addition, the proposed modifications associated with the Border BESS Project are also categorically exempt from CEQA pursuant to Section 15061(b)(3), the "Common Sense Exemption." This exemption provides that "[w]here it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA." (14 C.C.R. § 15061(b)(3).) In this case, there is no possibility that the proposed change may have a significant effect on the environment. The proposed project will not result in an increase in the BPP's hourly or annual emissions above the existing permitted potential to emit (PTE) limits and will not require any revisions to its hourly, daily, or annual emissions or operational limits to accommodate the project. There would be no substantial adverse changes to existing baseline conditions at the BPP site from the proposed Border BESS Project. Therefore, the proposed temporary modifications are categorically exempt from CEQA pursuant to the "Common Sense Exemption."

11.0 CONCLUSIONS

For all the reasons set forth herein, CalPeak and Hermes BESS LLC respectfully request that the CEC approve the requested Border BESS Project modifications to the CalPeak Border Project pursuant to Title 20, California Code of Regulations, Section 1769(a)(1).

FIGURES

The following figures are attached:

- Figure 1 General Location Map
- Figure 2 Preliminary Site Layout
- Figure 3 Photograph of Typical BESS Enclosures

CALPEAK POWER BORDER PLANT
2060 SANYO AVENUE
SAN DIEGO, CA 92154

REV	DATE	DESCRIPTION	DRW'N BY	CH'K BY	ENG'R	PROJECT ENG'R	APPV'D BY
1	07-23-2022	PRELIMINARY	CM	CJP			

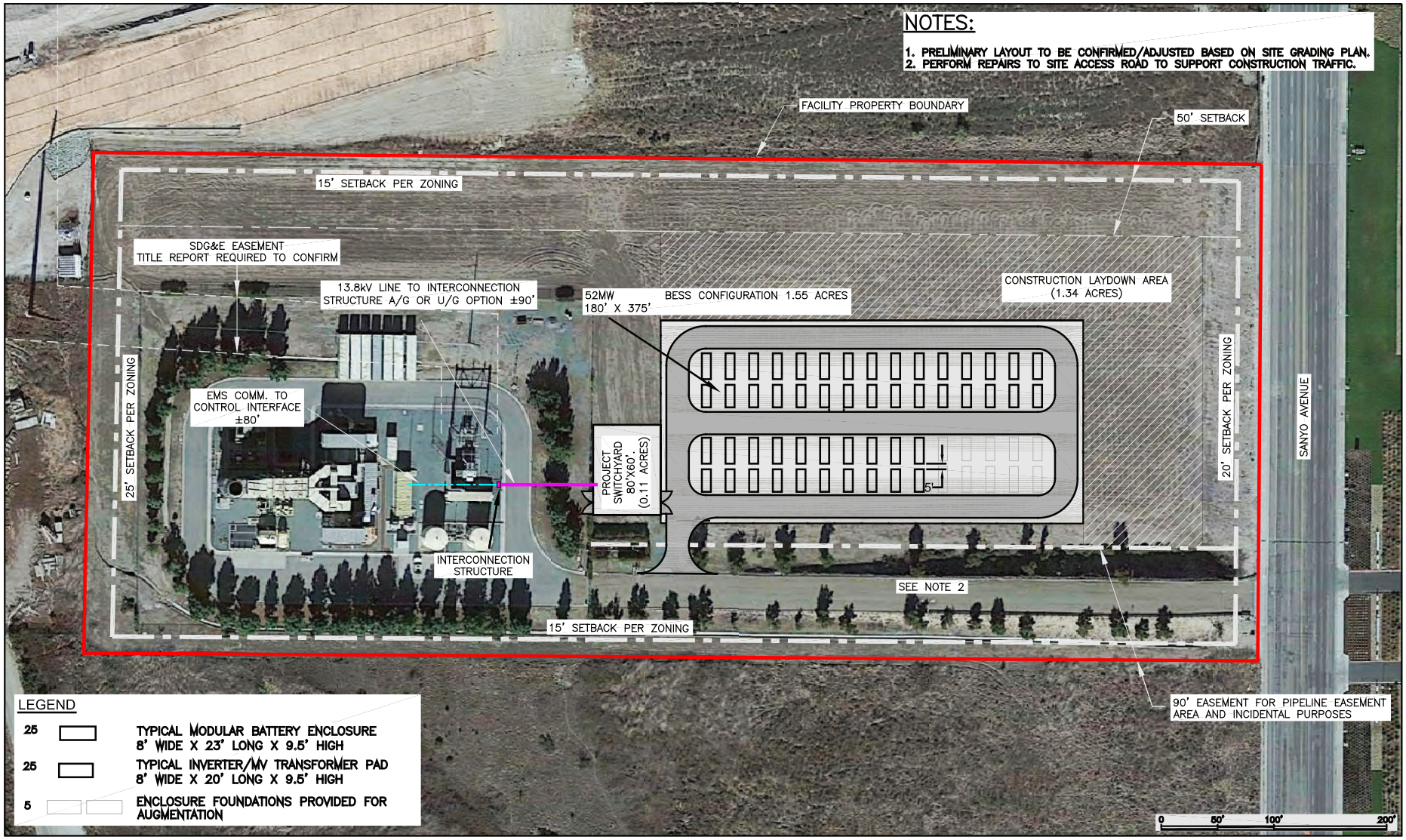
PATCH SERVICES
CALIFORNIA • ENGINEERING • TEXAS
333 SUNSET AVE.
SUITE: 210
SUISUN CITY, CA 94585
PHONE: 707-425-4949
FAX: 707-425-4553
21175 TOMBALL PARKWAY
SUITE: #308
HOUSTON, TX 77070
PHONE: 281-330-1466
FAX: 832-698-2835

HERMES BESS LLC

FIGURE 1

GENERAL LOCATION MAP

SCALE:	N.T.S
JOB NO:	9121
DATE:	07-23-2022
DRAWN BY:	CM
CHECKED BY:	CJP
DRAWING NUMBER	D-9121-2017
SHEET NUMBER	
REV	1



CALPEAK POWER BORDER PLANT
2060 SANYO AVENUE
SAN DIEGO, CA 92154

REV	DATE	DESCRIPTION	DRAWN BY	CHK'K BY	ENG'R	PROJECT ENG'R	APPR'D BY
3	05-24-2022	UPDATED TO SUPPORT FIRE DEPARTMENT DISCUSSION	CM	CJP			
2	04-19-2022	REVISED SITE LOCATION AND BATTERY FOUNDATION	CM	CJP			
1	04-07-2022	REVISED – MOVED LAYOUT EAST NORTH	CM	CJP			
0	03-28-2022	PRELIMINARY	CM	CJP			

PATCH SERVICES
CALIFORNIA • ENGINEERING • TEXAS
333 SUNSET AVE.
SUITE: 210
SUISUN CITY, CA 94585
PHONE: 707-425-4949
FAX: 707-425-4553
21175 TOMBALL PARKWAY
SUITE: #308
HOUSTON, TX 77070
PHONE: 281-330-1466
FAX: 832-698-2835

HERMES BESS LLC

FIGURE 2

PRELIMINARY SITE LAYOUT

SCALE:	AS SHOWN
JOB NO:	9121
DATE:	03-28-2022
DRAWN BY:	CM
CHECKED BY:	CJP
DRAWING NUMBER	D-9121-2007
SHEET NUMBER	
REV	3

CALPEAK POWER BORDER PLANT
2060 SANYO AVENUE
SAN DIEGO, CA 92154

REV	DATE	DESCRIPTION	DRAWN BY	CHK BY	ENG'R	PROJECT ENG'R	APPR'D BY
1	07-23-2022	PRELIMINARY	CM	CJP			

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CALIFORNIA • ENGINEERING • TEXAS
333 SUNSET AVE.
SUITE: 210
SUISUN CITY, CA 94585
PHONE: 707-425-4949
FAX: 707-425-4553
21175 TOMBALL PARKWAY
SUITE: #308
HOUSTON, TX 77070
PHONE: 281-330-1466
FAX: 832-698-2835

HERMES BESS LLC

FIGURE **3**

PHOTOGRAPH OF TYPICAL BESS ENCLOSURES

SCALE:	N.T.S.
JOB NO:	9121
DATE:	07-23-2022
DRAWN BY:	CM
CHECKED BY:	CJP
DRAWING NUMBER	SHEET NUMBER / REV
D-9121-2015	1

APPENDIX A

PROJECT DETAILS

This appendix presents supplemental project details for the Border BESS Project as currently defined. Estimated ground disturbance and excavation/fill quantities are presented in Table A-1. Estimated construction equipment usage is summarized in Table A-2.

Table A-1
Summary of Ground Disturbance and Earthwork

Project Component	Approximate Quantity (+/-)	Comments
<u>BESS Site/Switchyard and Construction Laydown Area</u> -Acreage -Cut and fill -Gravel import for pads -Concrete import for pads	 3 acres 5,000 cubic yards 1,400 cubic yards 1,000 cubic yards	Vegetation on the area is mowed on an annual basis for fire prevention. Grading and excavation will be required for site levelling, drainage control, and foundations on BESS site and switchyard areas. Maximum cut depth is estimated at 4 feet in the southeastern portion of the laydown area. Cut and fill will be balanced onsite for the grading operation. The BESS site and switchyard areas will be surfaced with gravel (+/- 0.5 foot). Estimated up to 30 each of individual BESS enclosures and inverters (maximum pad sizes at 10’ wide x 23’ long) will be supported on concrete pads (+/- 1.5-foot thick).
<u>13.8 kV Connection Line from BESS Switchyard to BPP GSU (Low Side)</u> -Overhead Option	 ~90’ long suspended on 2 H-frame Structures	H-frame structures on each side of BPP perimeter road at crossing point are anticipated to have concrete mat foundation pads each approximately 5’ wide by 20’ long by 3’ deep. For two H-frame structures, this equates to approximately 25 cubic yards of concrete needed.

Project Component	Approximate Quantity (+/-)	Comments
-Underground Option	~90' long in underground concrete trench with steel plate cover ~100 cubic yards of excavated road pavement and underlying soil	This option would involve excavation and installation of an underground concrete trench with steel plate covers to allow access if needed. The trench excavation dimensions are estimated at 90' long by 10' wide by 3' deep.
<u>Fiber Optic Communication Line (BESS Switchyard to BPP Control Interface)</u> -Total Length	170' (~80' in conduit in addition to ~90' portion in common with 13.8 kV line)	Refer to 13.8 kV information for portion of Communication Line in common with 13.8 kV line; there would be no additional earthwork associated with the Communication Line for the common portion. The additional ~80' of Communication Line to the BPP Control Interface will be installed in either aboveground or underground conduit. If installed in underground conduit, it is estimated that the conduit will be installed in a 2' by 3' trench which will result involve ~ 18 cubic yards of excavation and backfill.
<u>BPP Entrance Access Road Repair</u> -Length/Width/Acreage -Road cut depth for repair -Road repair cut material for offsite disposal (road-bed material and asphalt)	600'/35'/0.5 ac 1 foot 780 cubic yards	The ~600-foot-long road segment to be repaired is elevated and runs between Sanyo Road on the eastern end and the peaker plant gate on the west. The existing road will be cut down to a depth of approximately 1 foot and rebuilt with compacted roadbed material and asphalt road surface. Removed asphalt will be segregated and recycled offsite. It is estimated that about 780 cubic yards of material will need to be removed and disposed of offsite in an approved manner and that about 780 cubic yards of roadbed material and asphalt will need to be imported to repair the roadway.

Table A-2
Estimated Equipment Usage

Planned Tier 4 Equipment	**Estimated No. of Equipment Pieces by Construction Activity/Period**					
	Access Road Repair	Site Prep/ Grading	Install Foundations and Equipment	Set Modules, Inverters, Switchgear	Elec Wire Install/ Finished Grading	Commis-sioning/ Testing
	Month 1	Months 1-2	Months 2-3	Months 3-6	Months 4-8	Months 8-11
Backhoes	1	1	1		1	
Compactors	1	1	1			1
Compressors		2	2	1	1	
Cranes, Hydraulic			1	2	1	
Dozers	1	1	1		1	
Loaders, Front-end	1	1	1		1	
Motor Grader	1	2			1	
Off-highway trucks (1-ton flatbeds)		1	2	2	1	1
Pavers	1				1	
Rough Terrain Forklifts			2	1	1	
Sweepers/ Scrubbers		1	1	1	1	
Pickup Trucks (gasoline/diesel)	1	2	3	3	3	3
Welders			2	2	2	2
Portable Electric Generator			1	1	1	
Pile Driver[1]			2			

[1]Only needed if pile foundation option is selected instead of concrete pad foundations.

APPENDIX B

ANALYSIS OF THE EFFECTS THAT THE PROPOSED CHANGE WILL HAVE ON THE ENVIRONMENT AND MITIGATION MEASURES PROPOSED

Section 1769(a)(1)(D) requires "An analysis of the effects that the proposed change to the project may have on the environment and proposed measures to mitigate any significant environmental effects." This Appendix addresses each discipline considered in the original CEC certification for the Border Peaker Plant ("BPP").

Note: The sections and subsections of this Appendix A are numbered "5" to coincide with the numbering in the main body of the Petition for Post-Certification Amendment.

5.0 ANALYSIS OF THE EFFECTS THAT THE PROPOSED CHANGE WILL HAVE ON THE ENVIRONMENT AND MITIGATION MEASURES PROPOSED

This Appendix B and Section 5 of the Petition for Post-Certification Amendment address the requirements of Title 20, CCR, Section 1769(a)(1)(D).

5.1 Background

The Border 52-megawatt ("MW") BESS Project ("Border BESS Project") site is located within Assessor Parcel No. 646-130-58. The Project site and adjacent properties are zoned light industrial. The Border BESS Project site area within the overall 10.12-acre BPP parcel is located on previously disturbed land that is actively maintained by weed abatement and grading. The Border BESS would be capable of providing up to 52 MW of BESS electricity for short duration (e.g., 1-2 hours). If the 52 MW of capacity is needed for dispatch to the electrical grid for more than short duration, the peaker plant would then be called upon to meet the need. The proposed Project would not increase the output of the BPP beyond the CEC licensed capacity and would not exceed the CAISO Aggregate Capability Constraint ("ACC") of 52 MW. The planned Border BESS facilities will be located on an approximately 1.7-acre area east of the existing BPP in the central portion of the overall 10.12-acre BPP property. The approximately 1.7-acre BESS site, including battery storage system enclosures (1.6 acres) and BESS switchyard (0.1 acre), have been previously disturbed. The past disturbance has been associated with historical agricultural use, development of the BPP in the early 2000's, and annual mowing to control vegetation. The Border BESS Project also includes use of up to approximately 1.3 acres of the BPP site for temporary construction laydown and construction personnel parking. The BPP is interconnected to the SDG&E Border Substation to the north via an existing nominal 69 kilovolt ("kV") transmission line that crosses State Route 905 ("SR-905"). The Border BESS Project will include an onsite 13.8 kV switchyard that will connect to the low side (13.8 kV) of the existing nominal 13.8 kV/69 kV generator step-up unit/main power transformer ("GSU") before entering the BPP switchyard. This connection will be made using a short underground or overhead 13.8 kV cable. The high side of the existing GSU at the BPP is connected to the 69 kV line that connects to the SDG&E Border Substation to the north. Connecting the Border BESS to the low side of the BPP

GSU will allow the BESS to provide energy and capacity at transmission voltage to the SDG&E Border Substation without requiring an additional step-up transformer at the Border BESS switchyard. High voltage modifications to the BPP switchyard or the CAISO network are not expected to be required since the existing BPP GSU and 69 kV line will be utilized for the Border BESS connection. Operation of the Border BESS facility will be integrated with the existing BPP. The BESS will be charged from the electrical grid most likely during solar peak production hours and not from the BPP. The BESS and the BPP may be operated simultaneously in accordance with the market-optimized dispatch instructions received from the CAISO's Automated Dispatching System ("ADS"), but the combined output will be control limited to never exceed a net of 52 MW per the Generator Interconnection Agreement.

The BPP simple cycle, natural gas-fired peaking plant was licensed by the CEC as a 49.5 MW emergency project in 2001 (Docket No. 01-EP-14). The BPP project was certified by the CEC on July 11, 2001, and began commercial operation on October 26, 2001. The peaking plant is interconnected to the SDG&E Border Substation to the north via a 69 kV transmission line that crosses State Route 905. The Border BESS includes an onsite 13.8 kV switchyard that will connect to the existing 13.8 kV/69 kV GSU transformer at the BPP switchyard via a new 13.8 kV cable connection (see Figure 2). The existing GSU at the BPP is connected to the 69 kV line that connects to the SDG&E Border Substation.

For background, the existing BPP encompasses approximately 4.5 acres in the southwestern portion of the 10.12-acre property. The remainder of the overall 10.12-acre property to the north and east of the power plant consists of vacant land. The overall peaker plant property is bordered to the north by vacant land and State Route ("SR") 11. The overall property is bordered to the east by Sanyo Road, beyond which is an industrial complex occupied by Sanyo Energy USA Corporation, Panasonic Appliance Refrigeration Systems Corporation of America, and AT&T Mobility Corporation. The subject property is bordered to the south by vacant land and Airway Road. The subject property is bordered to the west by vacant land, beyond which is SR-905.

5.2 Environmental Topic Areas Addressed in Final Commission Decision in July 2001

The CEC's Final Commission Decision for the CalPeak Border Project incorporated the CEC Staff Assessment dated July 5, 2001, by reference and the Commission certified the Project on July 11, 2001. The Commission approved the CalPeak Border Project as an emergency project that was exempted from CEQA pursuant to Public Resources Code 21089 (b)(4). The CEC Staff Assessment for the CalPeak Border Project addressed the following environmental topic areas: Land Use, Air Quality; Biological Resources, Soils and Water, Hazardous Materials Management, Cultural Resources, Paleontological Resources, Noise, Visual Resources, Traffic and Transportation, Public Services, and Environmental Justice. Although the CEC Staff Assessment did not include

assessments, it did also include Conditions of Certification (CoC) for Waste Management and Worker Safety. In addition, the CEC Staff Assessment also addressed Facility Design and Transmission System Engineering.

An assessment of the effects that the proposed Border BESS Project will have on the environment with consideration of the topics addressed in the Final Commission Decision/Staff Assessment and current regulations is presented herein. The assessment of potential effects also considers input provided by CEC staff in 2022. As requested by the CEC in 2022, assessments are included herein for Fire Safety which has been incorporated with Public Services, Vehicle Miles Traveled ("VMT") which has been incorporated with Traffic and Transportation, and Wildfire. Where appropriate, applicant-proposed measures ("APMs") intended to minimize environmental effects are included herein. It is anticipated that the CEC may specify these measures as standard Conditions for the Border BESS Project.

The balance of this analysis is organized as follows:

- 5.3 Land Use
- 5.4 Air Quality and Greenhouse Gas ("GHG")
- 5.5 Biological Resources
- 5.6 Soils and Water
- 5.7 Hazardous Materials Management
- 5.8 Cultural Resources
- 5.9 Paleontological Resources
- 5.10 Noise and Vibration
- 5.11 Visual Resources
- 5.12 Traffic and Transportation
- 5.13 Public Services/Fire Protection
- 5.14 Environmental Justice
- 5.15 Wildfire
- 5.16 Waste Management
- 5.17 Worker Safety

Separate technical appendices are also provided for: Air Quality and Greenhouse Gas (Appendix C), Biological Resources (Appendix D), Cultural Resources (Confidential)(Appendix E), Noise and Vibration (Appendix F), and Vehicle Miles Traveled (Appendix G). In addition, based on a review and assessment of the existing CEC Conditions of Certification for the BPP, the subset of BPP Conditions that are expected to be applicable to the Border BESS Project are presented in Appendix H (Border BESS-Only Conditions of Certification).

As set forth herein, the Border BESS Project will avoid or minimize potentially significant effects on the environment.

5.3 Land Use

5.3.1 CEC Certification of BPP

This Petition to Amend provides updates to the land use information as described in the Commission Decision and subsequent Commission Orders.

5.3.2 Environmental Analyses

The Final Decision issued by the CEC in 2001 (CEC 2001a) identified several environmental considerations, including land use. The CEC Final Decision stated that the BPP site was located in an industrial area within the City of San Diego and the project was a permitted use in accordance with the City of San Diego Municipal Code. In addition, the CEC Final Decision stated that the Project site is not located within the Brown Field Airport Influence Area. These statements are still correct for the BPP site, including the proposed Border BESS Project.

At the time the CEC Staff Assessment (CEC 2001b) and Final Decision were prepared and issued in 2001, the zoning designation for the Border peaker plant site was Otay Mesa Industrial Subdistrict (OMDD-I). Major utilities and services (including central electric plants and public utility electric substations) were specifically permitted in the OMDD-1 zone, in accordance with the San Diego Municipal Code §103.1103(a)(7).

In 2014, the City of San Diego Otay Mesa Community Plan Update was approved and rescinded the Otay Mesa Development District (including the OMDD-1 zone) in order to implement development regulations that were consistent with the City-wide zoning classifications. The Otay Mesa Community Plan Update was a comprehensive update to the 1981 Community Plan. The area where the Border peaker site is located was redesignated as an Industrial-Light (IL) Zone and more specifically as Zone IL-2-1 which allows a mix of light industrial and office uses with limited commercial (San Diego Municipal Code, Chapter 13: Zones, §131.0603). The proposed Border BESS project is consistent with this code and zoning designation. If the City was the lead permitting agency (instead of the CEC), a Conditional Use Permit and associated compliance with the California Environmental Quality Act would be expected to be required.

It was assessed that CEC Condition LAND-1 would ensure that all applicable laws, ordinances, regulations and standards (“LORS”) would be met and that the project’s impact on land use would be less than significant. It is assumed that CEC Condition LAND-1 would apply to the Border BESS

project as well.

The proposed project site is located in the City of San Diego. Local land use laws, ordinances, regulations, and standards (LORS) applicable to the proposed project are contained in City of Diego's 2008 General Plan 2008 (as amended), including the Otay Mesa Community Plan Update 2014 and the City's Municipal Code, Chapter 13: Zones.

CEC Condition LAND-1 for the BPP is assumed to be applicable to the Border BESS project and requires that the project will conform to all applicable local, state and federal land use requirements, including general plan policies, zoning regulations, local development standards, easement requirements, encroachment permits, truck and vehicle circulation plan requirements, California Subdivision Map Act, Federal Aviation Administration approval, and the Federal Emergency Management Agency National Flood Insurance Program. Verification requirements for Condition LAND-1 state that prior to start of construction, the project owner will submit to the Compliance Project Manager ("CPM") documentation verifying compliance with the referenced land use requirements.

In summary, no adverse impacts related to land use compliance and consistency associated with construction or operation of the Border BESS Project are expected to occur.

5.3.3 Mitigation Measures

The Border BESS project will not result in significant impacts related to land use that will require additional mitigation measures.

5.3.4 Consistency with LORS

The Project conforms to applicable LORS related to land use.

5.3.5 Conditions of Certification

The proposed modifications do not require changes to the CoCs for land use.

5.3.6 References

California Energy Commission (CEC). 2001a. Final Decision, Application for Certification of the CalPeak – Border Project by CalPeak Power-Border, LLC. July.

____. 2001b. CalPeak Power-Border, LLC – Staff Assessment for Emergency Permit. Docket # 01-EP-14. July 5.

City of San Diego. 2008. City of San Diego General Plan 2008. Adopted March 10, 2008

____. 2014. Otay Mesa Community Plan Update. Adopted March 11, 2014, as amended.

5.4 Air Quality and Greenhouse Gas (GHG)

5.4.1 CEC Certification of BPP

The CEC Final Decision (CEC 2001a,b) stated potential air quality concerns included cumulative air quality related impacts from existing and proposed power plants in the Otay Mesa area. This concern is not applicable to operation of the proposed Border BESS Project. Conditions of Certification ("Condition" or "CoC") AQ-2, and AQ-3 required compliance with Air District conditions for construction and operation of the power plant. Condition AQ-1 required the Applicant to limit fugitive dust emissions and other impacts during construction and employ mitigation measures where appropriate. CEC Condition AQ-1 regarding control of fugitive dust emissions is assumed to be applicable to the proposed Border BESS Project as well.

5.4.2 Environmental Analyses

The proposed Border BESS Project site is located within the jurisdiction of the San Diego County Air Pollution Control District ("SDAPCD"), which has primary responsibility for assuring that federal and state ambient air quality standards are attained and maintained in the air basin. The proposed Project would result in air pollutant emissions that are regulated by the air district. The most significant volume of air emissions expected to be generated during project construction is associated with equipment use on the site, fugitive dust emissions from site grading, and from vehicle trips to and from the site. During the operation of the proposed Border BESS project, no area source emissions are expected with the exception of vehicle emissions from infrequent worker trips to and from the project site for maintenance and infrequent battery augmentation events. Emissions from Border BESS project construction and operations are calculated to be below air district thresholds established to attain and/or maintain conformance with state and federal air quality standards. At the time the BPP project was permitted in 2001, greenhouse gas ("GHG") assessments were not included in the environmental review and permitting process. A GHG assessment has been prepared for the Border BESS Project as requested by the CEC and is considered herein. CEC Condition AQ-1 for the BPP required that a Fugitive Dust Mitigation Plan be prepared including the specific requirements. It is assumed that the same Condition AQ-1 will apply to the Border BESS Project.

In summary, no adverse impacts related to air emissions associated with construction or operation of the Border BESS Project are expected to occur. For a more detailed analysis, see Appendix C, Air Quality and Greenhouse Gas (GHG) Study (Rincon 2022a).

5.4.3 Mitigation Measures

The Border BESS project will not result in significant impacts related to air quality and greenhouse gas emissions that will require additional mitigation measures.

5.4.4 Consistency with LORS

The Project conforms to applicable LORS related to air quality and greenhouse gas emissions.

5.4.5 Conditions of Certification

The proposed modifications do not require changes to the CoCs for air quality. CEC Condition AQ-1, Fugitive Dust Mitigation Plan, is assumed to be applicable to the Border BESS Project. CEC Conditions AQ-2 and AQ-3 for the BPP are expected to be not applicable to the Border BESS Project as discussed further in Appendix C, Air Quality and Greenhouse Study.

5.4.6 References

California Energy Commission (CEC). 2001a. Final Decision, Application for Certification of the CalPeak – Border Project by CalPeak Power-Border, LLC. July.

____. 2001b. CalPeak Power-Border, LLC – Staff Assessment for Emergency Permit. Docket # 01-EP-14. July 5.

Rincon Consultants, Inc. (Rincon). 2022a. Battery Energy Storage System (BESS) Project. Air Quality and Greenhouse Gas (GHG) Study. Prepared for Hermes BESS LLC. August.

5.5 Biological Resources

5.5.1 CEC Certification of BPP

The CEC Final Decision (CEC 2001a,b) included a description of biological resources of potential concern associated with the BPP. The CEC summary stated that the Project site was historically used for agricultural production and had been fallow for several years as of 2001 at which time the site was characterized by barren soil and non-native plant species. The Site included non-native grassland which provided foraging habitat for raptors and other wildlife and typically required mitigation for its loss within San Diego County. U.S. Fish and Wildlife Service ("USFWS") designated critical habitat for Otay tarplant was located approximately 1.5 miles to the east of the site, but it was not observed during site surveys at the time. Thirty-four sensitive wildlife species were evaluated but considered to have no to low potential for occurrences on the site.

Quino checkerspot butterfly and its habitat were not found to be present on the site although habitat does exist within southern San Diego County.

The California Department of Fish and Game ("CDFG")(now California Department of Fish and Wildlife ["CDFW"]) requested surveys for sensitive arboreal and ground nesting bird species including Northern harrier and Least Bell's vireo.

In accordance with San Diego Municipal Land Development Code Biological Guidelines for developments on Environmentally Sensitive Lands, the applicant proposed mitigation for 0.4 acre of non-native grassland for the generating site.

CEC staff, City of San Diego and CDFG were concerned with potential indirect impacts from stormwater runoff during construction and operation noting that City Biological Guidelines recommend a minimum 100-foot buffer adjacent to all wetlands.

Prior to 2001, the proposed project site was fallow, but had been historically used for agricultural tomato production. The CEC reported in 2001 that the majority of the site had been plowed and that the site was characterized by barren soil and non-native plant species. Helix Environmental Planning ("Helix") prepared a Biological Technical Report ("BTR") (Helix 2001) for the 20.7-acre study area that encompassed the proposed power generation site and offsite linear routes plus buffers. The BTR was included in Appendix J of the applicant-prepared Application for Certification ("AFC") (CalPeak Power LLC 2001).

As reported, non-native grassland ("NNG") occurred within the study area. This NNG was dominated by non-native grasses, including Italian ryegrass (*Lolium multiflorum*), two species of canary grass (*Phalaris minor and P. paradoxa*), bromes (Bromus sp.), wild oats (Avena sp.), and a small component of mustard (Brassica sp.). This vegetation community was known to provide foraging habitat for raptors and other wildlife, and typically required mitigation for its loss in San Diego County. Assessed impacts to NNG included the removal of 0.4 acre at the generation site. No wetlands were identified on the generation site. Thirty-six sensitive plant species were identified as having the potential to occur onsite, but all were assessed to have low to no potential to actually occur. A separate California Natural Diversity Database ("CNDDB") search conducted by CEC staff noted eight additional sensitive species located within the Otay Mesa 7.5-minute Quad (CDFG). However, suitable habitat was determined to not be present for any of these species. On May 18, 2001, Natasha Nelson (CEC biologist) provided notice that the USFWS has designated critical habitat for the Otay Tarplant (*Deinandra conjugens*). This area is located approximately 1.5 miles to the east of the CalPeak Border site. This species is known to grow in non-native grasslands and along the edges of agricultural fields but was not observed by Helix biologists during surveys. A total of thirty-four sensitive wildlife species were evaluated by Helix

for their potential to occur onsite. All of the species listed were considered to have no to low potential for occurrence on the site. A separate CNDDB search conducted by CEC staff noted four additional sensitive species located within the Otay Mesa 7.5-minute Quad. However, suitable habitat was determined to be not present for any of these species. Helix conducted separate protocol surveys for the Quino checkerspot butterfly (*Euphydryas editha quino*) and its habitat. The checkerspot and its habitat were not present at the study site; however, habitat does exist within southern San Diego County. CDFG biologists expressed concern that appropriate surveys were not conducted for nesting sensitive bird species, including raptors, and recommended conducting surveys 300 feet around the project site. As per CDFG, the surveys should document suitable nesting trees, and shall focus on potential nesting habitat for sensitive species such as Northern harrier (*Circus cyaneus)* and Least Bell's Vireo (*Vireo bellii pusillus*). Harriers are often found nesting, foraging, and roosting in marshes and grasslands from April to September, and peak reproductive activity occurs in June and July. A search of the Breeding Bird Survey Database reportedly revealed nesting harriers within southern San Diego County. Also, a harrier was observed flying over the site during biological surveys conducted by Helix. The Least Bell's Vireo inhabits low, dense riparian growth along water or along dry parts of intermittent streams. It is typically associated with willow, cottonwood, baccharis, wild blackberry, or mesquite habitats. Although prime habitat in large tracts is not present onsite, the wetland areas nearby contain willows and other brush that could be utilized for nesting. Also, the CNDDB listed a Least Bell's Vireo occurrence within the Otay River approximately 2 miles away. In accordance with the San Diego Municipal Land Development Code Biological Guidelines for developing on Environmentally Sensitive Lands ("ESL") (City of San Diego 1999), the Applicant proposed mitigation for the loss of NNG (0.4 acre for the generating site). The CDFG requested surveys for nesting sensitive bird species, including raptors at the project site and the surrounding habitat within 300 feet of the project boundary (Condition BIO 8). Surveys methodologies were expected to allow for a thorough search of these areas to identify potential arboreal and/or ground nesting species, including the harrier and Least Bell's Vireo.

The Biological Guidelines of the City recommend a minimum 100-foot buffer adjacent to all wetlands. The width of the buffer may be either increased or decreased as determined on a case-by-case basis in consultation with the CDFG, the USFWS, and the Army Corp of Engineers ("ACOE") (City of San Diego 1999). It was reported that a 100-foot buffer could be adequately maintained for the construction laydown area and the generator site. During operations the Applicant proposed to direct stormwater runoff through a culvert located underneath Highway 905. Concentrated stormwater flows to this culvert were assessed as having the potential to create scouring problems within the adjacent wetland. Best Management Practices and other anti-erosion measures to address this concern were developed as discussed in the Soil & Water section of the CEC Staff analysis.

The applicant's proposed Landscape Concept Plan included planting of *Schinus molle* which is considered invasive by the California Exotic Pest Plant Council (CalEPPC 1999) and was assessed by the CEC as not being appropriate for landscaping.

5.5.2 Environmental Analyses

Previous biological surveys and assessments for the BPP site associated with permitting in 2001 identified various potential sensitive biological resources that could potentially be impacted by project development at the time and locations considered, including offsite linears (transmission and pipelines). The current Border 52 MW BESS project component locations are all on previously disturbed areas within the overall BPP property and the potential for sensitive biological species to be present is considered to be low. However, several sensitive species have the potential to be present in the BESS project disturbance footprint, including nesting birds, foraging raptors, and non-native grassland.

Literature review followed by reconnaissance level surveys to map habitat, survey for nesting birds and raptors, and reconfirm the lack of protected species/habitat, and/or wetlands were performed for the Border BESS Project site and study area in late-March 2022 by Rincon biologists.

Key findings from the literature review and March reconnaissance level biological surveys follow (Rincon 2022b).

5.5.2.1 Vegetation and Land Cover Types

The study area is in a highly industrialized area, and most of the Border BESS Project site has been graded in the past or is currently developed. All non-ornamental vegetation within the study area is routinely mowed, including the Border BESS Project site. The area surrounding the study area is characterized by commercial and industrial uses, undeveloped land, and major highways running to the north and west of the site. All land cover data is highly consistent with the previously collected data for the study area (Helix 2001).

Four vegetation/land cover types were observed in the study area: 1) urban/developed; 2) disturbed habitat); and 3) Diegan coastal sage scrub: Baccharis-dominated. Vegetation classification is based on the classification systems provided in the Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008); and modified as appropriate to reflect the existing site conditions. Upland vegetation communities are divided into four tiers of biological sensitivity based on rarity and ecological importance. Tier I represents the most sensitive vegetation communities while Tier IV represents the least sensitive vegetation communities. The Tier system will be applied as an indication of habitat sensitivity pursuant to the City's Guidelines but have

been modified slightly to reflect the existing site conditions most accurately. Plant species nomenclature and taxonomy used for this report follows the treatments within the second edition of The Jepson Manual (Baldwin et al. 2012).

Urban/Developed. Areas considered urban/developed within the study area been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation. Areas where no natural land is evident due to a large amount of debris or other materials being placed upon it may also be considered Urban/Developed (e.g., frequently used equipment storage areas). Within the City, this habitat is listed as Tier IV vegetation community.

Consistent with results from the 2001 study, this land cover type comprises the active power plant and associated access road, equipment staging areas, bare ground areas, and ornamental vegetation, as well as surrounding roads, developments, and freeways within the site buffer. The City lists disturbed habitat as a Tier IV vegetation community.

Disturbed Habitat. Areas considered disturbed habitat contain a cover of highly disturbed annual, non-native grasses such as red brome (*Bromus rubens*), wall barley (*Hordeum murinum*), black mustard (*Brassica nigra*), false brome (*Brachypodium distachyon*), red stemmed filaree (*Erodium cicutarium*), and slender oat (*Avena barbata*). As defined by Oberbauer et al., these are "areas that have been physically disturbed (by previous legal human activity) and are no longer recognizable as a native or naturalized vegetation association, but continue to retain a soil substrate." These areas have been disturbed by regular mowing associated with BPP maintenance.

Disturbed habitat exists throughout the study area, mostly in the northeast quadrant of the parcel and extending to the west along the northern fence boundary, including the Border BESS Project site. These areas are routinely mowed as a part of BPP maintenance and, as a result, appear to be in much poorer condition in comparison to the results of the 2001 study. The City lists disturbed habitat as a Tier IV vegetation community.

Diegan Coastal Sage Scrub: Baccharis-Dominated. Diegan coastal sage scrub: Baccharis-dominated is a vegetation community featuring Diegan Coastal Sage Scrub species such as sawtooth goldenbush (*Hazardia squarrosa*) and California sagebrush (*Artemisia californica*), with an abundance of baccharis species, such as broom baccharis (*Baccharis sarothroides*). Species in this vegetation community dominate the portion of the study area on a hillslope along the northern boundary of the BPP property. Due to the presence of straw waddles and freshly seeded bank, this area is assumed part of recent and ongoing restoration of native plants associated with

the construction of SR 11. The City lists this habitat as a Tier II vegetation community.

5.5.2.2 Wildlife

The study area and its surroundings provide habitat for wildlife species that commonly occur in urbanized and disturbed habitats within San Diego County. Wildlife species observed/detected on or adjacent to the site include American crow (*Corvus brachyrhynchos*), mourning dove (*Zenaida macroura*), house finch (*Haemorhous mexicanus*), red-winged blackbird (*Agelaius phoeniceus*), Say's phoebe (*Sayornis saya*), black phoebe (*Sayornis nigricans*), mallard (*Anas platyrhynchos*), yellow-rumped warbler (*Setophaga coronate*), western meadowlark (*Sturnella neglecta*), Cassin's kingbird (*Tyrannus vociferans*), European starling (*Sturnus vulgaris*), northern mockingbird (*Mimus polyglottos*), hooded oriole (*Icterus cucullatus*), lesser goldfinch (*Spinus psaltria*), northern rough-winged swallow (*Stelgidopteryx serripennis*), white-crowned sparrow (*Zonotrichia leucophrys*). Also observed were scat from coyote (*Canis latrans*) and desert cottontail (*Sylvilagus audubonii*). The study area contained various small mammal burrows, concentrated along Sanyo Road and the BPP access road. These burrows are assumed to belong to Botta's pocket gopher (*Thomomys bottae*). Most of these burrows were roughly three inches in diameter and appeared to be inactive at the time of the survey.

5.5.2.3 Nesting Birds

The study area contains suitable nesting habitat for a variety of native avian species protected by the Migratory Bird Treaty Act ("MBTA") and California Fish and Game Code ("CFGC") Section 3503. Most native bird species that could nest on or adjacent to the project area do not have a special status designation but have protections afforded under the MBTA and CFGC. The nesting season generally extends from February through September but can vary based upon annual climatic conditions. Species of birds common to the area that typically utilize open disturbed habitats for foraging and landscaped trees for nesting habitat, such as yellow-rumped warbler, Cassin's kingbird, red-tailed hawk and house finch, were detected during the 2022 reconnaissance survey.

5.5.2.3 Jurisdictional Waters and Wetlands

A formal wetland delineation was not performed as a part of the 2022 biological reconnaissance assessment; however, site conditions related to onsite waters and potential wetlands are noted herein. The study area is located within the Tijuana River-Frontal Pacific Ocean watershed (Hydrologic Unit Code ["HUC"] #180703051304). Natural waterways within this watershed flow from south to north into the Tijuana River before depositing into the Pacific Ocean.

No wetlands or other water features occur within the project area. The areas bordering the study area to the south and the north are listed in National Wetlands Inventory ("NWI") as temporarily flooded emergency persistence palustrine wetlands (NWI 2022). Historic aerials prior to the construction of the BPP in the early 2000s suggest that water once flowed from the south-central extent of the study area through to the northern extent of the study area (NETR 2022). The construction of the BPP in 2001-2002 and SR 11 in 2010 have impeded this flow. The existing elevated BPP access road that connects the BPP to Sanyo Avenue blocks sheet flows from the south from reaching the BESS project area.

Within the study area, water sheet flows into the existing BPP drainage system on the southwestern portion of the BPP property from the undeveloped property to the south. The undeveloped property to the south was surveyed with binoculars along the study area boundary. Vegetation in this area can roughly be classified as highly disturbed broadleaf dominated non-native grassland, which is frequently mowed as a part of BPP maintenance. No obvious wetland or hydrophytic vegetation (such as cattails, bulrushes, or sedges) were observed, although a thorough pedestrian survey was not conducted in this area due to lack of access.

A natural erosional feature has formed on the southern extent of the BPP which conveys flow from the southern lot into an approximately 2-foot concrete v-ditch that borders most of the study area. This water collects at the northwest corner of the overall BPP property, where it appears to mostly abate into the landscape. A small amount of this flow appears to trickle to the northwest, into the adjacent Caltrans equipment storage yard. This feature is not in or near, or would be impacted by, the Border BESS Project.

5.5.2.4 Special Status Species

Local, state, and federal agencies regulate special status species and may require an assessment of their presence or potential presence to be conducted prior to the approval of proposed development on a property. Assessments for the potential occurrence of special-status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB species occurrence records from other sites in the vicinity of the study area, and previous reports for the study area. The potential for each special status species to occur in the Border BESS Project study area was evaluated according to established criteria.

For the purpose of this report, special-status species are those plants and animals listed, proposed for listing, or candidates for listing as Threatened or Endangered by the USFWS or the National Marine Fisheries Service ("NMFS") under the Endangered Species Act ("ESA"); those listed or candidates for listing as Rare, Threatened, or Endangered under the California Endangered Species Act ("CESA") or Native Plant Protection Act; those identified as Fully

Protected by the CFGC (Sections 3511, 4700, 5050, and 5515); those identified as Species of Special Concern ("SSC") by the CDFW; and plants occurring on lists 1 and 2 of the California Native Plant Society ("CNPS") California Rare Plant Rank ("CRPR") system.

Based on a query of the CDFW CNDDB and CNPS Inventory, there are 126 special-status plant species and 73 special-status wildlife species documented within the Otay Mesa, California USGS 7.5-minute quadrangle and the five surrounding quadrangles.

All 199 special status species have been evaluated for potential to occur within the study area. Based on the habitat assessment of the site and special status plant habitat requirements, no special status plant species were determined to have more than low potential to occur within the study area. No federal or state listed, or other special status wildlife species were observed during the reconnaissance survey. Of the 73 wildlife species evaluated, Rincon determined that none have more than a low potential to occur.

In summary, no adverse impacts to biological resources associated with construction or operation of the Border BESS Project are expected to occur.

5.5.3 Mitigation Measures

The Border BESS project will not result in significant impacts related to biological resources that will require additional mitigation measures. The existing CEC Conditions of Certification for biological resources for the BPP are considered adequate to protect biological resources associated with implementation of the Border BESS Project. Refer to Section 5.5.5, Conditions of Certification, for more information including an assessment of the applicability of the existing CEC Conditions.

5.5.4 Consistency with LORS

The Project conforms to applicable LORS related to biological resources.

5.5.5 Conditions of Certification

The proposed modifications do not require changes to the CoCs for biological resources. As discussed below, existing CEC Conditions BIO-1, BIO-4, BIO-5, BIO-6, and BIO-8 are assumed to be applicable to the Border BESS Project and the Project will comply with these Conditions. CEC Conditions BIO-2, BIO-3, BIO-7, BIO-9, and BIO-10 are assessed to not be applicable to the Border BESS Project given the current conditions with the project impact area. Refer to Appendix D, Biological Resources Technical Report (Rincon 2022b) for more information.

5.5.5.1 Review of Existing CEC Conditions Applicability

BIO-1 *"The project permitted under this emergency process will avoid all impacts to legally protected species and their habitat on site, adjacent to the site and along the right of way for linear facilities."*

Special Status Plants

No special status plants were observed on-site during the reconnaissance survey, and none have more than low potential to occur on-site because the site lacks potentially suitable habitat for special status plants known to occur in the area. Therefore, no impacts to special status plant species are expected.

The study area contains suitable foraging and nesting habitat for birds protected by the MBTA. Nesting birds and raptors protected by the CFGC and the MBTA have potential to occur on-site. If nesting birds are present on-site during construction, they could be affected directly (loss of individuals) or indirectly (construction noise, dust, and other human disturbances) by project activities. The project could adversely affect raptors and other nesting birds if construction occurs while they are present on or adjacent to the site through direct mortality or abandonment of nests. The loss of a nest due to construction activities would be a violation of the MBTA and CFGC sections 3503 and 3513. CoC BIO-8 would ensure compliance with state and federal law.

Special Status Vegetation

Most of the vegetation within the study area consists of Tier IV vegetation communities. Impacts resulting from the proposed Border BESS Project are limited to the disturbed habitat area at the eastern end of the study area. One Tier II vegetation community (Diegan coastal sage scrub: Baccharis-dominated) was observed on a hillslope north of the study area. This area is protected by a fence and will not be impacted by the Border BESS Project. Border BESS Project impacts are limited to 2.14 acres of disturbed habitat. Therefore, no impacts to sensitive natural communities are expected.

Jurisdictional Waters and Wetlands

Impacts resulting from the proposed project are limited to 2.14 acres of highly disturbed non-native grassland at the eastern end of the study area. No impacts to jurisdictional waters or wetlands (legally protected habitat) are anticipated.

BIO-2 *"The project permitted under this emergency process will avoid all impacts to designated critical habitat (wetlands, vernal pools, riparian habitat, preserves) on site or adjacent to the site."*

As discussed in reference to BIO-1, no critical habitat was identified within the study area. Project impacts are limited to 2.14 acres of disturbed habitat. As such, no impacts to these resources are anticipated and this CoC measure does not apply.

BIO-3 *"The project permitted under this emergency process will avoid all impacts to locally designated sensitive species and protected areas."*

As discussed in reference to BIO-1, no locally designated sensitive species or environmentally protected areas were identified within the study area. Project impacts are limited to 2.14 acres of disturbed habitat. As such, no impacts to these resources are anticipated and this CoC measure does not apply.

BIO-4 *"The project permitted under this emergency process will reduce risk of large bird electrocution by electric transmission lines and any interconnection between structures, substations and transmission lines by using construction methods identified in 'Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996' (APLIC 1996)."*

Project plans are compliant with the proper spacing of design elements compliant with the Suggested Practices in the referenced publication (APLIC 1996).

BIO-5 *"The project biologist, a person knowledgeable of the local/regional biological resources, and Compliance Project Manager (CPM) will have access to the site and linear rights-of-way at any time prior to and during construction and have the authority to halt construction in an area necessary to protect a sensitive biological resource at any time."*

As recommended in the BIO-8, a pre-construction nesting bird survey will be conducted. If results of the nesting bird survey necessitate biological monitoring during construction, a CEC approved biologist will be present onsite during construction.

BIO-6 *"Upon decommissioning the site, the biological resource values will be reestablished at preconstruction levels or better".*

The impact area includes 2.14 acres of disturbed habitat. The construction laydown area will be returned to pre-construction conditions as practicable upon the completion of construction. This will include the reseeding of the temporarily impacted area with a native grassland seed mixture.

The Border BESS site will be restored to pre-construction conditions as practical upon decommissioning. Decommissioning would comply with federal, state, county, city and other local standards and all regulations that exist when the project is decommissioned in the future.

BIO-7 "*Prior to operations, the applicant will submit a report of any impacted sensitive habitat, including NNG and wetlands, to the CPM for review and approval. The applicant will then develop mitigation compensation plans using the following table:*

	Inside MHPA	*Outside MHPA*
Wetlands	*2:1*	
Non-Native Grassland	*0.5:1*	*1:1*

The project is located outside of the City Multi-Habitat Planning Area ("MHPA") and would permanently impact approximately 2.14 acres of disturbed habitat. This area is most accurately classified as disturbed habitat due to being habitually mowed in association with routine BPP maintenance. As such, the vegetation meets the criteria for Tier IV habitat as per the City Biology Guidelines (City of San Diego 2012) and no compensatory mitigation is proposed. The construction laydown area will be returned to pre-construction conditions as practicable at the end of the construction phase for the Border BESS Project, which will include the re-seeding of the area with a native grassland seed mix. The Border BESS construction laydown area will not be recontoured at the end of the construction phase since the site grading and drainage plan for the Border BESS Project requires permanent recontouring of the combined laydown and BESS site area.

BIO-8 *"Prior to any project-related activities a qualified biologist will conduct sensitive bird species surveys of the project site and surrounding habitats within 300 feet of the project boundary. Survey methodologies will allow for a thorough search of these areas to identify potential arboreal and/or ground nesting raptor species".*

A nesting bird survey will be conducted prior to construction. The biologist will submit a report of the findings to the CPM prior to construction.

BIO-9 *"The project biologist, prior to site mobilization, will flag buffers on all potentially affected wetlands. The project biologist will then be present onsite during construction of the transmission poles and lines or until determined by the CPM".*

No wetlands were observed on or adjacent to the Border BESS Project site. No impacts to wetlands are anticipated as a result of the project and, therefore, this CoC measure does not apply.

BIO-10 *"Landscaping of the Border Project Site will contain no species of tree or plant considered invasive or having pest status. The project landscape specialist shall confer with the California Department of Fish and Game and the CalEPPC, 1999."*

Additional landscaping of the Border BESS Project site is not part of the project plans at this time and, therefore, this CoC measure does not apply.

In conclusion, conditions within the Border BESS Project impact area have not changed significantly since the 2001 analysis. Project impacts are limited to 2.14 acres of disturbed habitat. The project is anticipated to be in compliance with the CoCs pending the completion of a pre-construction nesting bird survey prior to project construction (BIO-8). The CEC approved biologist will submit a report of the findings to the CPM prior to construction.

5.5.6 References

Avian Power Line Interaction Committee (APLIC). 1996. Federal Register 7 CFR 1724.52(a)(l)(i). Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996.

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5.6 Soils and Water

5.6.1 CEC Certification of BPP

The CEC Final Decision (CEC 2001a,b) included a summary of soil and water issues associated with the BPP. The CEC summary stated that the BPP water supply will be via a Will Serve Letter from the Otay Water District ("OWD"), and that a National Pollutant Discharge Elimination System ("NPDES") permit and Best Management Practices ("BMPs") would be required for stormwater discharges during construction activities. The CEC Final Decision included four Conditions for the BPP that are also applicable to the Border BESS Project as discussed in Section 5.6.5.

5.6.2 Environmental Analyses

5.6.2.1 Water Usage and Supply

Short-term construction water needs for the Border BESS Project are planned to be met via existing Otay Water District supply at the adjacent BPP facility and/or water trucked to site from offsite source by the construction contractor. Water for dust control and other construction needs is estimated at up to 5,000 gallons per day for the first 2 to 3 months during site grading and leveling activities and to average 2,000 to 3,000 gallons per day for the balance of

construction activities involving ground disturbance such as trenching and other dust generating activities. During the construction phase, portable chemical toilets supplied and maintained by the construction contractor would be utilized.

Routine operation of the unmanned Border BESS facility is not expected to have any associated water needs. No potable water connection is needed associated with operation of the BESS facility. No sanitary sewage service would be required. During the operational phase, the BESS facility would use a portable chemical toilet at the adjacent BPP facility, which would be emptied of waste as needed. Fire water is available via a fire hydrant at the adjacent peaker facility. The Border BESS Project does not propose any landscaping given the Project location and the drought conditions in the area. If needed, it is expected that the BESS Project could access OWD water via the BPP water supply connection.

5.6.2.2 Soils

Vegetation on the Border BESS Project area is mowed on an annual basis for fire prevention. Grading and excavation will be required for site levelling, drainage control, and foundations on BESS site and switchyard areas which encompass approximately 3 acres. Maximum cut depth is estimated at 4 feet in the southeastern portion of the laydown area. An estimated 5,000 cubic yards of balanced cut and fill will be required during site preparation. The BESS site and switchyard areas will be surfaced with gravel (+/- 0.5 foot). A maximum of approximately 30 BESS enclosures and 30 inverters (maximum pad sizes at 10’ wide x 23’ long) will be supported on concrete pads (+/- 1.5-foot thick).

The Federal Emergency Management Agency (FEMA) has mapped the project area as being located outside the 100-year flood hazard zone and to be located in Zone X, Area of Minimal Flood Hazard (FEMA 2022). The grading and drainage plan for the Project will ensure that stormwater flows, and runoff are properly controlled to prevent onsite and offsite flooding and/or concentrated, high-volume flows and accelerated erosion.

Construction of the peaker plant required a NPDES permit to address Storm Water Runoff from Construction Activities. Part of the NPDES permitting process included the submission to the Regional Water Quality Control Board (“RWQCB”) of a Notice of Intent (“NOI”) application and the development of a Storm Water Pollution Prevention Plan (“SWPPP”). The SWPPP requirements included an erosion control and stormwater management plan that identified BMPs to be implemented during construction activities. The City of San Diego reviewed construction plans as well as operations in order to ensure that stormwater discharges standards will be met.

As required, the Border 52 MW BESS project will comply with applicable NPDES/SWPPP requirements, including implementation of appropriate BMPs.

During project construction and operation, wind and water action can erode unprotected surfaces. Areas of impervious surfaces (paved, compacted, etc.) can create increased runoff conditions, thereby resulting in potential erosion on unprotected down-gradient surfaces. CalPeak identified the need to develop an Erosion Prevention and Sediment Control Plan ("EPSCP") for the BPP.

As required, the Border 52 MW BESS Project will prepare an EPSCP and will comply with applicable EPSCP requirements, including implementation of appropriate BMPs to control stormwater runoff flows and water quality. Construction activities will not result in adverse construction or operational phase related impacts to soil erosion and sedimentation to water resources.

The CEC identified the main source of potential spills for the BPP as being associated with lubricating and hydraulic oil stored and used onsite. The total quantity of oil onsite exceeded the threshold quantity, so a Spill Prevention Control and Countermeasures Plan ("SPCC"), per 40 CFR 112, was required. The proposed Border BESS Project will utilize dry transformers in the inverters and the BESS switchyard will not include any transformers. During the operational phase, no oil or lubricants are proposed to be stored at the BESS facility, thus an SPCC Plan will not be required. During the construction phase, small quantities of oil, lubricants and fuel will be used onsite. All chemicals stored onsite will be kept in closed containers and would include secondary containment where appropriate to contain any spillage.

In summary, no adverse impacts to soil and water resources associated with construction or operation of the Border BESS Project are expected to occur.

5.6.3 Mitigation Measures

The Border BESS Project will not create a significant impact on soil or water resources that will require additional mitigation measures.

5.6.4 Consistency with LORS

The Project conforms to applicable laws related to soil and water resources.

5.6.5 Conditions of Certification

The proposed Border BESS Project will not require changes to the CoCs for soil and water resources. The soil and water resources related BPP Conditions of Certification that are expected to be applicable to the Border BESS project are as follows:

SOIL&WATER-1 *Prior to ground disturbance, the project owner shall obtain CPM approval of a Storm Water Pollution Prevention Plan (SWPPP) as required under the General Storm Water Construction Activity Permit for the project.*

The Border BESS Project will comply with this Condition.

SOIL&WATER-2 *Prior to ground disturbance, the project owner shall obtain CPM approval of an Erosion Prevention and Sedimentation Control Plan (EPCSCP). The plan will maintain natural drainage patterns to the extent possible, minimizing any potential impacts to the adjacent drainage.*

The Border BESS Project will comply with this Condition.

SOIL&WATER-3 *Prior to site mobilization, the project owner shall submit to the CPM, a copy of a valid water service agreement for water supplies for the project from an authorized water purveyor, or a copy of a valid well permit for the project from the appropriate licensing agency.*

The Border BESS Project will comply with this Condition, as applicable. If the Project does not require an operational water supply, it is assumed that this Condition would not apply.

SOIL&WATER-5 *Prior to construction, the project owner shall submit to the CPM, a copy of the completed geotechnical report.*

The Border BESS Project will comply with this Condition.

5.6.6 References

California Energy Commission (CEC). 2001a. Final Decision, Application for Certification of the CalPeak – Border Project by CalPeak Power-Border, LLC. July.

____. 2001b. CalPeak Power-Border, LLC – Staff Assessment for Emergency Permit. Docket # 01-EP-14. July 5.

FEMA. 2022. National Flood Hazard Layer FIRMette (2012). Website accessed February 19, 2022. https://msc.fema.gov/arcgis/rest/directories/arcgisjobs/nfhl_print/mscprintb_gpserver/j87f9e4c91cf54ceaa145a7930d155cfa/scratch/FIRMETTE_a092635c-0fb8-4f37-b990-e983c9ba0c9c.pdf

5.7 Hazardous Materials Management

5.7.1 CEC Certification of BPP

The CEC Final Decision (CEC 2001a,b) included a summary of hazardous material management related issues associated with the BPP. The assessment of the proposed BPP project included the consideration of the use of aqueous ammonia and natural gas. There are light industrial/commercial properties located adjacent to the proposed facility. It was CEC Staff's belief that the probability of serious impacts associated with an accidental release is insignificant at these adjacent properties. Staff recommended that all standard conditions regarding hazardous materials handling be imposed for this project. The use of aqueous ammonia precludes any potential for significant impact at the nearest residences which more than about 3000 feet from the proposed project. There are light industrial/commercial properties located adjacent to the proposed facility and the nearest residences were reported as being more than about 3000 feet from the proposed BPP project. It was CEC Staff's belief that the probability of serious impacts associated with an accidental release was insignificant at these adjacent properties. Staff recommended that all standard conditions regarding hazardous materials handling be imposed for the BPP project.

5.7.2 Environmental Analyses

The Border BESS Project will not result in the use of a new hazardous material onsite or increase the amount or delivery of hazardous materials used in excess of permitted quantities. In addition, the Border BESS Project will not result in an increase of waste generation at the site. Batteries may be replaced during augmentation events in the operational phase due to battery degradation. Spent batteries would be handled as Universal Waste and recycled and/or disposed of offsite in an approved manner. Therefore, no impacts from hazardous materials handling or waste management are expected.

5.7.3 Mitigation Measures

The Border BESS Project will not create a significant impact from hazardous materials handling that will require additional mitigation measures.

5.7.4 Consistency with LORS

The project conforms to applicable laws related to hazardous materials handling.

5.7.5 Conditions of Certification

The proposed Border BESS Project does not require changes to the BPP CoCs for hazardous materials handling as listed below. Current plans indicate that the operation of the Border BESS Project will not involve use of hazardous materials in reportable quantities. Therefore, CoCs HAZ-1 and HAZ-2 may not result in the need for any hazardous material related reporting.

HAZ-1 *The project owner shall not use any hazardous material in reportable quantities except those identified by type and quantity in the Application for Certification unless approved by the CPM.*

Verification: The project owner shall provide in the Annual Compliance Report a list of hazardous materials used at the facility in reportable quantities.

The Border BESS Project will comply with this Condition, as applicable.

HAZ-2 *The project owner shall submit both the Business Plan and Risk Management Plan to the CPM for review and comment, and shall also submit these plans and/or procedures to the County Fire Department for approval.*

Verification: 30 days (or a CPM-approved alternative timeframe) prior to the initial delivery of any hazardous materials in reportable quantities to the facility, the project owner shall submit the Business and Risk Management Plan to the CPM for review and comment. At the same time, the project owner shall submit these plans to the County Fire Department for approval. The project owner shall also submit evidence to the CPM that the County Fire Department approved of these plans, when available.

The Border BESS Project will comply with this Condition, as applicable.

5.7.6 References

California Energy Commission (CEC). 2001a. Final Decision, Application for Certification of the CalPeak – Border Project by CalPeak Power-Border, LLC. July.

____. 2001b. CalPeak Power-Border, LLC – Staff Assessment for Emergency Permit. Docket # 01-EP-14. July 5.

5.8 Cultural Resources

5.8.1 CEC Certification of BPP

Cultural resource records searches and field surveys of the proposed Border BESS Project area, laydown area, and associated linear features were conducted as part of the original licensing for the BPP (CEC 2001a,b). The literature and records search also covered the area within a 1-mile radius of the BPP project site. Kyle Consulting conducted a literature review and records search of the project site at the South Coastal Information Center ("SCIC") at San Diego State University and the San Diego Museum of Man in May 2001. As reported by Kyle Consulting (2001), the literature review and records searches show that the project area has previously been surveyed by Carrico (1974), Wade (1985), Hector (1987), and Kyle and Gallegos (1987). No cultural resources were identified in these studies. The literature search noted one prehistoric site, CA-SDI-10072, on maps of the SCIC. Although the location was recorded, no site form was filled out. This site has been renamed and combined with three other sites (CA-SDI-5352, CA-SDI-9974, and CA-SDI-10735) as CA-SDI-12337. The site forms for CA-SDI-5353, CA-DSI-9974, and CA-10735 characterize the sites as sparse lithic scatters. Most of the sites identified within a 1-mile radius of the project area are part of a sparse lithic scatter that covers Otay Mesa. The lithic scatter has been extensively tested and identified as not significant. Kyle Consulting conducted a pedestrian field survey on May 11 and 16, 2001. No cultural resources were identified in the proposed project area, laydown area or linear features during this survey. CEC Emergency Siting staff conducted a site visit on June 25, 2001. The project site was found to be seriously disturbed by previous agricultural uses. The dense vegetation had been recently cut and allowed for good ground visibility. No cultural resources, either historic or prehistoric were identified during the site visit. The records search and field survey performed by Kyle Consulting did not indicate the presence of any sensitive cultural resources within the project area of potential effect ("APE"). Kyle Consulting concluded that no further mitigation, including on-site cultural resource monitoring was necessary for the BPP project. CEC Staff concurred with this conclusion. Because of the low possibility of encountering archaeological sites in the project area, no on-site cultural resource monitoring was required for the BPP project. However, if buried cultural resources were to be encountered during construction a qualified cultural resource specialist would need to evaluate the finding.

The original Condition of Certification for cultural resources (CUL-1) for the BPP states:

CUL-1 *The project certified under this emergency process shall not cause any significant impact to cultural resources on the power plant site or linear rights of way. No significant cultural resources have been identified in the Area of Potential Effects (APE). No on-site cultural resource monitoring is required for this proposed site*

Based on consultation with CEC Staff in 2022 associated with the Border BESS Project Petition for

Post-Certification Amendment requirements, CEC Staff requested a supplemental analysis of cultural resources be performed including a through literature review and reconnaissance survey of the site. In addition, CEC Staff indicated that measures to protect cultural resources in accordance with the requirements of standard CEC CoCs for Cultural Resources would need to be in place for the Border BESS Project. Accordingly, the Applicant has agreed to incorporate the applicable CEC standard cultural resource protection measures into the proposed Project as "Applicant-proposed Mitigation Measures" ("APMs") as discussed further in Section 5.8.3, Mitigation Measures.

5.8.2 Environmental Analyses

As directed by CEC Staff, the Applicant arranged for a current cultural resources investigation to be performed for Border BESS Project. Rincon Consultants, Inc. cultural resources staff performed an analysis to support this Petition for Post-Certification Amendment that followed Title 20, CCR, Appendix B guidelines, and includes a general description of the proposed site and related facilities, maps of the proposed Project area and related facilities, cultural resources records search, archival research, Sacred Lands File ("SLF") search, field survey, desktop historical built environment analysis, and recommendations. The Confidential Cultural Resources Technical Report (Rincon 2022c) contains sensitive and confidential information concerning archaeological resources and is not for public distribution. Archaeological site locations are exempt from the California Public Records Act, as specified in Government Code 6254.10, and from the Freedom of Information Act (Exemption 3), under the legal authority of both the National Historic Preservation Act (PL 102-574, Section 304[a]) and the Archaeological Resources Protection Act (PL 96-95, Section 9[a]). Sections of the report contain locational maps and other sensitive information. Distribution should be restricted appropriately. A copy of the Confidential Cultural Resources Technical Report has been provided to the CEC.

Rincon's current cultural resources assessment concluded that CoC CUL-1 for the original certification is considered insufficient to protect potentially present sensitive cultural resources for the Border BESS Project. Based on the information presented in the Confidential Cultural Resources Technical Report (Appendix E), Rincon recommends the addition of a Worker Environmental Awareness Program ("WEAP") for cultural resources, archaeological monitoring of initial Project related ground disturbances, and adherence to standard conditions for the treatment of unanticipated discoveries of both archaeological resources and human remains. These are outlined in Section 6 of the Confidential Cultural Resources Technical Report and are summarized below in Section 5.8.3, Applicant-Committed Mitigation Measures. Based on consultation with Hermes BESS LLC, the Applicant has committed to incorporating these additional measures into the proposed Project in order to protect potentially present archaeological resources and human remains.

5.8.3 Applicant-Proposed Mitigation Measures

With implementation of the original CEC CoC CUL-1 and supplemental APM CULTURAL-1 through APM CULTURAL-4 listed below, no adverse impacts to cultural resources associated with construction or operation of the Border BESS Project are expected to occur. Border BESS LLC assumes that the CEC may convert these measures to standard CEC Cultural Resource Conditions of Certification for the Border BESS Project.

APM CULTURAL-1: Worker Environmental Awareness Program

A Worker Environmental Awareness Program ("WEAP") training shall be conducted by an archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology and local Native American representative prior to the commencement of any Project-related ground disturbances. The WEAP training shall include a description of the types of cultural material that may be encountered, cultural sensitivity issues, the regulatory environment, and protocols for treatment of the materials in the event of a find.

APM CULTURAL-2: Archaeological Monitoring of Initial Project Related Ground Disturbances

Due to the general archaeological sensitivity of the area, archaeological monitoring of project related ground disturbances shall occur until the potential to encounter intact resources is deemed low by a qualified archaeologist. Archaeological monitoring shall be performed under the direction of a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983). The archaeological monitor shall be on-site full-time during all initial ground disturbing activities into native soils to observe construction, identify any archaeological resources that may be present, and prevent and/or minimize potential impacts to any identified resources. The monitors shall inspect excavated areas, graded surfaces, and back dirt spoils piles.

APM CULTURAL-3: Unanticipated Discovery of Cultural Resources

In the event that archaeological resources are unexpectedly encountered at the Project area during ground-disturbing activities, work in the immediate area shall be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If the find is pre-contact era, then a Native American representative shall also be contacted to participate in the evaluation of the find. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for California Register of Historic Places ("CRHR") eligibility to ascertain significance. If the discovery proves to be eligible for the CRHR and cannot be avoided by the modified Project, additional work, such as data recovery excavation, may be warranted to mitigate any significant impacts to historical resources.

APM CULTURAL-4: Unanticipated Discovery of Human Remains

No human remains are known to be present in the Project area. However, the discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be of Native American origin, the Coroner will notify the Native American Heritage Commission, which will determine and notify a Most Likely Descendant ("MLD"). The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance.

5.8.4 Consistency with LORS

The Border BESS Project conforms to applicable LORS related to cultural resources.

5.8.5 Conditions of Certification

Assuming the APMs listed in Section 5.8.3 are implemented, no changes to the original CEC Condition (CoC CUL-1) are required to protect potentially present sensitive cultural resources.

5.8.6 References

California Energy Commission (CEC). 2001a. Final Decision, Application for Certification of the CalPeak – Border Project by CalPeak Power-Border, LLC. July.

____. 2001b. CalPeak Power-Border, LLC – Staff Assessment for Emergency Permit. Docket # 01-EP-14. July 5.

Kyle Consulting. 2001. Cultural Resources Survey for the CalPeak Border Project, City of San Diego, California. Prepared for Helix Environmental Planning, Inc. May.

National Park Service. 1983. Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation.

Rincon Consultants, Inc. (Rincon). 2022c.

Rotella, Brianna, Theadora Fuerstenberg, and Christopher Duran. 2022. Cultural Resources Technical Report for the Border Battery Energy Storage System Project. Rincon Consultants,

Inc., Project No. 21-12591. Report on file at the South Central Coast Information Center, San Diego State University, California.

5.9 Paleontological Resources

5.9.1 CEC Certification of BPP

The CEC Final Decision (CEC 2001a,b) included a summary assessment of paleontological resource related issues associated with the BPP. The project site area is underlain by the Otay Formation, which consists primarily of nonmarine volcaniclastic sediments. Significant terrestrial vertebrate fossils are known from these rocks in the Chula Vista area of San Diego County (City of San Diego 1996). CEC Staff stated that construction of the BPP power plant would involve grading and excavation to depths of about 4 feet within the 2.75-acre pad for the power plant. In addition, construction of footings for the electric transmission line would involve excavation of nine 8-foot holes about 30 inches in diameter. The Applicant recognized that these activities had the potential to disturb paleontological resources and proposed to have a paleontologist on-call to monitor construction activities. CEC Staff incorporated this proposed mitigation measure in its standard condition PALEO-2.

5.9.2 Environmental Analyses

The proposed Border BESS facilities are located primarily on the eastern portion of the BPP property in an area that has been previously disturbed from historical agricultural operations and during construction and operation of the current BPP. Vegetation on the area is mowed on an annual basis for fire prevention. Construction of the proposed Border BESS Project will require grading and excavation for site levelling, drainage control, and foundations on the BESS site and switchyard areas. The maximum cut depth is estimated at approximately 4 feet in the southeastern portion of the laydown area. Individual BESS enclosures and inverters will be supported on concrete pads (+/- 1.5-foot thick). H-frame transmission structures on each side of the BPP perimeter road at the crossing point are anticipated to have concrete mat foundation pads with a maximum depth of approximately 3 feet.

The Border BESS Project construction location and subsurface disturbance depths are similar to the BPP project. Potential significant impacts to sensitive paleontological resources will be avoided through compliance with the CoCs stipulated in the Final Decision (CEC 2001a,b). The Final Decision stipulates standard CoC PALEO-2 to address and avoid significant impacts to paleontological resources.

In summary, no adverse impacts to paleontological resources associated with construction or operation of the Border BESS Project are expected to occur.

5.9.3 Mitigation Measures

The Border BESS Project will not result in significant impacts related to paleontological resources that will require additional mitigation measures.

5.9.4 Consistency with LORS

The project conforms to applicable LORS related to geological and paleontological resources.

5.9.5 Conditions of Certification

The proposed modifications do not require changes to the following CoCs for paleontological resources as stipulated in the CEC Final Decision for the BPP:

PALEO-1 *This standard condition does not apply to this project.*

PALEO-2 *The project owner shall ensure the completion of the following actions/activities:*

- *Provide a paleontology specialist who will have access to the site and linear rights-of-way at any time prior to and during ground disturbance.*
- *The paleontology specialist will provide training to appropriate construction personnel at the site, will install avoidance measures (as necessary), and will be present during appropriate ground disturbing activities. The paleontology specialist has the authority to halt construction at a location if a significant paleontologic resource is found. If resources are discovered and the specialist is not present, the project owner will halt construction at that location and will contact the specialist immediately. The specialist will consult with the CPM and a decision will be made by the CPM within 24-hours as to how to proceed.*
- *The project owner shall allow time for the paleontology specialist to protect significant resource finds, and pay all fees necessary to protect any significant resources.*

Verification: *Throughout construction, the project owner shall inform the CPM concerning any substantive activity related to items 1 through 3 above.*

In summary, the Border BESS Project will not result in significant impacts related to paleontological resources that will require additional CoCs.

5.9.6 References

California Energy Commission (CEC). 2001a. Final Decision, Application for Certification of the CalPeak – Border Project by CalPeak Power-Border, LLC. July.

____. 2001b. CalPeak Power-Border, LLC – Staff Assessment for Emergency Permit. Docket # 01-EP-14. July 5.

City of San Diego. 1996. Areas within the City of San Diego which have paleontological significance.

5.10 Noise and Vibration

5.10.1 CEC Certification of BPP

The CEC Final Decision (CEC 2001a,b) included a summary assessment of noise impact related issues associated with the BPP. Concerns listed were related to construction and operational noise impacts at the property line and nearest sensitive receptors consisting of three single-family residences on Otay Mesa Road approximately 3,000 feet northeast of the project site in unincorporated San Diego County. Noise impacts assessed in the CEC Staff Assessment were based on City and County standards at property line and residences, respectively. Existing noise sources in the vicinity of the project included industrial uses and traffic from nearby roadways. The noise sources in the vicinity of the BPP and the Border BESS Project site area are still similar to that evaluated in 2001. One key change that has occurred in the area since 2001 is that SR 11 has been constructed to the north of the BPP site. As part of the 2001 licensing process noise information provided by the applicant indicated that the nearest sensitive receptor included three single-family residences located approximately 3,000 feet northeast of the project site along Otay Mesa Road. These residences are still identified in 2022 as the closest residences/sensitive receptors and are within approximately 2,500 feet of the BESS site portion of the overall BPP site.

5.10.2 Environmental Analyses

The proposed Border BESS Project will result in temporary noise impacts during the construction phase as well as a minor increase in noise levels at the Project site during the operational phase associated with BESS electrical equipment operation and maintenance activities. In order to assess potential Project noise impacts, ambient noise monitoring was conducted at the site on March 31 and April 1, 2022, and construction and operational noise levels were modeled and compared to applicable noise and vibration impact significance thresholds. The assessment is documented in the Noise and Vibration Study presented in Appendix F.

In summary, construction and operation of the Border BESS Project will not result in any significant noise or vibration impacts as summarized below in Table 5.10-1. Refer to the Noise and Vibration Study presented in Appendix F for more information.

Table 5.10-1 Summary of Noise and Vibration Impact Findings

Issue	Proposed Project's Level of Significance	Applicable Recommendations
Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less than significant impact (Construction) Less than significant impact (Operation)	None
Would the project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	Less than significant impact (Construction) Less than significant impact (Operation)	None
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	None

5.10.3 Mitigation Measures

The Border BESS Project will not create significant noise and vibration impacts that will require additional mitigation measures.

5.10.4 Consistency with LORS

The project conforms to applicable laws related to noise and vibration.

5.10.5 Conditions of Certification

The proposed Border BESS Project does not require changes to the CoCs for noise and vibration. An assessment of the applicability of the existing BPP Noise CoCs for the Border BESS Project follow.

***NOISE-1**. The project permitted under this emergency process shall be required to comply with applicable community noise standards.*

***Verification:** Within 30 days of the project first achieving a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey, utilizing the same monitoring sites employed in the pre-project ambient noise survey as a minimum. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. Steam relief valves shall be adequately muffled to preclude noise that draws legitimate complaints. If the results from the survey indicate that the project noise*

levels at the closest sensitive receptor are in excess of 62.5 dBA from 7:00 a.m. to 7:00 p.m., 60 dB from 7:00 p.m. to 10:00 p.m., and 57.5 dB from 10:00 p.m. to 7:00 a.m., or above 75 dBA at the project site property lines additional mitigation measures shall be implemented to reduce noise to a level of compliance with this limit.

The Project will comply with applicable community noise standards. No loud noise sources such as the BPP steam relief valves are associated with the Border BESS Project. Once the Project is operational, the Applicant will conduct a 25-hour community noise survey as required by CoC NOISE-1.

NOISE-2. *Prior to the start of rough grading, the project owner shall notify all residents within one mile of the site of the start of construction and will provide a complaint resolution process.*

The Project will comply with CoC NOISE-2.

NOISE-3. *Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project related noise complaints.*

The Project will comply with CoC NOISE-3.

NOISE-4. *Night construction activities may be authorized by the CPM if they are consistent with local noise ordinances. Night construction, or specific night construction activities may be disallowed by the CPM if it results in significant impact to the surrounding community.*

The Project will comply with CoC NOISE-4, as applicable. No night construction activities are currently planned as part of the proposed Border BESS Project.

In summary, the Border BESS Project will not result in significant impacts related to noise or vibration that will require additional CoCs.

5.10.6 References

California Energy Commission (CEC). 2001a. Final Decision, Application for Certification of the CalPeak – Border Project by CalPeak Power-Border, LLC. July.

____. 2001b. CalPeak Power-Border, LLC – Staff Assessment for Emergency Permit. Docket # 01-EP-14. July 5.

Rincon Consultants, Inc. (Rincon). 2022d. Noise and Vibration Study for the Border 52 MW BESS Project. Prepared for Hermes BESS LLC. August.

5.11 Visual Resources

5.11.1 CEC Certification of BPP

The CEC Staff Assessment (CEC 2001b) included a summary assessment of visual resources related issues associated with the BPP. The peaker project site was determined to be in a partially developed industrial area and that the BPP project site itself would be surrounded by undeveloped land. The 2001 assessment identified is an industrial facility to the east across Sanyo Avenue that was landscaped and had a neat appearance. Views of the site from this eastern area are somewhat limited because this area is approximately 20 feet above the elevation of the site. The area to the south of the project site is approximately 20 feet in elevation above the project site in the southeast. In addition, a berm located along the southern portion of the block containing the site obscures views of the site from eye level, especially towards the west. An industrial/office development in the area south of the project site across Airway Road would have views of the project site from the upper levels. Airway Road is well used and views of the site are available, especially from higher vantage points in offices being constructed and large trucks. State Route 905 (SR 905) is located west of the project site. SR 905 is well used, and the project site is clearly visible to motorists. West of SR 905 is undeveloped land and beyond that, in the distance is industrial development that would have distant views of the site. Within the same general area as the peaker facility and to the north but south of Otay Mesa Road East is an existing SDG&E natural gas regulator station that has an appearance of an unscreened industrial facility. North of the gas plant is the Wildflower power plant facility. While the BPP project site area itself is mostly undeveloped the visual quality of the surrounding area is of moderate quality mainly due to the existing SDG&E gas plant north of the site and development around the block including the project site. Development of the peaker project was assessed to introduce an industrial use with a stack approximately 50 feet tall and buildings of similar scale to the SDG&E facility and the Wildflower facility to the north. The peaker project was also assessed to include a raised roadway entry. Views of the power plant and elevated roadway were assessed to be available from all surrounding roadways where not obscured by elevation, berms or existing structures. The proposed power line extension along the eastside of SR 905 was assessed to be visible especially from SR 905 to the west. The assessment stated that the applicant would landscape the power plant and entry roadway views with perimeter trees. Compliance with City of San Diego perimeter landscaping requirements and the proposed landscaping concept would reduce the views of the power plant and roadway by screening them from view. VIS-3 requires the applicant to comply with the City of San Diego landscape requirements. VIS-3 also includes language that would prohibit the use of invasive species. Implementation of VIS-1 would help ensure that the

proposed project's impacts on views are minimized. These conditions of certification would ensure that the proposed project does not result in major visual impacts and complies with local LORS. Safety and security lighting installed as a part of the proposed project could increase the night lighting in the area. Compliance with VIS-2 would ensure that night lighting is kept to a minimum and does not create glare on adjacent property. Standard conditions of Certification VIS-1, VIS-2, and VIS-3 were recommended for the BPP. No additional conditions of certification were determined to be necessary.

5.11.2 Environmental Analyses

The viewshed in 2022 in the vicinity of the BPP site and the proposed Border BESS Project is similar to that described above from the 2001 CEC Staff Assessment with the exception that an elevated portion of SR 11 has been constructed to the north of the BPP site. The elevated SR 11 roadway blocks views from the north of the BESS site. Travelers on SR 11 going eastbound may have limited views of the BESS site for short periods. The primary views of the BESS site are from Sanyo Avenue to the east of the site. The BPP access road along the southeastern portion of the overall BPP property is elevated between the at-grade junction with Sanyo Avenue on the east and sloping downward to the BPP plant gate on the west. The elevated roadway blocks ground level views of the majority of the BESS site area from the south. Figure 5.11-1 below presents a view of the BESS site looking east towards Sanyo Avenue and the industrial park on the east side of Sanyo Avenue. The elevated portion of SR 11 is visible to the north side (left side of photograph) and the elevated BPP access road is visible on the south side of the BESS site (right side of photograph). As can be seen, the industrial park buildings on the east side of Sanyo Avenue are partially screened by landscaping. Figure 5.11-2 presents a view across the BESS site from near the northeast corner of the BPP property on the western edge of shoulder of Sanyo Avenue looking southwest across the site. The BPP is shown in the background. In addition, an elevated portion of SR 905 is evident further in the background and the elevated portion of SR 11 is also evident on the right side of the photograph (to the north of the BESS site).

The proposed Border BESS Project facilities will be constructed within the eastern portion of the existing BPP site on an appropriately zoned industrial site in an industrial area. Construction of the Border BESS Project will require temporary construction equipment activity use which may create a short term and insignificant visual impact.

The Border BESS Project facilities will be installed to the east of the existing BPP power block area and the BESS facilities will be similar in areal coverage to the BPP facilities, but the BESS facilities will be shorter is height relative to the BPP facilities. The existing BPP facilities are up to approximately 50-feet tall whereas the BESS enclosures are proposed to be approximately

Figure 5.11-1. View Looking East Across BESS Site from Western Edge of BESS Site

Figure 5.11-2. View Looking Southwest Across BESS Site

10-feet tall. The 13.8 kV connection from the BESS switchyard to the BPP interconnection structure may involve installation of several approximately 30-foot-tall H-frame structures to

span the BPP access road on the east side of the BPP. The Border BESS facilities will not be visible from any sensitive public viewing areas. Figure 5.11-3 presents a photograph of a representative BESS facility.

In summary, no significant visual resource related impacts from implementation of the Border BESS Project are expected.

5.11.3 Mitigation Measures

The Border BESS Project will not create significant visual resource impacts that will require additional mitigation measures.

5.11.4 Consistency with LORS

The project is expected to conform to applicable laws related to visual resources.

Figure 5.11-3. Representative Photograph of Typical BESS Enclosures

5.11.5 Conditions of Certification

The proposed Border BESS Project does not require additions to the CoCs for visual resources. An assessment of the applicability of the existing BPP Visual Resource CoCs for the Border BESS Project follow.

VIS-1 *Project structures treated during manufacture and all structures treated in the field, which are visible to the public, shall be painted in a neutral color consistent with the surrounding environment.*

Verification: *Prior to painting exposed services, the project owner shall identify the selected color for CPM approval.*

The Project will comply with CoC VIS-1.

VIS-2 *The project owner shall design and install all lighting such that light bulbs and reflectors are not visible from public viewing areas and illumination of the vicinity and the nighttime sky is minimized. Lighting shall be directed on-site to the extent practicable. Lighting must also be installed consistent with any local requirements.*

Within 30 days of certification, the project owner shall submit plans for lighting to the local planning department and the CPM. The lighting plan must be consistent with all applicable LORS.

The Project will comply with CoC VIS-2.

VIS-3 *The project owner shall prepare and submit to the local planning department for review and comment, and to the CPM for review and approval a landscaping plan which provides for any or all of the following, as appropriate, to screen the project from view: berms, vegetation and trees, and slats in fencing.*

Verification: *Within 30 days of certification, the project owner shall submit the landscaping plan to the local planning department and the CPM, who will review the plans for consistency with LORS. Landscaping plans must include a species list. Invasive non-native species will not be permitted.*

The Project will comply with CoC VIS-2, as practical. Landscaping in the form of evergreen trees is already present near the southern property boundary south of the BESS area along both sides of the elevated BPP access road. The BPP and surrounding landscaping effectively screens the BESS area from the west. Given the topographic position of the Border BESS site area which is lower than Sanyo Avenue to the east and the elevated portion of SR 11 to the north, installation and maintenance of effective landscaping screening which would require tall evergreen trees is not considered to be practical. Given the Project's expected minimal visual impacts and the severe drought condition in the San Diego region, use of potable water for landscaping is not considered appropriate at this time. The Otay Water District provides water service to the BPP/Border BESS Project site area and

reportedly does not provide reclaimed water service in the site area (Tamayo 2022). Trucking reclaimed water to the BESS site perimeter for landscaping is not considered to be feasible.

In summary, the Border BESS Project will not create significant visual resource impacts from sensitive public viewing locations and will not be out of character with the industrial nature of the industrially zoned property and surrounding area.

5.11.6 References

CEC. 2001b. CalPeak Power-Border, LLC – Staff Assessment for Emergency Permit. Docket # 01-EP-14. July 5.

Tamayo, J. 2022. Otay Water District, Recycled Water Program Supervisor. Email correspondence with Patch Services (R. Ray) on May 3, 2022.

5.12 Traffic and Transportation

5.12.1 CEC Certification of BPP

The CEC Staff Assessment (CEC 2001b) included a summary assessment of traffic and transportation related issues associated with the BPP. Site access from the north is currently available via State Route 905 ("SR 905") East to La Media Road to Airway Road to Sanyo Avenue. The CEC Staff Assessment noted that during operation of the project traffic would be minimal, as the power plant would be unmanned except for maintenance and repairs. A maximum average of 154 trips per day was anticipated during peaker project construction. This included associated traffic for construction workers, equipment and a maximum of 20 vendor deliveries. During the construction period, parking for vehicles that access the site (cars, trucks, equipment) was expected to be provided on the peaker project site, primarily on the 1.75-acre laydown area. The Otay Mesa Road widening project, completed in December 1999, upgraded the road to six lanes from the end of the freeway east to Old Otay Mesa Road East, where State Route 905 continues south to the Otay Mesa International Port of Entry. Operational traffic impacts were assessed to be negligible. To minimize impacts to traffic flow during construction, the CEC Staff Assessment stated that the applicant would develop and implement a standard traffic control plan ("TCP") consistent with the size and scope of construction activities. Some of these safety measures included: signage, traffic control measures ("TCMs"), and roadway crossings in accordance with Caltrans and City requirements; scheduling traffic lane or road closures during off-peak hours whenever possible; limiting vehicular traffic to approved access roads, construction yards and construction sites. The project was required to obtain all permits required by Caltrans to transport oversize, overweight, over height and over length vehicles on State highways (in compliance with California Vehicle Code Section 35780; Streets and Highways Code Sections 117 and 660-711; and 21 California Code of Regulations 1411.1 to 1411.6). The applicant indicated

that equipment transport would be in compliance with California Vehicle Code Section 31300 et seq. regarding the transport of hazardous materials. Implementation of a TCP would reduce most construction traffic impacts to a less than significant level along area roadways. This would be reinforced by the implementation of Conditions TRANS-1 and TRANS-3. With implementation of the CEC conditions of certification it was determined that the peaker project's impact on traffic and transportation would be less than significant.

As discussed in Section 5.13.2, below, the construction traffic associated with the Border BESS Project would be less than that required for the BPP when it was constructed.

5.12.2 Environmental Analyses

The proposed Border BESS project as currently envisioned would involve a peak construction workforce of 40-50 workers and involve up to about 15 truck deliveries per day. The facility would be unmanned during normal operations and truck traffic during operations would be limited primarily to maintenance activities. It is expected that the Border BESS project would comply with applicable Caltrans and California Vehicle Code requirements. In addition, it is expected that construction contractor will develop and implement a Traffic Control Plan for the construction phase as was done for the BPP even though it was not a specific CEC Condition of Certification.

As was the case for the BPP, with implementation of the CEC CoCs for traffic and transportation, it is expected that the peaker project's impact on traffic and transportation would be less than significant.

5.12.2.1 Vehicle Miles Traveled Assessment Findings

As requested by CEC Staff in 2022, this Petition for Post Certification Amendment includes a Vehicle Miles Traveled ("VMT") assessment. The VMT assessment (Rincon 2022e) is presented in Appendix G and the findings are summarized below.

Construction of the project is expected to have a peak daily workforce of up to 50 daily construction workers. In addition, construction of the project is expected to generate an average of 15 truck trips per day for the first 10-12 weeks and five truck trips per day for an additional 3-6 months to facilitate incoming deliveries and offsite disposal of construction waste. Overall, the project is expected to generate a maximum of 65 round trips per day during the construction phase. The estimated number of construction-phase trips is based on the planned work activities, construction schedule, and applicant experience on similar projects. After construction is complete, the project would function as an unmanned facility that is controlled remotely from an off-site location. No daily operational trips would typically be generated by the project. However, required maintenance of the BESS Project would be expected to require two

maintenance workers to visit the site on one day of each week, resulting in approximately two round trips per week during the operational lifespan of the project.

As a result of the vehicle trips described above, the Border BESS Project would qualify for a streamlined transportation analysis under the California Environmental Quality Act ("CEQA") (OPR 2018) without being subject to the detailed transportation VMT analysis requirements under the City of San Diego's "Small Project" screening criteria. Furthermore, the project can be categorized as a public utility with passive use, which would qualify for a streamlined transportation analysis under the City's "Locally Serving Public Facility" screening criteria.

In conclusion, the Border BESS project would screen out of the requirement to prepare a detailed transportation VMT analysis based under both the "Small Project" and "Locally Serving Public Facility" screening criteria, as identified in the City of San Diego's 2020 Transportation Study Manual (City of San Diego 2020). Therefore, it can be presumed that the project would have a less than significant VMT impact.

5.12.3 Mitigation Measures

The Border BESS Project will not result in a significant impact related to traffic and transportation and will not require additional mitigation measures.

5.12.4 Consistency with LORS

The project conforms to applicable laws related to traffic and transportation.

5.12.5 Conditions of Certification

The proposed Border BESS Project does not require additions to the CoCs for traffic and transportation. An assessment of the applicability of the existing BPP Traffic and Transportation CoCs for the Border BESS Project follow.

TRANS-1 *The project permitted under this emergency process shall comply with Caltrans and City/County limitations on vehicle sizes and weights. In addition, the project owner or its contractor shall obtain necessary transportation permits from Caltrans and all relevant jurisdictions for roadway use.*

Verification: *The project owner shall keep copies of any oversize and over-weight transportation permits received at the project site.*

The Project will comply with CoC TRANS-1.

TRANS-2 *The project permitted under this emergency process shall comply with Caltrans and City/County limitation for encroachment into public rights-of- way and shall obtain necessary encroachment permits from Caltrans and all relevant jurisdictions.*

Verification: *The project owner shall keep copies of any encroachment permits received at the project site.*

The Project will comply with CoC TRANS-2.

TRANS-3 *The project permitted under this emergency process shall ensure that permits and/or licenses are secured from the California Highway Patrol and Caltrans for the transport of hazardous materials.*

Verification: *The project owner shall keep copies of all permits/licenses acquired by the project owner and/or subcontractors concerning the transport of hazardous substances at the project site.*

The Project will comply with CoC TRANS-3.

TRANS-4 *Following completion of construction of the power plant and all related linear facilities, the project owner shall return all roadways to original or as near original condition as possible.*

The Project will comply with CoC TRANS-4 as related specifically to the Border BESS Project.

5.12.6 References

CEC. 2001b. CalPeak Power-Border, LLC – Staff Assessment for Emergency Permit. Docket # 01-EP-14. July 5.

City of San Diego. 2020. Transportation Study Manual. https://www.sandiego.gov/sites/default/files/10-transportation-study-manual.pdf (accessed June 2022).

Rincon. 2022e. VMT Technical Memorandum for the Hermes BESS LLC Border Energy Storage System Project in City of San Diego. August.

State Office of Planning and Research (OPR). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf (accessed June 2022).

5.13 Public Services/Fire Protection

5.13.1 CEC Certification of BPP

The CEC Staff Assessment (CEC 2001b) included a summary assessment of fire department related public services for the BPP site. The CEC reported in the Staff Assessment in 2001 that the City of San Diego Fire Department had indicated it would be able to serve the Project. As reported in the CEC Staff Assessment, a will serve-letter for the BPP project was written by the applicant and was signed by the Fire Department. The nearest fire station is Fire Station #43, located at Otay Mesa Road and La Media Road, approximately 1 mile west of the Project site. This station is staffed 24 hours per day, 7 days per week. A response time was not provided in the Staff Assessment.

As reported in the CEC Staff Assessment, once operational, the BPP power facility would be unmanned, but it would be remotely monitored from a central monitoring/control station in San Diego. As appropriate, calls would be made from the monitoring station to 911 and/or service technicians. Response time for the service technicians was reported to be 1 hour.

The CEC Staff Assessment from 2001 stated that Staff does not impose standard Conditions of Certification for Public Services. Since a will-serve letter had been provided, no additional conditions were required by the CEC at the time.

In 2020, the CEC requested that the Applicant contact the City of San Diego Fire Department ("SDFD") and obtain information regarding SDFD emergency response capabilities for incorporation into the Petition for Post-Certification Amendment. The Applicant contacted the SDFD regarding their BESS training and response capabilities. Pertinent information obtained via consultation with the SDFD and others is presented in Section 5.13.2, below.

5.13.2 Environmental Analyses

The battery storage technologies being considered are lithium iron phosphate ("LFP") and nickel manganese cobalt ("NMC") or other technologies that may become commercially available as the BESS Project undergoes final design. Planned fire protection systems include an active aerosol based thermal activated fire suppression system in each individual battery container as well as a centralized fire detection alarm system that can be configured to independently dial the EMS in the case of a fire or thermal event. Each battery will be equipped with its own coolant-based chiller to keep the batteries at an optimal temperature and prevent thermal runaway. The temperature control system will be managed by the plant controller and will send out notification to a 24/7 monitoring center. Each battery container will be equipped with a blast door designed to deploy in the event of an explosion and direct any hot gas and energy upwards and away from any adjacent equipment or personnel.

Applicant representatives contacted the SDFD and met with SDFD and San Diego County representatives at the BPP facility on May 27, 2022. In addition, follow up correspondence has occurred between Applicant representatives and SDFD and San Diego County representatives. In summary, the SDFD response team has Fire Fighter 1 Certification which includes certified training and in the following National Fire Protection Association ("NFPA") areas:

- NFPA 1001: Standard for Fire Fighter Professional Qualifications (2019)
- NFPA 1051: Standard for Wildland Firefighting Personnel Professional Qualifications (2020)
- NFPA 1072: Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications (2017)

This training and certification indicate that the SDFD has personnel that can properly respond to any type of fire/hazardous material event. The SDFD hazardous material team has experience with BESS systems for large scale, commercial and residential systems. In addition, the SDFD has established Lithium Battery Awareness Training materials (Rezende 2022). The primary concern of the SDFD concerns potential pressure buildup in BESS enclosures during an upset condition and how to relieve pressure during an emergency. The proposed Border BESS Project will use battery enclosures that are designed to relieve pressure from the top of the enclosure to minimize risk of lateral fire and explosion hazards. In follow up communication, the SDFD suggested that the proposed BESS enclosure design include the capability for the enclosures to be automatically opened remotely with vertical ventilation capabilities to protect emergency response personnel. SDFD personnel also indicated that they would like for the BESS enclosure design to include annunciator panels with heat, smoke, and other pertinent information regarding what the conditions are inside the BESS enclosures during an emergency event (Rezende 2022).

The San Diego County Department of Environmental Health, Hazardous Materials Division indicated that they are intending to develop a standard BESS incident response plan (Wirschem 2022). In addition, the County also stated that based on current California Health and Safety Codes, forms have been developed to meet the requirements for a Hazardous Material Business Plan and Emergency Response Plans for Certified Unified Program Agencies ("CUPA") program elements. The SDFD stated that since the Border BESS Project is being permitted by the CEC and not the City of San Diego, no construction related SDFD permit requirements appear to be applicable. If a certificate of occupancy is required, a fire inspection would be required following receipt of the certificate (Kane 2022).

5.13.3 Mitigation Measures

The impacts related to public services are expected to be less than significant and, therefore, will not require additional mitigation measures.

5.13.4 Consistency with LORS

The project will conform to applicable laws related to public services and fire protection.

5.13.5 Conditions of Certification

The CEC did not stipulate any CoCs for public services for the BPP project in 2001. The proposed Border BESS Project is not expected to require new CEC CoCs for public services/fire protection.

5.13.6 References

CEC. 2001b. CalPeak Power-Border, LLC – Staff Assessment for Emergency Permit. Docket # 01-EP-14. July 5.

Kane, A. 2022. City of San Diego, Assistant Fire Marshal, Fire-Rescue Department. Personal communication with Patch Services (R. Ray). June 16.

Knight, E. 2022. California Energy Commission, Manager, Siting & Environmental Office, Siting Transmission & Environmental Protection Division. Personal communication with Patch Services (R. Ray). May 12.

Rezende, R. 2022. City of San Diego, Battalion-4, B Division, Special Operations – Hazmat, Fire-Rescue Department. Personal communication with Patch Services (R. Ray). June 23.

Wirschem, L. 2022. County of San Diego, Department of Environmental Health Services, Hazardous Materials Division. Personal communication with Patch Services (R. Ray). May 31.

5.14 Environmental Justice

5.14.1 CEC Certification of BPP

The CEC Staff Assessment (CEC 2001b) included a summary assessment of environmental justice related issues for the BPP project. The CEC reported in the Staff Assessment in 2001 that for all siting cases, including the emergency permitting process, Energy Commission staff follows the federal guidelines' two-step screening process. The process assesses:

- Whether the potentially affected community includes minority and/or low-income populations; and
- Whether the environmental impacts are likely to fall disproportionately on minority and/or low-income members of the community.

The CEC Staff Assessment reported that for the Year 2000 estimates showed that the majority of the census tracts within 6 miles of the BPP project site contained more than 50 percent minority population. Year 1990 Census data showed only two census tracts within 6 miles of the project site with a 25-49.9 percent low-income population. The population of these tracts in 2000 was less than 8,000 of the more than 70,000 for which data was reportedly available.

The CEC Staff Assessment also noted that approximately 40 percent of the area within the 6-mile radius is across the U.S. border with Mexico. The 2001 CEC Staff Assessment reported that the San Diego County Air Pollution Control District indicated that air movement in the border area tended to be across the border south to north which would mean that air quality would be impacted very little, if at all, by the Otay Mesa Projects.

The only potential adverse effects of the project on this population would be air quality or public health impacts. Staff determined that the impacts from the BPP project, with the implementation of staff's recommended conditions of certification, would not result in a significant adverse impact to the surrounding community. Staff determined that there were no environmental justice issues associated with the BPP project.

5.14.2 Environmental Analyses

Construction and operation of the Border BESS Project is not expected to result in any significant impacts to the environment, including air quality/greenhouse gas emissions or public health impacts. The Border BESS Project would have minor emissions during the temporary construction phase and then only minor emissions associated with the operation and maintenance the BESS facility. In addition, the Border BESS Project is expected to reduce emissions from the BPP when the batteries are providing power to the electrical grid in lieu of the peaker facility which is a beneficial project impact.

In summary, the Border BESS Project will not result in any adverse or significant impacts related to environmental justice issues and will have no disproportionate impacts on minority or economically disadvantaged communities.

5.14.3 Mitigation Measures

The Border BESS Project will not result in a significant impact related to environmental justice considerations and will not require mitigation measures.

5.14.4 Consistency with LORS

The project conforms to applicable laws related to environmental justice.

5.14.5 Conditions of Certification

The proposed project does not require CoCs for environmental justice.

5.14.6 References

CEC. 2001b. CalPeak Power-Border, LLC – Staff Assessment for Emergency Permit. Docket # 01-EP-14. July 5.

5.15 Wildfire

5.15.1 CEC Certification of BPP

The CEC Final Decision and Staff Assessment for the BPP (CEC 2001a,b) did not address wildfire hazard provisions enacted after its approval. The CEC informed the Applicant in 2022 that the Petition for Post-Certification Amendment for the Border BESS Project should address the wildfire hazard at the project site (Knight 2022). The wildfire hazard and associated considerations for the site are addressed in Section 5.15.2.

5.15.2 Environmental Analyses

The Border BESS Project site is located at 2060 Sanyo Avenue on Otay Mesa in San Diego, California. The project site is located in a highly industrialized area, and the site has been previously graded. The western portion of the overall BPP site is developed with the peaker facility. An elevated section of SR 11 is located to the north of the BESS site and Sanyo Avenue is located above the eastern edge of the BESS site, including the construction laydown area. The southern boundary of the BESS site is near the elevated BPP access road that connects Sanyo Avenue to the peaker facility. Slope embankments are present to the north, east, and south of the BESS site, including laydown area. All non-ornamental vegetation within the non-developed portion of the BPP property, including the BESS project site area is routinely mowed for fire protection. The area surrounding the study area is characterized by commercial and industrial uses, undeveloped land, major highways running to the north and west of the site, and Sanyo Avenue adjacent to the eastern BPP site boundary. Vegetation on the Border BESS Project site consists of disturbed non-native grassland. Diegan coastal sage scrub

maintained by Caltrans is present to the north of the BPP property on the south facing slope below the elevated portion of SR 11.

A review of the Office of the State Fire Marshall, California Department of Fire and Forestry ("CalFire") , California Fire Hazard Severity Zones website viewer identifies the BPP property and the Border BESS site area as being located in a Very High Fire Hazard Severity Zone ("VHFHSZ") (https://egis.fire.ca.gov/FHSZ/).

The Border BESS Project facilities such as BESS enclosures, inverters, and switchyard will be unoccupied structures and will be constructed primarily of non-flammable materials/metal. The facilities will be surrounded by perimeter access roads and there will be over 100 feet of defensible space between the BESS facilities and the property line. The construction laydown area will be revegetated with approved native, drought tolerant grasses following the completion of construction and will continue to be maintained on an annual basis or more often if needed for fire control. The existing BPP fire hydrant located on the south side of the adjacent BPP facility access road will be available, if needed, for any incidents at the BESS facility area.

5.15.3 Mitigation Measures

The Border BESS Project will not result in a significant impact related to its location within a VHFHSZ and mitigation measures related to wildfire hazard will not be required.

5.15.4 Consistency with LORS

The project conforms to applicable laws related to wildfire.

5.15.5 Conditions of Certification

The proposed project does not require CoCs for wildfire considerations.

5.15.6 References

CalFire. FHSZ Viewer. Accessed July 24, 2022. https://egis.fire.ca.gov/FHSZ/

California Energy Commission (CEC). 2001a. Final Decision, Application for Certification of the CalPeak – Border Project by CalPeak Power-Border, LLC. July.

____. 2001b. CalPeak Power-Border, LLC – Staff Assessment for Emergency Permit. Docket # 01-EP-14. July 5.

5.16 Waste Management

5.16.1 CEC Certification of BPP

The CEC Final Decision and Staff Assessment for the BPP (CEC 2001a,b) did not provide an assessment of Waste Management. However, the CEC did stipulate Waste Management CoCs. The stipulated CoCs for the BPP are applicable to the Border BESS Project as well.

5.16.2 Environmental Analyses

The Border BESS Project will generate small quantities of waste during construction and associated with maintenance and battery augmentation events during the operational phase. In the event that spent or degraded batteries need to be removed from the BESS facility during the operational phase and/or during decommissioning, the batteries will be handled as Universal Waste and be recycled or disposed of in an approved manner in accordance with applicable regulations at the time of removal. No adverse impacts related to waste management will occur.

5.16.3 Mitigation Measures

The Border BESS Project will not result in a significant impact related to waste management and no mitigation measures related to waste management be required.

5.16.4 Consistency with LORS

The project conforms to applicable laws related to waste management.

5.16.5 Conditions of Certification

The following BPP CoCs for waste management apply to the Border BESS Project:

WASTE-1 *The project owner shall obtain a hazardous waste generator identification number from the Department of Toxic Substances Control prior to producing any hazardous waste.*

Verification: *The project owner shall keep its copy of the identification number on file at the project site.*

WASTE-2 *The project owner shall have an environmental professional available for consultation during soil excavation and grading activities. The environmental professional shall be given full authority to oversee any earth moving activities that have the potential to disturb contaminated soil. The environmental professional shall meet the qualifications of such as defined by the American*

Society for Testing and Materials designation E 1527-97 Standard Practice for Phase I Environmental Site Assessments.

Verification: *If potentially contaminated soil is unearthed during excavation at either the proposed site or linear facilities, the environmental professional shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and make a recommended course of action. The environmental professional shall have the authority to suspend construction activity at that location. If, in the opinion of the environmental professional, remediation is to be required, the project owner shall consult with the CPM and a decision will be made by the CPM within 24 hours as to how to proceed.*

5.16.6 References

California Energy Commission (CEC). 2001a. Final Decision, Application for Certification of the CalPeak – Border Project by CalPeak Power-Border, LLC. July.

____. 2001b. CalPeak Power-Border, LLC – Staff Assessment for Emergency Permit. Docket # 01-EP-14. July 5.

5.17 Worker Safety

5.17.1 CEC Certification of BPP

The CEC Final Decision and Staff Assessment for the BPP (CEC 2001a,b) did not provide an assessment of Worker Safety. However, the CEC did stipulate a worker safety related CoC for compliance with Title 8 of the California Code of Regulations ("CCR"), beginning with Part 450 (8 CCR Part 450 et seq). The Border BESS Project will comply with applicable California Department of Industrial Relations ("DIR"), Division of Occupational Safety and Health ("CalOSHA"), Title 8 and California Labor Code requirements during the construction and operation of the project.

5.17.2 Environmental Analyses

By complying with the existing condition of certification, as applicable, the Border BESS Project construction and operational phase activities would comply with applicable worker safety protections and all applicable LORS.

5.17.3 Mitigation Measures

The Border BESS impacts related to worker safety are less than significant and, therefore, will not require additional mitigation measures.

5.17.4 Consistency with LORS

The project conforms to applicable laws related to worker safety.

5.17.5 Conditions of Certification

The following BPP CoC for worker safety generally applies to the Border BESS Project. However, portions of Title 8 CCR, beginning with Part 450 do not apply to the Border BESS Project such as the portions addressing regulations for Unfired Pressure Vessel Safety Orders et al.

WORKER SAFETY-1 *The project owner must comply with all requirements in Title 8 of the California Code of Regulations, beginning with Part 450 (8 CCR Part 450 et seq).*

Verification: *The project owner shall submit to the CPM a letter attesting to compliance with the above and shall report any violations to the CPM.*

5.17.6 References

California Energy Commission (CEC). 2001a. Final Decision, Application for Certification of the CalPeak – Border Project by CalPeak Power-Border, LLC. July.

____. 2001b. CalPeak Power-Border, LLC – Staff Assessment for Emergency Permit. Docket # 01-EP-14. July 5.

APPENDIX C

AIR QUALITY AND GREENHOUSE GAS (GHG) STUDY

This appendix presents the Air Quality and Greenhouse Gas (GHG) Study prepared for the Border BESS Project.

Border 52 MW Battery Energy Storage System (BESS) Project

Air Quality and Greenhouse Gas Study

prepared for

Hermes BESS LLC
2060 Sanyo Avenue
San Diego, CA 92154

prepared by

Rincon Consultants, Inc.
8825 Aero Drive, Suite 120
San Diego, California 92123

August 2022

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

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1 Project Description

1.1 Introduction

This study analyzes the air quality, greenhouse gas (GHG) emissions, and potential health risk impacts related to the proposed Hermes BESS LLC, Border Battery Energy Storage System (BESS) development located at 2060 Sanyo Avenue in San Diego, California. Rincon Consultants, Inc. (Rincon) prepared this study on behalf of the applicant to support the California Energy Commission (CEC) requirements for a Petition for Post-Certification Amendment and to meet the applicable requirements of the California Environmental Quality Act (CEQA). The purpose of this study is to analyze the projects' air quality and GHG emissions related to both temporary construction activity, long-term operation, and decommissioning. The CalPeak Border Peaker Plant (BPP) was licensed by the CEC in 2001 as an emergency project (CEC Docket No. 01-EP-14). BPP is authorized by San Diego Gas & Electric Company ("SDG&E") and California Independent System Operator ("CAISO") under its Generator Interconnection Agreement (as amended) to provide up to net of 52 MW to the grid. The applicant submitted a CEC Project Change Questionnaire to the CEC on March 15, 2022, and the CEC notified the applicant on March 17, 2022, that the Border BESS is subject to the CEC's licensing jurisdiction and would require a Petition for Post-Certification Amendment.

1.2 Project Summary

Project Location

The BESS project site is located within the existing 10.12-acre CalPeak Power-Border LLC, BPP property on Assessor's Parcel Number (APN) 646-130-58, located at 2060 Sanyo Avenue in the City of San Diego, California. The project encompasses an approximately 3-acre area on the eastern half of the BPP property. The BPP property is bound by California State Route (SR) 11 to the north, SR 125 and SR 905 to the west, and Sanyo Road to the east. Other land uses in the area include undeveloped land to the south and commercial development to the east.

Figure 1 shows the regional location of the overall project site and Figure 2 provides a site plan of the project site.

Project Description

The Border BESS would be capable of providing up to 52 MW of BESS electricity for one to two hours. If the 52 MW of capacity is needed for dispatch to the electrical grid for more than one to two hours, the peaker plant would then be called upon to meet the need. The proposed project would not increase the output of the BPP beyond the CEC licensed capacity and would not exceed the CAISO Aggregate Capability Constraint (ACC) of 52 MW.

The BPP is interconnected to the San Diego Gas & Electric (SDG&E) Border Substation to the north via an existing nominal 69 kilovolt (kV) transmission line that crosses State Route 905 (SR-905). The Border BESS Project will include an onsite 13.8 kV switchyard that will connect to the low side (13.8 kV) of the existing nominal 13.8 kV/69 kV generator step-up unit/main power transformer (GSU) before entering the BPP switchyard. This connection will be made using a short underground or overhead 13.8 kV cable. The high side of the existing GSU at the BPP is connected to the 69 kV line that connects to the SDG&E Border Substation. Connecting the Border BESS to the low side of the BPP GSU will allow the BESS to

provide energy and capacity at transmission voltage to the SDG&E Border Substation without requiring an additional step-up transformer at the Border BESS switchyard. High voltage modifications to the BPP switchyard or the CAISO network are not expected to be required since the existing BPP GSU and 69 kV line will be utilized for the Border BESS connection. Operation of the Border BESS facility will be integrated with the existing BPP. The BESS will be charged from the electrical grid most likely during solar peak production hours and not from the BPP. The BESS and the BPP may be operated simultaneously in accordance with the market-optimized dispatch instructions received from the CAISO's Automated Dispatching System (ADS), but the combined output will be control limited to never exceed a net of 52 MW per the Generator Interconnection Agreement.

Construction

Construction of the BESS facility is anticipated to begin during the second quarter of 2023 with completion during the second quarter of 2024. Activities would include, but are not limited to, existing access roadway repair, site preparation, mobilization, grading, installation/ construction, and paving/surfacing. The project would not require demolition of existing facilities because the project site is currently vacant and undeveloped. The construction equipment would be equipped with at least Tier 4 Interim diesel engines with the exception of equipment that is less than 50 horsepower such as portable generators and welders. Portable generators would be electric. The welders would be electric or Tier 4 Final diesel engines. All construction equipment would be staged in the construction laydown area.

Cut and fill associated with site grading and excavation would be balanced onsite. Estimated maximum cut and fill, including gravel and roadbed material is approximately 5,900 cubic yards. Approximately 1,400 cubic yards of gravel will be imported for pad construction as well as 1,000 cubic yards of concrete.

Construction would include the partial demolition of the existing access road from Sanyo Avenue to the plant gate entrance. The approximately 600-foot-long access road would create 780 cubic yards of debris to be exported and require the import of 780 cubic yards of material for reconstruction.

It is unknown if the 170 feet of cable that will connect the BESS facility to the BPP switchyard and beyond to the BPP transmission control system will be overhead or underground. Therefore, it was conservatively assumed that the cable would be subsurface. This would require the excavation of approximately 100 cubic yards of road pavement and underlying soil between the BESS facility and the switchyard. The 100 cubic yards is conservatively anticipated to be disposed of offsite. The 18 cubic yards of excavation necessary between the switchyard and the BPP transmission control system will be re-used as backfill.

During peak construction times a workforce of 40 to 50 persons is anticipated with the average workforce between 30 and 35 workers daily. Truck trips will average 15 trucks per day for 10 to 12 weeks during site mobilization and the offsite disposal of demolition materials. Additional truck trips would average 5 trucks per day for an additional 3-6 months for incoming equipment and material deliveries.

Water usage for dust suppression is anticipated to require approximately 5,000 gallons per day for the first three months during site grading and leveling activities and up to approximately 3,000 gallons per day for the remainder of the construction activities.

Operation

Commercial operation is currently anticipated for the second quarter of 2024. Once operational, the BESS facility would operate seven days per week and 365 days per year until the anticipated decommissioning of the project in 40 years. The facilities would require periodic operation and maintenance (O&M) visits along with augmentation activities. O&M visits are expected to typically occur weekly with 2 workers at the site to conduct visual inspections, monitor BESS performance, execute minor repairs, and make BESS adjustments. Augmentation visits would occur every three to five years to update the battery enclosures as the battery performance decreases over time. A limited amount of heavy-duty diesel equipment may be utilized during the augmentation visits, such as a crane. Maintenance vehicles would be light duty trucks (e.g., pickup or flatbed trucks). Existing employees of the Border peaker plant would maintain the BESS facility. There are no new area sources being constructed as part of the project, and no new energy consumption or solid waste generation. Water usage at the site would be for fire suppression only and would be negligible, no wastewater would be generated at the site. Circuit breakers used for the new installation will incorporate clean-air vacuum technology and eliminate SF_6 from their equipment.

Decommissioning

At the end of the project's useful life (anticipated to be 40 years), the project could be decommissioned. Activities required for deconstruction of the on-site facilities would require similar types and levels of equipment as those used during the construction phase.

Border Peaker Plant Project Air Quality Conditions of Certification

The following CEC conditions apply to the BPP, and their applicability to construction and operation of the Border BESS project is summarized below.

AQ-1: Prior to the commencement of project construction, the project owner shall prepare a Construction Fugitive Dust Mitigation Plan that will specifically identify fugitive dust mitigation measures that will be employed for the construction of the project and related facilities.

Measures that should be addressed include the following:

- The identification of the employee parking area(s) and surface of the parking area(s);
- The frequency of watering of unpaved roads and disturbed areas;
- The application of chemical dust suppressants;
- The stabilization of storage piles and disturbed areas;
- The use of gravel in high traffic areas;
- The use of paved access aprons;
- The use of posted speed limit signs;
- The use of wheel washing areas prior to large trucks leaving the project site;
- The methods that will be used to clean tracked-out mud and dirt from the project site onto public roads; and
- For any transportation of borrowed fill material, the use of covers on vehicles, wetting of the material, and insuring appropriate freeboard of material in the vehicles.

Verification: The project owner shall submit to the CPM a letter attesting to compliance with the above and shall report any violations to the CPM.

Applicability to Border BESS Project: CEC Condition AQ-1 applies to the Border BESS Project.

AQ-2 The project owner shall comply with the terms and conditions of the Authority to Construct and the Permit to Operate issued by San Diego County Air Pollution Control District.

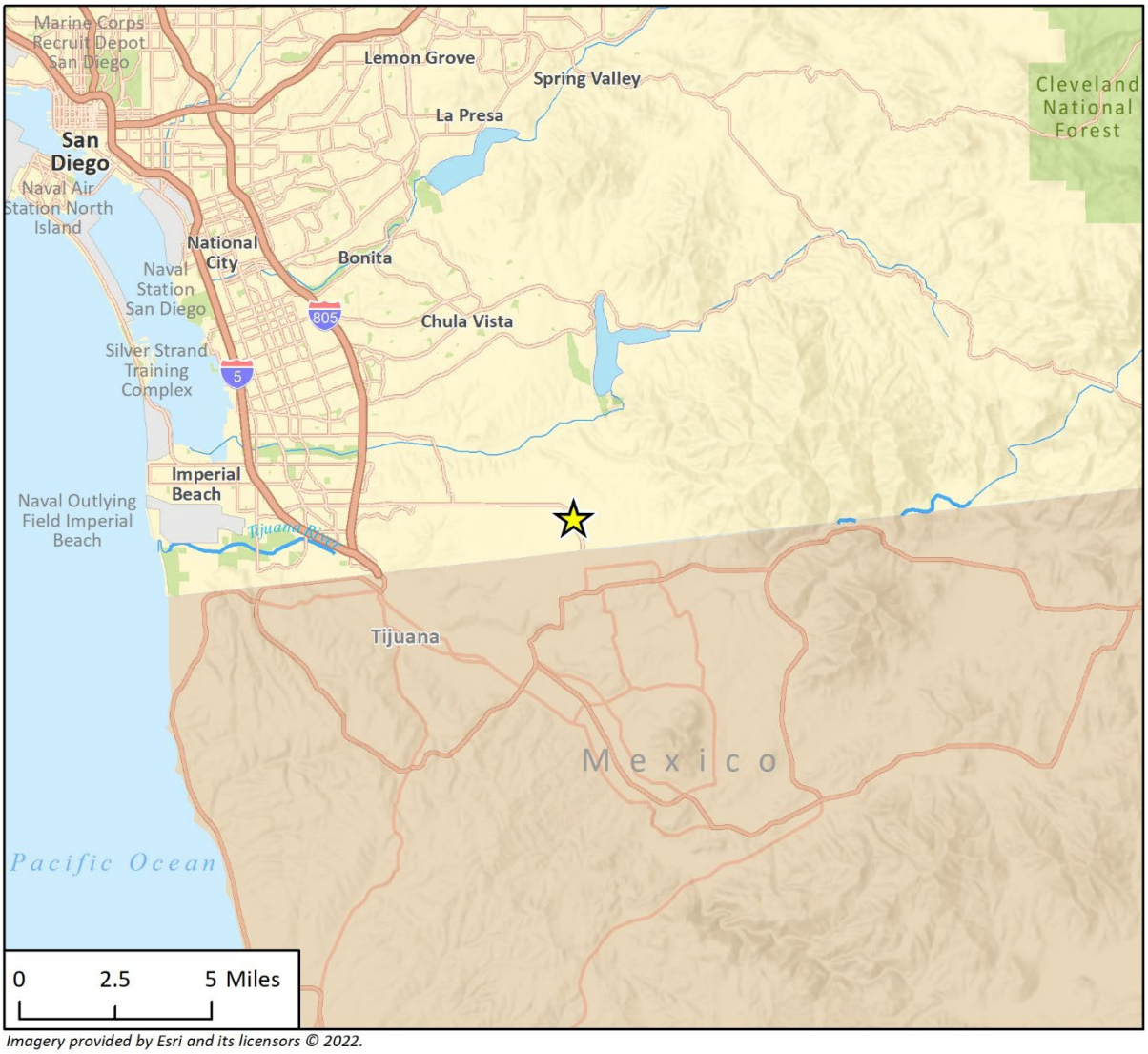
Verification: In the event that the air district finds the project to be out of compliance with the terms and conditions of the Authority to Construct, the project owner shall notify the CPM of the violation, and the measures taken to return to compliance, within five (5) days.

Applicability to Border BESS Project: CEC Condition AQ-2 does not apply to the Border BESS Project.

AQ-3 The project owner shall operate the project in compliance with all Best Available Control Technology (BACT) standards imposed by the Air District in its Authority to Construct. Failure to meet these standards will result in a finding that the project owner is out of compliance with the certification.

Applicability to Border BESS Project: CEC Condition AQ-3 does not apply to the Border BESS Project.

Figure 1 Regional Location



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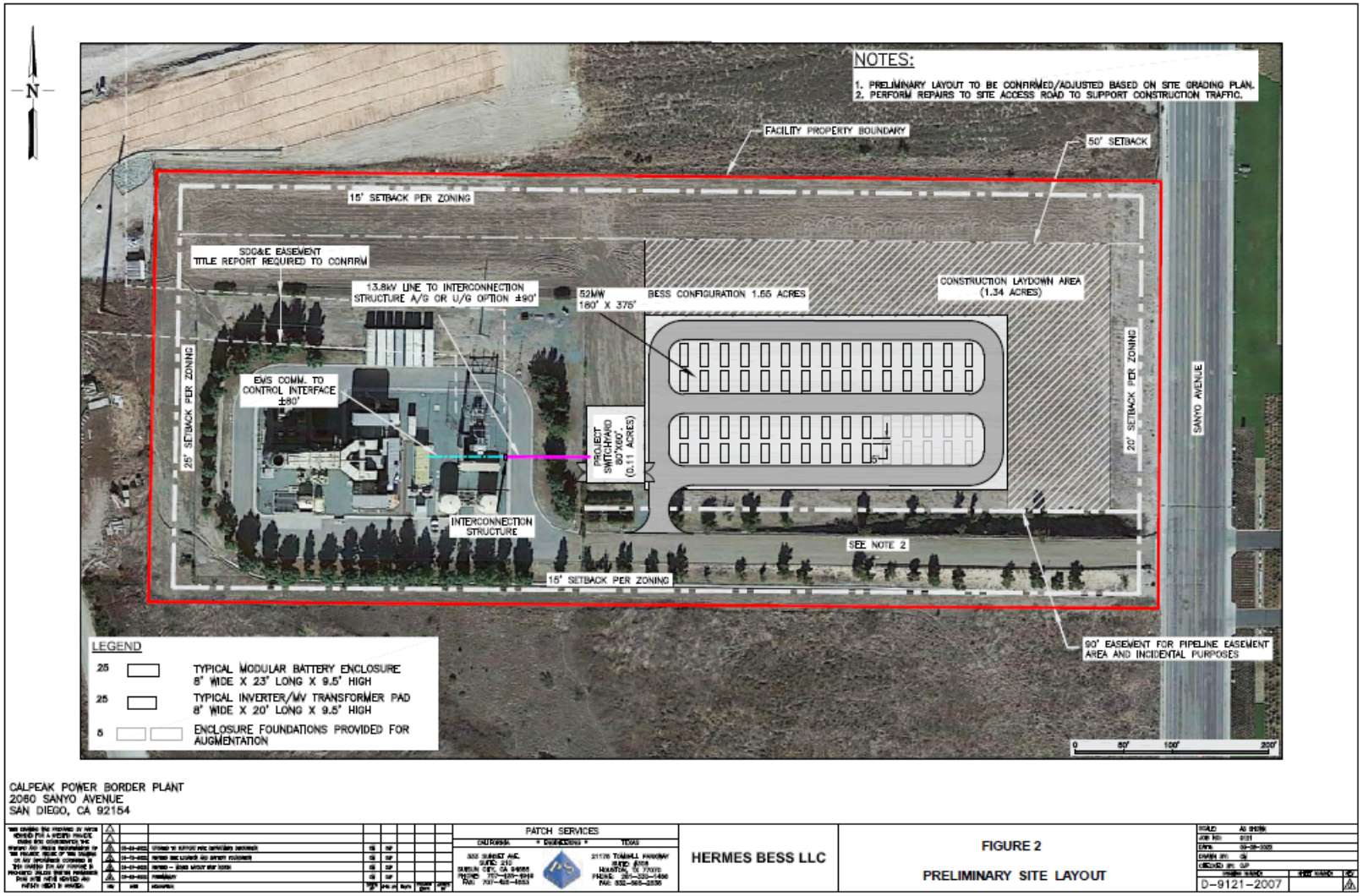
Project Location

N

Figure 2 Site Plan



2 Background

2.1 Environmental Settings

Climate and Meteorological Conditions

The project site is located in the City of San Diego within the community of Otay Mesa in San Diego County. The BESS project site is in the San Diego Air Basin (SDAB), which is bordered by the Pacific Ocean to the west, the South Coast Air Basin (SCAB) to the north, the Salton Sea Air Basin to the east, and the U.S./Mexico border to the south. Regional wind patterns are dominated by onshore sea breezes during the day, and winds generally slow or reverse direction toward the sea at night. Temperature and precipitation can vary widely within the SDAB, where average annual precipitation ranges from approximately 10 inches in the coastal and inland areas to over 30 inches in the mountains. In general, milder annual temperatures are experienced in the maritime and coastal areas, whereas the interior and desert areas experience warmer summers and cooler winters. The majority of the unincorporated County is located in the interior and desert zones, approximately 25 miles inland from the coast to the County's eastern border. The project site is located approximately 17 miles inland from the inner harbor of San Diego Bay.

High air pollution levels in coastal communities of San Diego can often occur when polluted air from the SCAB, particularly from Los Angeles, travels southwest over the ocean at night and is brought on shore into San Diego by the sea breeze during the day (San Diego Air Pollution Control District [SDAPCD] 2015). Ozone and its precursor emissions (reactive organic gases [ROG] and nitrogen oxides [NO_X]) are also transported to San Diego during relatively mild Santa Ana weather conditions, which tend to occur between October through March when high pressure builds over the Great Basin of the central Nevada region and hot and dry winds blow westward from the interior regions of the Sierra Nevada, San Gabriel, and San Bernardino mountains to the coastline (Fovell 2002). However, during strong Santa Ana weather conditions, pollutants are pushed away from San Diego far out to sea.

Air pollutant emission sources in the SDAB are typically grouped into two categories: stationary and mobile sources. Mobile source emissions can be attributed to vehicles and transportation-related activities. Stationary sources can be divided into two major subcategories: point and area sources. Point source emissions originate from manufacturing and industrial processes, while area emissions are generated from residential heaters, small engines, and other consumer products. Both major emissions categories are widely distributed within SDAB and may have a cumulative effect.

2.1.1 Air Quality

Air Pollutants of Concern

The federal and state Clean Air Acts mandate the control and reduction of certain air pollutants. Under these laws, the United States Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for criteria air pollutants that are a threat to public health and welfare. Criteria pollutants that are a concern in the SDAB are described below.

Ozone

Ozone (O_3) is a highly oxidative unstable gas produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_X) and reactive organic gases (ROG)/volatile organic compounds (VOC).[1] VOC is composed of non-methane hydrocarbons (with specific exclusions), and NO_X is composed of different chemical combinations of nitrogen and oxygen, mainly nitric oxide and NO_2. NO_X is formed during the combustion of fuels, while ROG is formed during the combustion and evaporation of organic solvents. As a highly reactive molecule, O_3 readily combines with many different atmosphere components. Consequently, high O_3 levels tend to exist only while high VOC and NO_X levels are present to sustain the O_3 formation process. Once the precursors have been depleted, O_3 levels rapidly decline. Because these reactions occur on a regional rather than local scale, O_3 is considered a regional pollutant. In addition, because O_3 requires sunlight to form, it mainly occurs in concentrations considered serious between April and October. Groups most sensitive to O_3 include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors (United States Environmental Protection Agency [USEPA] 2021). Depending on the level of exposure, O_3 can cause coughing and a sore or scratch throat; make it more difficult to breathe deeply and vigorously and cause pain when taking a deep breath; inflame and damage the airways; make the lungs more susceptible to infection; and aggravate lung diseases such as asthma, emphysema, and chronic bronchitis.

Nitrogen Dioxide

Nitrogen dioxide (NO_2) is a by-product of fuel combustion. The primary sources are motor vehicles and industrial boilers, and furnaces. The principal form of NO_x produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO_2, creating the mixture of NO and NO_2, commonly called NO_x. NO_2 is a reactive, oxidizing gas and an acute irritant capable of damaging cell linings in the respiratory tract. Breathing air with a high concentration of NO_2 can irritate airways in the human respiratory system. Such exposures over short periods can aggravate respiratory diseases leading to respiratory symptoms (such as coughing, wheezing, or difficulty breathing), hospital admissions, and visits to emergency rooms. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma and children and the elderly are generally at greater risk for the health effects of NO_2 (USEPA 2021a). NO_2 absorbs blue light and causes a reddish-brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of O_3/smog and acid rain.

Carbon Monoxide

Carbon monoxide (CO) is a localized pollutant found in high concentrations only near its source. The primary source of CO, a colorless, odorless, poisonous gas, is automobile traffic's incomplete combustion of petroleum fuels. Therefore, elevated concentrations are usually only found near areas of high traffic volumes. Other sources of CO include the incomplete combustion of petroleum fuels at power plants and fuel combustion from wood stoves and fireplaces during the winter. When CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability to get oxygenated blood to their hearts in situations where they need more oxygen than usual. As a result, they are especially vulnerable to the effects of CO when

[1] CARB defines VOC and ROG similarly as, “any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate,” with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term VOC is used in this report.

exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain, also known as angina (USEPA 2021a).

Particulate Matter

Particulates less than 10 microns in diameter (PM_{10}) and less than 2.5 microns in diameter ($PM_{2.5}$) are comprised of finely divided solids and liquids such as dust, soot, aerosols, fumes, and mists. Both PM_{10} and $PM_{2.}$ are emitted into the atmosphere as by-products of fuel combustion and wind erosion of soil and unpaved roads. The atmosphere, through chemical reactions, can form particulate matter. The characteristics, sources, and potential health effects of PM_{10} and $PM_{2.5}$ can be very different. PM_{10} is generally associated with dust mobilized by wind and vehicles. In contrast, $PM_{2.5}$ is generally associated with combustion processes and formation in the atmosphere as a secondary pollutant through chemical reactions. PM_{10} can cause increased respiratory disease, lung damage, cancer, premature death, reduced visibility, surface soiling. For $PM_{2.5}$, short-term exposures (up to 24-hours duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases (California Air Resources Board [CARB] 2022a).

Sulfur Dioxide

Sulfur dioxide (SO_2) is included in a group of highly reactive gases known as "oxides of sulfur." The largest sources of SO_2 emissions are from fossil fuel combustion at power plants (73 percent) and other industrial facilities (20 percent). Smaller sources of SO_2 emissions include industrial processes such as extracting metal from ore and burning fuels with a high sulfur content by locomotives, large ships, and off-road equipment. Short-term exposures to SO_2 can harm the human respiratory system and make breathing difficult. People with asthma, particularly children, are sensitive to these effects of SO_2 (USEPA 2021a).

Lead

Lead (Pb) is a metal found naturally in the environment, as well as in manufacturing products. The major sources of Pb emissions historically have been mobile and industrial. However, due to the USEPA's regulatory efforts to remove lead from gasoline, atmospheric Pb concentrations have declined substantially over the past several decades. The most dramatic reductions in Pb emissions occurred before 1990 due to the removal of Pb from gasoline sold for most highway vehicles. Pb emissions were further reduced substantially between 1990 and 2008, with reductions occurring in the metals industries at least partly due to national emissions standards for hazardous air pollutants (USEPA 2013). As a result of phasing out leaded gasoline, metal processing is currently the primary source of Pb emissions. The highest Pb level in the air is generally found near Pb smelters. Other stationary sources include waste incinerators, utilities, and Pb-acid battery manufacturers. Pb can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and cardiovascular system depending on exposure. Pb exposure also affects the oxygen-carrying capacity of the blood. The Pb effects most likely encountered in current populations are neurological in children. Infants and young children are susceptible to Pb exposures, contributing to behavioral problems, learning deficits, and lowered intelligence quotient (USEPA 2021a).

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TAC) are airborne substances diverse group of air pollutants that may cause or contribute to an increase in deaths or serious illness, or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. One of the main sources of TACs in California is diesel engine exhaust that contains solid material known as diesel particulate matter (DPM). More than 90 percent of DPM is less than one micron in diameter (about 1/70th the diameter of a human hair) and thus is a subset of $PM_{2.5}$. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs (CARB 2022a). TACs are different than criteria pollutants because ambient air quality standards have not been established for TACs. TACs occurring at extremely low levels may still cause health effects and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and by chronic (i.e., long duration) and acute (i.e., severe but of short duration) adverse effects on human health. People exposed to TACs at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health problems (USEPA 2020).

Sensitive Receptors

Some receptors are considered more sensitive than others to air pollutants. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirmed are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with greater associated exposure to ambient air quality. Recreational uses are also considered sensitive due to the greater exposure to ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system. The closest sensitive receptors are 2,500 feet away from the project site, located at 6940 to 6948 Otay Mesa Road in San Diego. The CARB's Air Quality and Land Use Handbook: a Community Health Perspective recommends a buffer zone of up to 1,000 feet between various pollutant sources and sensitive receptors. There are no identified sensitive receptors within 1,000 feet of the facility.

2.1.2 Greenhouse Gas

Gases that trap heat in the atmosphere are known as GHGs. GHGs allow sunlight to enter the atmosphere but trap a portion of the outward-bound infrared radiation that warms the air. The process is similar to the effect greenhouses have in raising the internal temperature of the structure. Both natural processes and human activities emit GHGs. The accumulation of GHGs in the atmosphere regulates the Earth's temperature, but emissions from human activities (such as fossil fuel-based electricity production and the use of motor vehicles) have elevated the concentration of GHGs in the atmosphere. Scientists agree that this accumulation of GHGs has contributed to an increase in the temperature of the Earth's atmosphere and to global climate change. Global climate change is a change in the average weather on Earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the rate of global climate change and the extent of

the impacts attributable to human activities, most scientists agree there is a direct link between increased emissions of GHGs and long-term global temperature increases.

The gases widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere, and natural processes, such as oceanic evaporation, largely determine its atmospheric concentrations.

GHGs are emitted by natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are usually by-products of fossil fuel combustion, and CH_4 results from off-gassing associated with agricultural practices and landfills. Human-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and SF_6.

Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO_2e), which is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 30, meaning its global warming effect is 30 times greater than CO_2 on a molecule per molecule basis (IPCC 2021).[2]

Greenhouse Gases

Carbon Dioxide

Carbon dioxide (CO_2) is the primary GHG emitted through human activities. In 2020, CO_2 accounted for about 79 percent of all U.S. GHG emissions from human activities. CO_2 is naturally present in the atmosphere as part of the Earth's carbon cycle (the natural circulation of carbon among the atmosphere, oceans, soil, plants, and animals). Human activities are altering the carbon cycle–both by adding more CO_2 to the atmosphere, and by influencing the ability of natural sinks, like forests and soils, to remove and store CO_2 from the atmosphere. While CO_2 emissions come from a variety of natural sources, human-related emissions are responsible for the increase that has occurred in the atmosphere since the industrial revolution (USEPA 2022a).

Methane

Methane (CH_4) is a colorless, odorless gas and is the major component of natural gas. In 2020, methane accounted for about 11 percent of all U.S. GHG emissions from human activities. Human activities emitting methane include leaks from natural gas systems and the raising of livestock. Methane is also emitted by natural sources such as natural wetlands. In addition, natural processes in soil and chemical reactions in the atmosphere help remove CH_4 from the atmosphere. Methane's lifetime in the atmosphere is much shorter than carbon dioxide (CO_2), but CH_4 is more efficient at trapping radiation than CO_2. Pound for pound, the comparative impact of CH_4 is 25 times greater than CO_2 over a 100-year period (USEPA 2022a).

[2] The Intergovernmental Panel on Climate Change's (2021) *Sixth Assessment Report* determined that methane has a GWP of 30. However, the 2017 Climate Change Scoping Plan published by the California Air Resources Board uses a GWP of 25 for methane, consistent with the Intergovernmental Panel on Climate Change's (2007) *Fourth Assessment Report*. Therefore, this analysis utilizes the GWPs from the Fourth Assessment Report.

Nitrous Oxide

Nitrous oxide (N_2O) is a clear, colorless gas with a slightly sweet odor. In 2020, nitrous oxide accounted for about seven percent of all U.S. GHG emissions from human activities. Human activities such as agriculture, fuel combustion, wastewater management, and industrial processes are increasing the amount of N_2O in the atmosphere. Nitrous oxide is also naturally present in the atmosphere as part of the Earth's nitrogen cycle and has a variety of natural sources. Nitrous oxide molecules stay in the atmosphere for an average of 114 years before being removed by a sink or destroyed through chemical reactions. The impact of one pound of N_2O on warming the atmosphere is almost 300 times that of one pound of carbon dioxide (USEPA 2022a).

Fluorinated Gases (HFCs, PFCs and SF_6)

Unlike many other GHGs, fluorinated gases have no natural sources and only come from human-related activities. They are emitted through their use as substitutes for ozone-depleting substances (e.g., as refrigerants) and through a variety of industrial processes such as aluminum and semiconductor manufacturing. Many fluorinated gases have very high GWPs relative to other GHGs, so small atmospheric concentrations can have disproportionately large effects on global temperatures. They can also have long atmospheric lifetimes, in some cases, lasting thousands of years. Like other long-lived GHGs, most fluorinated gases are well-mixed in the atmosphere, spreading around the world after they are emitted. Many fluorinated gases are removed from the atmosphere only when they are destroyed by sunlight in the far upper atmosphere. In general, fluorinated gases are the most potent and longest lasting type of GHGs emitted by human activities (USEPA 2022a).

The use of SF_6 in electric utility systems and switchgear, including circuit breakers, poses a concern, because this pollutant has an extremely high global warming potential (one pound of SF_6 is the equivalent warming potential of approximately 23,900 pounds of CO_2). SF_6 is inert and non-toxic, and is encapsulated in the breaker assembly. SF_6 is a GHG with substantial global warming potential because of its chemical nature and long residency time within the atmosphere. However, under normal conditions, it would be completely contained in the equipment and SF_6 would only be released in the unlikely event of a failure, leak, or crack in the circuit breaker housing. New circuit breaker designs have been developed over the past several years to minimize the potential for leakage, compared to that of past designs. Pacific Gas and Electric Company (PG&E) began the quest to eliminate SF_6 circuit breakers from their systems in approximately 2017, by communicating with manufacturers. New 72 kV circuit breakers were SF_6 free within PG&E's service area starting in 2019. In 2022, PG&E is beginning to install 123 kV SF6-free circuit breakers in the San Francisco Bay Area. These efforts are anticipated to reduce approximately 1 million tons of GHG emissions from PG&E operations by the end of 2022 (PG&E 2021).

Greenhouse Gas Emissions Inventory

Global Emissions Inventory

In 2018, worldwide anthropogenic emissions totaled 48,940 billion metric tons (MT) of CO_2e, which is a 50 percent increase from 1990 GHG levels (USEPA 2021b). Specifically, 36,442 million metric tons (MMT) of CO_2e of CO_2, 8,298 MMT of CO_2e of CH_4, 3,064 MMT of CO_2e of N_2O, and 1,136 MMT of CO_2e of fluorinated gases were emitted in 2018. The largest source of GHG emissions were energy production and use (includes fuels used by vehicles and buildings), which accounted for 76 percent of the global GHG emissions. Agriculture uses and industrial processes contributed 12 percent and six percent, respectively. Waste sources contributed for three percent. These sources account for

approximately 97 percent because there was a net sink of three percent from land-use change and forestry (ClimateWatch n.d).

United States Emissions Inventory

U.S. GHG emissions were 5,981.4 MMT of CO_2e in 2020. Emissions decreased by nine percent from 2019 to 2020; since 1990, Total U.S. emissions have decreased by 7.3 percent from 1990 to 2020, down from a high of 15.7 percent above 1990 levels in 2007. The sharp decline in emissions from 2019 to 2020 is largely due to the impacts of the coronavirus (COVID-19) pandemic on travel and economic activity; however, the decline also reflects the combined impacts of long-term trends in many factors, including population, economic growth, energy markets, technological changes including energy efficiency, and the carbon intensity of energy fuel choices. In 2020, transportation activities accounted for the largest portion (27.2 percent) of total U.S. greenhouse gas emissions. Emissions from electric power accounted for the second largest portion (24.8 percent), while emissions from industry accounted for the third largest portion (23.8 percent) of total U.S. greenhouse gas emissions in 2020 (USEPA 2022b).

California Emissions Inventory

Based on the California air Resources Board (CARB) California Greenhouse Gas Inventory for 2000-2019, California produced 418 MMT of CO_2e in 2019, which is 7 MMT of CO_2e lower than 2018 levels. The major source of GHG emissions in California is the transportation sector, which comprises 40 percent of the state's total GHG emissions. The industrial sector is the second largest source, comprising 21 percent of the State's GHG emissions while electric power accounts for approximately 14 percent (CARB 2021). The magnitude of California's total GHG emissions is due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions as compared to other states is its relatively mild climate. In 2016, California achieved its 2020 GHG emission reduction target of reducing emissions to 1990 levels as emissions fell below 431 MMT of CO_2e (CARB 2021). The annual 2030 statewide target emissions level is 260 MT of CO_2e (CARB 2017).

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources though impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Each of the past three decades has been warmer than all the previous decades in the instrumental record, with 2013 to 2021 among warmest years from 1880 to 2021. The average global land and ocean surface temperature for January to December 2021 was 0.84°C (1.51 degrees Fahrenheit [°F]) above the 20th century average of 13.9°C (57.0°F) (National Oceanic and Atmospheric Administration 2020). Furthermore, several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations jointly indicate that LSAT and sea surface temperatures have increased. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC 2014, 2018).

Potential impacts of climate change in California may include reduced water supply from snowpack, sea level rise, more extreme heat days per year, more large forest fires, and more drought years (California

Natural Resource Agency 2018). *California's Fourth Climate Change Assessment* includes regional reports that summarize climate impacts and adaptation solutions for nine regions of the state and regionally specific climate change case studies. However, while there is growing scientific consensus about the possible effects of climate change at a global and statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy (California Natural Resource Agency 2018). A summary follows of some of the potential effects that climate change could generate in California.

Air Quality

Scientists project that the annual average maximum daily temperatures in California could rise by 2.4 to 3.2°C (4.3°F to 5.8°F) in the next 50 years and by 3.1 to 4.9°C (5.6°F to 8.8°F) in the next century (California Natural Resource Agency 2018). Higher temperatures are conducive to air pollution formation, and rising temperatures could therefore result in worsened air quality in California. As a result, climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. In addition, as temperatures have increased in recent years, the area burned by wildfires throughout the state has increased, and wildfires have occurred at higher elevations in the Sierra Nevada Mountains (California Natural Resource Agency 2018). If higher temperatures continue to be accompanied by an increase in the incidence and extent of large wildfires, air quality could worsen. Severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state. With increasing temperatures, shifting weather patterns, longer dry seasons, and more dry fuel loads, the frequency of large wildfires and area burned is expected to continue to increase. (California Natural Resources Agency 2021).

Water Supply

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future precipitation trends and water supplies in California. Year-to-year variability in statewide precipitation levels has increased since 1980, meaning that wet and dry precipitation extremes have become more common (California Department of Water Resources 2018). This uncertainty regarding future precipitation trends complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The average early spring snowpack in the western U.S., including the Sierra Nevada Mountains, decreased by about 10 percent during the last century. During the same period, sea level rose over 0.15 meter along the central and southern California coasts (California Natural Resource Agency 2018). The Sierra Nevada Mountains snowpack provides the majority of California's water supply as snow that accumulates during wet winters is released slowly during the dry months of spring and summer. A warmer climate is predicted to reduce the fraction of precipitation that falls as snow and the amount of snowfall at lower elevations, thereby reducing the total snowpack. Projections indicate that average spring snowpack in the Sierra Nevada and other mountain catchments in central and northern California will decline by approximately 66 percent from its historical average by 2050 (California Natural Resource Agency 2018).

Hydrology and Sea Level Rise

Climate change could affect the intensity and frequency of storms and flooding (California Natural Resource Agency 2018). Furthermore, climate change could induce substantial sea level rise in the

coming century. Rising sea level increases the likelihood of and risk from flooding. The rate of increase of global mean sea levels between 1993 to 2020, observed by satellites, is approximately 3.3 millimeters per year, double the twentieth century trend of 1.6 millimeters per year (World Meteorological Organization 2013; National Aeronautics and Space Administration 2020). Global mean sea levels in 2013 were about 0.23 meter higher than those of 1880 (National Aeronautics and Space Administration 2020). Sea levels are rising faster now than in the previous two millennia, and the rise will probably accelerate, even with robust GHG emission control measures. The most recent IPCC report predicts a mean sea level rise ranging between 0.25 to 0 1.01 meters by 2100 with the sea level ranges dependent on a low, intermediate, or high GHG emissions scenario (IPCC 2021). A rise in sea levels could erode 31 to 67 percent of southern California beaches and cause flooding of approximately 370 miles of coastal highways during 100-year storm events. This would also jeopardize California's water supply due to saltwater intrusion and induce groundwater flooding and/or exposure of buried infrastructure (California Natural Resource Agency 2018). Furthermore, increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture

California has an over $50 billion annual agricultural industry that produces over a third of the Country's vegetables and two-thirds of the Country's fruits and nuts (California Department of Food and Agriculture 2020). Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, certain regions of agricultural production could experience water shortages of up to 16 percent, which would increase water demand as hotter conditions lead to the loss of soil moisture. In addition, crop yield could be threatened by water-induced stress and extreme heat waves, and plants may be susceptible to new and changing pest and disease outbreaks (California Natural Resource Agency 2018). Temperature increases could also change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (California Climate Change Center 2006).

Ecosystems and Wildlife

Climate change and the potential resultant changes in weather patterns could have ecological effects on the global and local scales. Soil moisture is likely to decline in many regions with higher temperatures, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: timing of ecological events; geographic distribution and range of species; species composition and the incidence of nonnative species within communities; and ecosystem processes, such as carbon cycling and storage (Parmesan 2006; California Natural Resource Agency 2018).

2.2 Regulatory Setting

2.2.1 Air Quality

Federal and State

The federal Clean Air Act (CAA) and the California Clean Air Act (CCAA) establish ambient air quality standards and establish regulatory authorities designed to attain those standards. As required by the CAA, the USEPA has identified criteria pollutants and has established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and Pb.

Under the CCAA, California has adopted the California Ambient Air Quality Standards (CAAQS), which are more stringent than the NAAQS for certain pollutants and averaging periods. Table 1 presents the current attainment status for each regulated pollutant and Table 2 presents the federal and state standards for regulated pollutants. California also has established state ambient air quality standards for sulfates, hydrogen sulfide, and vinyl chloride.

As required by the federal CAA and the CCAA, air basins or portions thereof have been classified as either "attainment" or "nonattainment" for each criteria air pollutant, based on whether the standards have been achieved. The air quality in an attainment area meets or is better than the NAAQS or CAAQS. A non-attainment area has air quality that is worse than the NAAQS or CAAQS. States are required to adopt enforceable plans, known as a State Implementation Plan (SIP), to achieve and maintain air quality meeting the NAAQS.

The San Diego Air Pollution Control District (SDAPCD) is the designated air quality control agency for the SDAB. The SDAB currently meets the NAAQS for all criteria air pollutants except ozone and is classified an attainment/maintenance area for CO, and unclassifiable for PM_{10}. The SDAB is currently classified as a nonattainment area under the CAAQS for ozone, PM_{10}, and $PM_{2.5}$ (SDAPCD 2019). Characteristics of ozone, CO, NO_2, and suspended particulates are described in the subsequent sections.

Table 1 Federal and State Ambient Air Quality Standards

Pollutant	Federal Attainment Status	State Attainment Status
Ozone	Non-attainment (8-hr)/ Attainment (1-hr)[1]	Non-attainment
Carbon Monoxide	Attainment	Attainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Particulate Matter 10 (PM_{10})	Unclassified	Nonattainment
Particulate Matter 2.5($PM_{2.5}$)[1]	Unclassified/Attainment	Nonattainment[3]
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility	No Federal Standard	Unclassified
Lead	Attainment	Attainment

[1] The City of San Diego does not identify attainment status for PM 2.5, therefore Attainment status for $PM_{2.5}$ was provided by CARB.
Sources: City of San Diego 2020; CARB 2022b.

Existing Ambient Air Quality

The SDAPCD maintains the ambient air monitoring network and records air quality readings throughout the SDAB. The monitoring stations aim to measure ambient concentrations of pollutants and determine whether ambient air quality meets the California and federal standards. Current Air Quality information is obtained from the same, or closest monitoring area the project is located. The monitoring station closest to the project site is the Otay Mesa-Donovan station (located at 480 Alta Rd in San Diego), approximately 1.4 miles northeast of the project site. This station collects 8-hour ozone, hourly ozone, NO_2, and PM_{10} measurements. The Chula Vista station (located at 80 E. J ST in Chula Vista) collects $PM_{2.5}$ measurements. This station is approximately 8.2 miles northwest of the project site. Table 2 indicates the number of days each federal and state standard exceeded at Otay Mesa-Donovan and Chula Vista stations. As shown therein, 2018 and 2020, ozone measurements exceeded the federal and state eight-

hour ozone standards. In addition, the state's worst ozone hour standards were exceeded in 2020. PM_{10} measurements exceeded the federal standard and standard in 2019. Insufficient data were available in 2020 to determine measurements for PM_{10}. $PM_{2.5}$ measurements taken from Chula Vista measured exceedances in 2018 and 2020. No other state or federal standards were exceeded at these monitoring stations. Since CO and SO_2 are in attainment with the SDAB region, they are not monitored at the nearest air monitoring stations and therefore ambient air quality is not reported for these two pollutants.

Table 2 Ambient Air Quality at the Nearest Monitoring Station

Pollutant	2018	2019	2020
Ozone (ppm), 8-Hr Average[1]	0.078	0.062	0.100
Number of Days of state exceedances (>0.070 ppm)	1	0	10
Number of days of federal exceedances (>0.070 ppm)	1	0	4
Ozone (ppm), Worst Hour[1]	0.092	0.073	0.113
Number of days of state exceedances (>0.09 ppm)	0	0	3
Number of days of federal exceedances (>0.112 ppm)	0	0	0
Nitrogen Dioxide (ppm), Worst Hour[1]	0.054	0.086	0.056
Number of days of state exceedances (>0.18 ppm)	0	0	0
Number of days of federal exceedances (>0.10 ppm)	0	0	0
Particulate Matter 10 microns, μg/m^3, Worst 24 Hours[1]	55	199	*
Number of days of state exceedances (>50 μg/m^3)	3	3	*
Number of days above federal standard (>150 μg/m^3)	0	1	*
Particulate Matter <2.5 microns, μg/m^3, Worst 24 Hours[2]	41.9	18.6	46.7
Number of days above federal standard (>35 μg/m^3)	1	0	2

[1]Measurements taken from the Otay Mesa-Donovan station at 480 Alta Rd in Otay Mesa.
[2]Measurements taken from the Chula Vista station at 80 E. J ST in Chula Vista.
Source: CARB 2022b.

Regional

Air Quality Management Plans

2020 Attainment Plan

In October 2020, the SDAPCD adopted the 2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County (2020 Attainment Plan) and the 2020 Reasonably Available Control Technology Demonstration for the National Ambient Air Quality Standards for Ozone in San Diego County to demonstrate how the SDAPCD will reduce air pollutant emissions to achieve attainment of the NAAAQS for ozone (SDAPCD 2020a and 2020b). At this time, the 2020 Attainment Plan has been submitted to CARB for review, and if approved, will be submitted to the USEPA as a revision to the California SIP for attaining the NAAQS for ozone. The 2020 Attainment Plan includes regionwide inventories of ozone precursors, a Reasonably Further Progress demonstration that shows emissions reductions during the years leading to attainment, an assessment of Reasonably Available

Control Technology and Reasonable Available Control Measures, a vehicle mile traveled (VMT) offset demonstration, and contingency measures for use in the event that emissions controls do not achieve the needed reductions. The 2020 Attainment Plan determines (1) the SDAB can expect to reach attainment of the current NAAQS for ozone by 2032 with implementation of the proposed control measures, and (2) the adoption of transportation control strategies and transportation control measures (TCMs) in San Diego County offset the projected growth in VMT and vehicle trips (SDAPCD 2020a).

2016 Regional Air Quality Strategy

Under state law, the SDAPCD is required to prepare a plan for air quality improvement for pollutants for which the SDAB is in nonattainment. The SDAPCD prepared the Regional Air Quality Strategy (RAQS) to address state requirements, pursuant to the California CAA of 1988 (California Health and Safety Code Section 39000 et seq.). The California CAA requires areas that are designated nonattainment of the CAAQS for ozone, carbon monoxide, sulfur dioxide, and/or nitrogen dioxide to prepare and implement state plans to attain the standards by the earliest practicable date (California Health and Safety Code Section 40911(a)). With the exception of the ozone CAAQS, each of these standards has been attained in the SDAB (SDAPCD 2016). Included in the RAQS are the TCMs prepared by the San Diego Association of Governments (SANDAG) that control emissions from mobile sources (SDAPCD 2016). The RAQS and TCMs set forth the steps needed to accomplish attainment of CAAQS for ozone. The most recent update of the RAQS and corresponding TCMs was adopted in 2016.

SDAPCD Rules

The SDAPCD implements rules and regulations for emissions that may be generated by various uses and activities. The rules and regulations detail pollution-reduction measures that must be implemented during construction and operation of projects. Rules and regulations relevant to the project include the following:

Rules 20.1, 20.2, and 20.3 (New Source Review): These rules establish permitting standards for new stationary sources of air pollutant emissions and include requirements for the application of best available control technology.

Rule 50 (Visible Emissions): This rule prohibits the discharge of visible air pollutant emissions from various sources as determined by shade and opacity criteria based on the Ringelmann Chart.

Rule 51 (Nuisance): This rule prohibits the discharge of quantities of air contaminants or other material that causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.

Rule 55 (Fugitive Dust Control): This rule prohibits construction and demolition activities from discharging visible dust emissions into the atmosphere beyond the property line. This rule also requires fugitive dust control measures to minimize and remove vehicle track-out associated with construction and demolition operations.

Rule 67.0.1 (Architectural Coatings): This rule establishes VOC content limits for a variety of architectural coatings, including 50 grams per liter for flat coatings, 100 grams per liter for nonflat and traffic marking coatings, and 150 grams per liter for nonflat-high gloss coatings.

Local

City of San Diego General Plan

The City of San Diego's General Plan, adopted in 2008, lists several air quality policies as part of its Land Use and Community Planning, Mobility, and Conservation Elements that supplement those of the SDAPCD. The following policies are applicable to the proposed project (City of San Diego 2008):

LU-I.14. As part of community plan updates or amendments that involve land use or intensity changes, evaluate public health risks associated with identified sources of hazardous substances and toxic air emissions (see also Conservation Element, Section F). Create adequate distance separation, based on documents such as those recommended by the CARB and site-specific analysis, between sensitive receptor land use designations and potential identified sources of hazardous substances such as freeways, industrial operations or areas such as warehouses, train depots, port facilities, etc.

CE-F.4. Encourage and provide incentives for the use of alternatives to single-occupancy vehicle use, including using public transit, carpooling, vanpooling, teleworking, bicycling, and walking. Continue to implement programs to provide City employees with incentives for the use of alternatives to single-occupancy vehicles.

CE-A.8. Reduce construction and demolition waste in accordance with Public Facilities Element Policy PF-I.2, or by adding on to existing buildings, rather than constructing new buildings.

CE-A.11. Implement sustainable land design and maintenance.

CE-B.4. Limit and control runoff, sedimentation, and erosion both during and after construction activity.

CE-F.5. Promote technological innovations to help reduce automobile, truck, and other motorized equipment emissions.

CE-I.5 Support the installation of photovoltaic panels, and other forms of renewable energy production.

CE-I.10 Use renewable energy sources to generate energy to the extent feasible.

Otay Mesa Community Plan Update

The plan for the Otay Mesa community is a set of goals, policies, and recommendations that represents a shared vision for the future of the area. The community of Otay Mesa encompasses approximately 9,300 acres located at the southern limit of the City of San Diego. The community is bordered by the San Ysidro and Otay Mesa-Nestor communities to the west, the City of Chula Vista and the Otay Valley Regional Park to the north, the County of San Diego to the east and the U.S./Mexico border and the City of Tijuana to the south (City of San Diego 2020). The Otay Mesa Community Plan is a component of the City of San Diego's General Plan. It is intended to further express the General Plan policies in Otay Mesa through the provision of more site-specific recommendations that implement goals and policies, and guide zoning and the Capital Improvement Plan. While the community plan addresses specific community needs, its policies and recommendations remain in harmony with the General Plan, city-wide policies, and other community plans (City of San Diego 2020). Specific goals or policies in the Otay Mesa Community Plan that pertain exclusively to air quality are as follows:

8.7-1: Encourage enforcement of air quality regulations by the San Diego County Air Pollution Control District (APCD).

8.7-2: Implement a pattern of land uses that can be efficiently served by a multi-modal transportation system that directly and indirectly minimizes air pollutants.

8.7-3: Designate and enforce truck routes along Britannia Road, La Media Road, and the Border Road in order to limit impacts of truck emissions to the community.

8.7-4: Support the monitoring of particulate pollution at the Port of Entry, and pursue methods of reducing emission while accommodating the expansion of the Port activities.

8.7-5: Maintain an adequate buffer with transitional uses between land uses that allow sensitive receptors and the truck routes.

8.7-6: Maintain an adequate buffer with transitional uses between land uses that allow sensitive receptors and the Heavy Industrial and International Business and Trade designations.

8.7-7: Educate businesses and residents on the benefits of alternative modes of transportation including public transit, walking, bicycling, car and van pooling, and telecommuting.

8.7-8: Encourage street tree and private tree planting programs throughout the community to increase absorption of carbon dioxide and pollutants.

2.2.2 Greenhouse Gas

Federal Regulations

Federal Clean Air Act

The U.S. Supreme Court determined in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) that the USEPA has the authority to regulate motor vehicle GHG emissions under the federal CAA. The USEPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines and requires annual reporting of emissions. In 2012, the USEPA issued a Final Rule that established the GHG permitting thresholds that determine when CAA permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities.

In *Utility Air Regulatory Group v. Environmental Protection Agency* (134 Supreme Court 2427 [2014]), the U.S. Supreme Court held the USEPA may not treat GHGs as an air pollutant for purposes of determining whether a source can be considered a major source required to obtain a Prevention of Significant Deterioration or Title V permit. The Court also held that Prevention of Significant Deterioration permits otherwise required based on emissions of other pollutants may continue to require limitations on GHG emissions based on the application of Best Available Control Technology.

Safer Affordable Fuel-Efficient Vehicles Rule

On September 27, 2019, the USEPA and the National Highway Traffic Safety Administration published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program. The SAFE Rule Part One revokes California's authority to set its own GHG emissions standards and to adopt its own zero-emission vehicle mandates. On April 30, 2020, the USEPA and the National Highway Traffic Safety Administration published Part Two of the SAFE Vehicles Rule, which revised corporate average fuel economy and CO_2 emissions standards for passenger cars and trucks of model years 2021-2026 such that the standards increase by approximately 1.5 percent each year through model year 2026 as compared to the approximately five percent annual increase required under the 2012 standards (National Highway Traffic Safety Administration 2020). To account for the effects of the SAFE Vehicles

Rule, CARB released off-model adjustment factors on June 26, 2020 to adjust GHG emissions outputs from the EMFAC model (CARB 2020).

State Regulations

CARB is responsible for the coordination and oversight of state and local air pollution control programs in California. There are numerous regulations aimed at reducing the state's GHG emissions. These initiatives are summarized below.

Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, the USEPA granted the waiver of CAA preemption to California for its GHG emission standards for motor vehicles, beginning with the 2009 model year, which allows California to implement more stringent vehicle emission standards than those promulgated by the USEPA. Pavley I regulates model years from 2009 to 2016 and Pavley II, now referred to as "LEV (Low Emission Vehicle) III GHG," regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the LEV, Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs and would provide major reductions in GHG emissions. By 2025, the rules will be fully implemented, and new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels (CARB 2011).

California Global Warming Solutions Act of 2006 (Assembly Bill 32 and Senate Bill 32)

The "California Global Warming Solutions Act of 2006," (AB 32), outlines California's major legislative initiative for reducing GHG emissions. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHG emissions to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 target of 431 million metric tons (MMT of CO_2e, which was achieved in 2016. CARB approved the Scoping Plan on December 11, 2008, which included GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among others (CARB 2008). Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since the Scoping Plan's approval.

The CARB approved the 2013 Scoping Plan update in May 2014. The update defined the CARB's climate change priorities for the next five years, set the groundwork to reach post-2020 statewide goals, and highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the state's longer term GHG reduction strategies with other state policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use (CARB 2014).

On September 8, 2016, the governor signed Senate Bill (SB) 32 into law, extending the California Global Warming Solutions Act of 2006 by requiring the state to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation, such as SB 1383 and SB 100. The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic

investment to support its strategies. As with the 2013 Scoping Plan update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of six metric tons (MT) of CO_2e by 2030 and two MT of CO_2e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, sub-regional, or regional level), but not for specific individual projects because they include all emissions sectors in the state.

The Draft 2022 Scoping Plan Update has been prepared to assess the progress towards the 2030 target as well as to outline a plan to achieve carbon neutrality no later than 2045. The 2022 Scoping Plan Update focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities (CARB 2022c).

Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008 (SB 375), signed in August 2008, enhances the state's ability to reach AB 32 goals by directing the CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPO) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPO's Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy (categorized as "transit priority projects") can receive incentives to streamline California Environmental Quality Act (CEQA) processing.

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The San Diego Association of Governments (SANDAG) is the regional planning agency for San Diego County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. The SANDAG Board of Directors adopted the final RTP with a SCS on October 28, 2011. The Sustainable Communities Strategy (SCS) is a new element of the 2050 Regional Transportation Plan (RTP). The legislation requires Metropolitan Planning Organizations (MPO) to prepare a SCS as part of their RTPs, along with the traditional policy, action, and financial requirements. The SCS lays out how the region will meet greenhouse gas (GHG) reduction targets set by the California Air Resources Board (CARB). CARB's targets call for the region to reduce per capita emissions seven percent by 2020 and 13 percent by 2035 from a 2005 baseline. There are no mandated targets beyond 2035 (SANDAG 2022).

Senate Bill 1383

Adopted in September 2016, SB 1383 (Lara, Chapter 395, Statutes of 2016) requires the CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. SB 1383 requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

SB 1383 also requires the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with the CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

Senate Bill 100

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state's Renewables Portfolio Standard (RPS) Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Executive Order B-55-18

On September 10, 2018, former Governor Brown issued Executive Order (EO) B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

Local Regulations

City of San Diego Climate Action Plan (CAP)

2015 CAP

In December 2015, the City of San Diego adopted a Climate Action Plan that sets forth common-sense strategies to achieve the 2020 CARB GHG reduction targets of 15 percent below the 2010 baseline by 2020 and set the trajectory for 80 percent below the 2010 baseline by 2050 with a set 2035 target. In addition to reducing GHG emissions the CAP will create green jobs, improve public health, increase local control over the City's future, promote education on energy efficiency, enhance the quality of life for residents, and reduce municipal water, waste and energy usage in city owned buildings. The 2015 CAP demonstrates that the City acknowledges the existing and potential impacts of a changing climate and is committed to keeping it in the forefront of decision making. Successful implementation of the CAP will: 1) Prepare for anticipated climate change impacts in the coming decades, 2) Help the State of California achieve its reduction target by contributing the City's fair share of GHG reductions, and 3) Have a positive impact on the regional economy.

The 2015 CAP serves as a Qualified GHG Reduction Plan for the purposes of tiering under CEQA as it meets the requirements set forth in CEQA Guidelines Section 15183.5. The 2015 CAP provides a Consistency Checklist as a streamlined review process for GHG emissions from new development projects subject to CEQA.

2022 CAP

The 2022 Climate Action Plan sets the vision for reducing greenhouse gas emissions and making San Diego a more sustainable, healthy and thriving place. To meet the magnitude of the crisis, we are setting an ambitious goal to achieve net zero greenhouse gas (GHG) emissions by 2035. The 2022 CAP, along with the associated environmental documentation and Municipal Code amendment, will meet the requirements of CEQA Guidelines Section 15183.5 for a Qualified Greenhouse Gas Emissions Reduction Plan. As of the writing of this document, the 2022 CAP has not yet been approved nor the CAP Consistency Checklist updated.

City of San Diego General Plan

The City of San Diego's General Plan, adopted in 2008, lists several Climate Change policies as part of its Land Use and Community Planning, Mobility, and Conservation Elements that supplement those of the SDAPCD. The following policies are applicable to the proposed project (City of San Diego 2008):

CE-A.4. Pursue the development of "clean" or "green" sector industries that benefit San Diego's environment and economy.

And the following policies identified in the Air Quality section above. CE-A.8, CE-A.11, CE-B.4, CE-F.5, CE-I.5, and CE-I.10.

3 Impact Analysis

3.1 Methodology

Criteria pollutant and GHG emissions for project construction and operation were calculated using the California Emissions Estimator Model (CalEEMod), Version 2020.4.0. CalEEMod allows for the use of default data (e.g., emission factors, trip lengths, meteorology, source inventory) provided by the various California air districts to account for local requirements and conditions, and/or user-defined inputs. The input data and subsequent construction and operation emission estimates for the proposed project are summarized below and detailed in Appendix A. CalEEMod output files for the project are included in Appendix B.

Construction Emissions

Construction emissions modeled include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as worker and truck delivery trips. CalEEMod estimates construction emissions by multiplying the amount of time equipment is in operation by emission factors.

Construction emissions of criteria air pollutants and greenhouse gases include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as worker and truck delivery trips. CalEEMod estimates construction emissions by multiplying the amount of time equipment is in operation by emission factors.

Construction of the proposed Project was analyzed based on the applicant-provided construction schedule, equipment list, and construction related vehicle trips. The schedule was modeled by construction activity to best capture the construction that would occur. Construction is anticipated to begin in the 2nd quarter of 2023 with construction ending in the first quarter of of 2024 and lasting 11 months. Construction is anticipated to occur Monday through Saturday with equipment operating up to 8 hours per day. CalEEMod defaults for horsepower and load factors were used. Truck trips were modeled as heavy duty truck (HHDT) trips and conservatively assumed the default one-way distance of 20 miles used for haul trucks.

Construction equipment will incorporate Tier 4 interim equipment. Construction activities will include the partial demolition of the existing 600-foot-long access road. Approximately 780 cubic yards of asphalt debris will be exported from the site during demolition activities and approximately 780 cubic yards of asphalt will be imported to repave the access road.

The Project will include a fiber optic communications/control cable to connect the BESS switchyard to the BPP transmission control system. This cable may be installed either overhead or underground. As a conservative estimate of emissions, it was assumed that the cable would be installed underground via trenching activities. Some of the soils may be exported from the site for disposal.

Both the BESS site and the construction laydown area will be levelled in one grading operation as part of the Project. It is estimated that all of the soils from grading activities will be balanced onsite and would not result in additional soil export.

This analysis assumes that the Project would comply with all applicable regulatory standards. In particular, the Project would comply with SDACPD Rule 55 to control fugitive dust emissions from

construction activities. This rule is Modeled within CalEEMod by assuming that watering would occur twice a day.

Construction activities assume that haul and vendor trucks would access the site at a rate of 15 trucks per day for the first 10 to 12 weeks and then at an average of 5 trucks per day for the remainder of the construction activities. These trucks are modeled as heavy-duty trucks. Worker trips are anticipated at 2 times the number of workers with peak daily workers anticipated at 50 and average daily workers anticipated at 35. Peak daily worker trips (i.e., 50 x 2 = 100) were used to determine daily emissions.

Operational Emissions

In CalEEMod, operational sources of criteria pollutant and greenhouse gas emissions include area, energy, and mobile sources. The first year of operation was assumed to be 2024 based on the provided construction schedule. The facilities were modeled as refrigerated warehouse of 130 square feet. The refrigerated warehouse land use was used to account for the energy requirements for maintaining a stable temperature for optimum battery effectiveness. There would be negligible area, annual water consumption, or solid waste generation source emissions associated with the Project since the Project would be typically unmanned and would require only limited maintenance equipment.[3] The CalPeak BPP facility currently employs one technician at the adjacent gas plant. Otherwise, the BESS facility would be unmanned except during periodic maintenance visits where one or two workers would perform routine maintenance on the facilities typically up to once a week. The trip rate was conservatively adjusted to reflect four trips per day to represent the maximum potential number of daily trips to the project site for maintenance. Emissions were then scaled to account for the actual maintenance activity of up to 2 workers per week for periodic maintenance. A commute distance of 60 miles was assumed as well as the use of a light utility vehicle (modeled as a medium duty vehicle weighing up to 8,500 pounds).

Augmentation visits would occur every three to five years to update the battery enclosures as the battery performance decreases over time. A limited amount of heavy-duty diesel equipment may be utilized during the augmentation visits, such as a crane. As a conservative estimate of emissions, it was assumed that the same construction equipment used during the Set Modules, Inverters, and Switchgear phase would be required to complete the augmentation visits. It was conservatively assumed that augmentation visits would occur every three years and would last 1 month. Up to 15 trucks per day could access the site during augmentation activities with up to fifty workers accessing the site daily.

SF_6 Emissions

As discussed in *Section 2.1.2 Greenhouse Gases*, PG&E began the quest to eliminate SF_6 circuit breakers from their systems in approximately 2017. Consistent with the new technology that allows for alternative solutions to SF_6 usage, the Project will be using clean-air vacuum technology for their circuit breakers and will not result in SF_6 use onsite.

Project Decommissioning

As stated in Section 1.2, *Project Summary*, at the end of the projects' useful life (anticipated to be 40 years), the BESS facilities would be decommissioned. Activities required for deconstruction of the

[3] Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products. With respect to this Project, area sources refer to consumer products (such as aerosol cleaners), and architectural coating (maintenance re-coating activities for battery storage).

on-site facilities would require similar types and levels of equipment as those used during the construction phase. Therefore, decommissioning was not modeled separately.

3.2 Significance Thresholds

Based on the *CEQA Guidelines*, the project would have a significant impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan?
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project sites region is non-attainment under an applicable federal or state ambient air quality standard?
- Expose sensitive receptors to substantial pollutant concentrations?
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

3.2.1 Air Quality

The City of San Diego has adopted guidelines for determining the significance of a project's air quality impacts based on Appendix G of the CEQA Guidelines (City of San Diego 2020). A project would have a significant impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including release emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations including air toxics such as diesel particulates;
- Create objectionable odors affecting a substantial number of people; or
- Release substantial quantities of air contaminants beyond the boundaries of the premises upon which the stationary source emitting the contaminants is located.

To determine whether a project would result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation under bullet 2 above or result in a cumulatively considerable net increase of any criteria pollutant for which the SDAB is nonattainment (i.e., ozone precursors, PM_{10}, and $PM_{2.5}$) under bullet 3 above, project emissions may be evaluated based on the quantitative emission thresholds established by the SDAPCD. The SDAPCD does not provide thresholds for determining the significance of air quality impacts under CEQA. However, the SDAPCD does provide Air Quality Impact Analysis (AQIA) trigger levels for new, modified, or relocated stationary sources (SDAPCD Rules 20.1, 20.2, and 20.3) and health risk thresholds for new stationary sources of TAC emissions (SDAPCD Rule 1210).

The SDAPCD does not consider AQIA trigger levels to represent significance thresholds because exceedances do not necessarily result in air quality impacts; rather, AQIA trigger levels were developed to identify sources with emissions that are too small to cause or substantially contribute to violations of NAAQS or CAAQS and therefore do not warrant further air quality analysis or permitting. Where AQIA trigger levels would be exceeded, SDAPCD Rule 20.3 states that the new, modified, or relocated emission source would require an AQIA to determine whether if it would:

a) Cause a violation of CAAQS or NAAQS anywhere that does not already exceed such standard, or

b) Cause additional violations of a NAAQS anywhere the standard is already being exceeded, or

c) Cause additional violations of a CAAQS anywhere the standard is already being exceeded, except as provided in subsection (d)(2)(v) of Rule 20.3, or

d) Prevent or interfere with the attainment or maintenance of any CAAQS or NAAQS.

These AQIA trigger levels do not generally apply to construction, mobile sources, or general land development projects; however, for the purposes of this analysis, these levels are used in this report as thresholds of significance to evaluate the net increase in emissions that would occur upon a project approval.

The screening-level thresholds based utilized in this analysis to evaluate the project's construction and operational emissions are presented in Table 3.

Table 3 City of San Diego Screening Level Significance Thresholds

	Total Emissions	
Pollutant	**Lbs per Day**	**Tons per Year**
VOCs	137	15
NO_x	250	40
CO	550	100
SO_x	250	40
PM_{10}	100	15
$PM_{2.5}$	55[1]	10[1]

[3] EPA "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005. Also used by the SCAQMD.

VOC = volatile organic compounds, NOX = nitrogen oxides, CO = carbon monoxide, SOx = sulfur oxides, PM10 = particulate matter 10 microns in diameter or less, PM2.5 = particulate matter 2.5 microns or less in diameter.

Source: City of San Diego 2020.

In addition, the project's potential to generate objectionable odors affecting a substantial number of people is evaluated in light of the State of California Health and Safety Code Sections 41700 and 41705, and SDAPCD Rule 51, commonly referred to as public nuisance law, which prohibit emissions from any source whatsoever in such quantities of air contaminants or other material, which cause injury, detriment, nuisance, or annoyance to the public health or damage to property.

3.2.2 Greenhouse Gas

The significance criteria used to evaluate the Project impacts to GHG emissions are based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). For the purposes of the GHG analysis, a significant impact would occur if the Project would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

The majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (*CEQA Guidelines*, Section 15064[h][1]).

According to *CEQA Guidelines* Section 15183.5, project analysis can tier from a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG reduction policies included in a qualified GHG reduction plan. This approach is considered by the Association of Environmental Professionals (AEP) in their white paper, *Best Practices in Implementing Climate Action Plans*, to be the most defensible approach presently available under CEQA to determine the significance of a project's GHG emissions (AEP 2018). The City of San Diego has adopted a qualified Climate Action Plan with a consistency checklist to determine significance. Significance for the proposed Project will be based on consistency with the Project's Climate Action Plan as determined by the CAP Consistency Checklist.

3.3 Project-Level Air Quality Project Impacts

Threshold 1:	**Would the project conflict with or obstruct implementation of the San Diego RAQS or applicable portions of the SIP?**?

Impact AQ-1 THE PROJECT WOULD NOT CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF THE SAN DIEGO 2020 REGIONAL AIR QUALITY STRATEGY OR APPLICABLE PORTIONS OF THE SIP (I.E., THE 2020 ATTAINMENT PLAN). THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Pursuant to the federal CAA, the SDAPCD is required to reduce emissions of criteria pollutants for which the SDAB is in nonattainment. Strategies to achieve these emissions reductions are developed in the RAQS and 2020 Attainment Plan (the SDAPCD's portion of the State's SIP), which are prepared by the SDAPCD for the region. Consistency with the RAQS and the 2020 Attainment Plan is determined by analyzing a project's consistency with the assumptions in the RAQS and the 2020 Attainment Plan. Thus, the emphasis of this discussion is to evaluate if the project's land uses would be consistent with or less intensive than the emission forecasts for the project site contained in the RAQS and 2020 Attainment Plan. The growth forecasts used in the RAQS and the 2020 Attainment Plan are developed by SANDAG. SANDAG forecasts are based on local general plans and other related documents that are used to develop population, employment, and traffic projections. The emissions inventory forecasts in the RAQS are based on the growth forecasts from the SANDAG San Diego Forward: The Regional Plan (2015), while the emissions inventory forecasts in the 2020 Attainment Plan are based on the demographic forecasts from the more recent SANDAG San Diego Forward: The 2019 Federal Regional Transportation Plan (2019).

The proposed Project is not anticipated to result in an increase in employment and would only require up to an estimated 4 monthly round trips by 2 existing employees to the site. This would not induce population growth in the city. Therefore, the Project would not increase the population of or the employment inventory. Neither the City's existing population plus the Project's 0 indirect population growth, or the City's existing employment inventory plus the Project's 0 new employment opportunities would exceed the forecasts utilized in the RAQS or 2020 Attainment Plan. Furthermore, as detailed below under Thresholds 2 and 3, the Project would not result in a significant air quality impact with regards to construction- and operational-related emissions of ozone precursors or criteria air pollutants. In addition, the Project would comply with all existing and new rules and regulations as they are implemented by the SDAPCD, CARB, and/or the USEPA related to emissions generated during construction. Therefore, the Project would not conflict with or obstruct implementation of the San Diego RAQS or applicable portions of the SIP (i.e., the 2020 Attainment Plan), and no impact would occur.

Threshold 2:	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?
Threshold 3:	Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the SDAB is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Impact AQ-2 THE PROJECT WOULD NOT VIOLATE ANY AIR QUALITY STANDARDS OR CONTRIBUTE SUBSTANTIALLY TO AN EXISTING OR PROJECTED AIR QUALITY VIOLATION OR RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE OF ANY CRITERIA POLLUTANT FOR WHICH THE PROJECT REGION IS IN NONATTAINMENT UNDER AN APPLICABLE FEDERAL OR STATE AMBIENT AIR QUALITY STANDARD. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As discussed under Section 2.3, Air Quality Regulation, criteria pollutants include ozone, carbon monoxide, nitrogen dioxide, PM_{10}, $PM_{2.5}$, sulfur dioxide, and lead. The SDAB is designated nonattainment for the NAAQS and CAAQS for ozone and the CAAQS for PM_{10} and $PM_{2.5}$. The SDAB is designated unclassifiable or in attainment for all other federal and state standards.

Construction and Decommissioning Emissions

Construction of the Project would require approximately 11 months of activity. Project construction would generate air pollutant emissions from on-site equipment, entrained dust, off-road equipment uses, and vehicle emissions. Off-site emissions would be generated by construction worker daily commute trips and heavy-duty diesel haul and vendor truck trips. The decommissioning emissions would be similar or slightly less than the construction activities. All decommissioning activities would adhere to the requirements of the appropriate governing authorities and be conducted in accordance with all applicable federal, state, and county regulations.

As shown in Table 4 emissions (from construction and decommissioning) would be below the applicable threshold for all construction phases. Therefore, Project construction activities would not violate any air quality standard, contribute substantially to an existing or projected air quality violation, or 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. Impacts would be less than significant.

Table 4 Estimated Daily Construction Emissions

Year	Daily Emissions (lbs/day)[1]					
	ROG	NO_X	CO	SO_x	PM_{10}	$PM_{2.5}$
Access Road Repair	1	14	19	<1	2	1
Site Prep/Grading	1	17	27	<1	5	2
Install Foundations & Equipment	2	27	47	<1	2	1
Set Modules, Inverters, Switchgear	3	27	42	<1	2	1
Elec Wire Install/Finish Grading	2	27	52	<1	5	2
Commissioning/Testing	1	13	16	<1	1	1
Construction Phase Overlaps						
Access Road & Site Prep/Grading	2	31	46	<1	7	3
Site Prep/Grading & Installation	3	44	74	<1	7	3
Installation & Set Modules etc.	5	54	89	<1	4	2
Set Modules etc. & Wire/Grading	5	55	94	<1	7	4
Wire/Grading & Testing	3	40	68	<1	6	3
Max Daily	5	55	94	<1	7	4
SDAPCD Screening Threshold	*137*	*250*	*550*	*250*	*100*	*55*
Exceed Threshold?	No	No	No	No	No	No

[1] Emissions include implementation of Tier 4 interim equipment and measures from Rule 55 to control fugitive dust.

Source: Appendix A.

In addition, the Border Peaker Plant Project Air Quality Conditions of Certification AQ-1, as detailed in *Section 1.2 Project Summary*, shall be incorporated as part of the pre-construction, construction and post construction activities, as applicable. Consistent with Condition of Certification AQ-1, a Construction Fugitive Dust Mitigation Plan (CMP) will be submitted to the SDAPCD prior to the beginning of construction. The CMP shall detail how fugitive dust will be reduced during the construction activities. CEC Conditions of Certification AQ-2 and AQ-3 for the BPP are not applicable to the Border BESS Project.

Operational Emissions

Long-term emissions associated with operation of the Project would be primarily generated by monthly O&M visits and battery augmentation visits that would occur every four to five years. Operations of the Project would result in negligible long-term emissions from vehicle trips and area source emissions from periodic re-coating of battery enclosures as shown in Table 5. There are no energy sources associated with the operation of the Project. As shown in Table 5, new operational emissions would not exceed applicable thresholds for criteria pollutants; therefore, Project operation would not violate any air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.

Augmentation visits would occur every three to five years to update the battery enclosures as the battery performance decreases over time. A limited amount of heavy-duty diesel equipment may be utilized during the augmentation visits, such as a crane. As a conservative estimate of emissions, it was

assumed that the same construction equipment used during the Set Modules, Inverters, and Switchgear phase would be required to complete the augmentation visits. Impacts, including daily emissions while augmentation activities would occur, would be less than significant.

Table 5 Estimated Operational Emissions

	Daily Emissions (lbs/day)					
Source	**ROG**	**NO_X**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Area	<1	<1	<1	<1	<1	<1
Energy	0	0	0	0	0	0
Mobile	<1	<1	<1	<1	<1	<1
Augmentation Activites	2	25	34	<1	2	1
Total	2	25	34	<1	2	1
SDAPCD Screening Threshold	*137*	*250*	*550*	*250*	*100*	*55*
Exceed Threshold?	No	No	No	No	No	No

Source: See Appendix A.

Furthermore, energy storage systems, such as the proposed BESS, assist utilities like SDG&E and the State of California in achieving criteria air pollutant emission reductions by providing the means of storing excess electricity generated during off-peak hours for use during peak hours as an alternative to operating the peaker plant, which generates air quality emissions from fossil fuel combustion.[4] By expanding SDG&E's and the California Independent System Operator's (CAISO) access to energy storage systems, the project would increase the stability and reliability of the existing electrical grid, thereby reducing the need for additional electricity to be generated by fossil fuel power plants during peak hours. The energy conservation achieved by the project would reduce fossil fuel consumption, thereby reducing criteria air pollutant emissions from the electricity sector. Impacts would be less than significant.

In addition, the Border Peaker Plant Project Air Quality Condition of Certification AQ-1, as detailed in *Section 1.2 Project Summary*, shall be incorporated as part of Project operations. CEC Conditions of Certification AQ-2 and AQ-3 for the BPP are not applicable to the Border BESS Project.

Threshold 4:	Would the project expose sensitive receptors (i.e., day care centers, schools, retirement homes, and hospitals or medical patients in residential homes which could be impacted by air pollutants) to substantial pollutant concentrations?

Impact AQ-3 THE PROJECT WOULD NOT EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS RELATED TO CARBON MONOXIDE HOTSPOTS OR TACS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Carbon Monoxide Hotspots

A CO hotspot is a localized concentration of CO that is above a CO ambient air quality standard. Localized CO hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration

[4] Peaker plants are power plants that are operated only when demand for electricity is high (i.e., during times of peak demand). The Border peaker plant is powered by natural gas.

exceeds the federal one-hour standard of 35.0 parts per million (ppm) or the federal and state eight-hour standard of 9.0 ppm (CARB 2016).

The entire SDAB is in conformance with the CAAQS and NAAQS for carbon monoxide, and most air quality monitoring stations no longer report carbon monoxide levels. As shown in Table 5, maximum daily carbon monoxide emissions during project operations would be less than one pound, which would not exceed the threshold of 550 pounds per day. These thresholds are designed to be protective of public health. Based on the low background level of carbon monoxide in the project area, ever-improving vehicle emissions standards for new cars in accordance with state and federal regulations, and the Project's negligible level of operational carbon monoxide emissions, the Project would not create new hotspots or contribute substantially to existing hotspots. Therefore, the project would not expose sensitive receptors to substantial carbon monoxide concentrations.

Toxic Air Contaminants

Health impacts associated with toxic air contaminants (TACs) are generally associated with long-term exposure. Due to the minimal emissions expected on-site from routine maintenance and off-site from two employees commuting to the Project site each week, there are no meaningful sources of TACs for the operating phase of the Project and therefore no reason to expect health impacts related to TACs. As such, the greatest potential for TAC emissions would be during construction and decommissioning which may result in a short-term increase of TAC emissions.

Construction and Decommissioning

The greatest potential for TAC emissions during construction and decommissioning would be from heavy equipment operations that generate diesel particulate matter (DPM) emissions. Generation of DPM from construction projects typically occurs in a single area for a short period. Construction of the proposed Project would occur over approximately 11 months.

CARB's Air Quality and Land Use Handbook: A Community Health Perspective (April 2005) recommends against siting sensitive receptors within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. While these siting distances are not particular to construction activities, the primary source of TAC emissions from both freeways and construction equipment is DPM. Therefore, for projects within 1,000 feet of sensitive receptors a refined health risk should be conducted. However, as the nearest receptors to the Project site are over 2,500 feet away, the onsite construction and deconstruction activity would have a negligible impact on the closest sensitive receptors.

Operational

Sources of operational TAC's typically include, but are not limited to, land uses such as freeways and high-volume roadways, truck distribution centers, ports, rail yards, refineries, chrome plating facilities, dry cleaners using perchloroethylene, and gasoline dispensing facilities. The proposed Project is not one of these uses, although use of consumer products, such as aerosol cleaning products, may result in minimal emissions of TACs. The proposed Project will not require any new or additional stationary sources of air pollutant emissions. The nearest sensitive receptor is approximately 2,500 feet to the northeast of the Project site along the north side of Otay Mesa Road. Operations of the Project would not be a substantial source of TACs. Therefore, impacts would be less than significant.

Threshold 5:	Would the project create objectionable odors affecting a substantial number of people?

Impact AQ-4 THE PROJECT WOULD NOT GENERATE ODORS ADVERSELY AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE DURING CONSTRUCTION OR OPERATION. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As discussed in Section 3.2, *Significance Thresholds*, the State of California Health and Safety Code Sections 41700 and 41705 and SDAPCD Rule 51 prohibit emissions from any source whatsoever in such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to the public health or damage to property. An unreasonable odor discernible at the property line of the Project site would be considered a significant odor impact. The Project would generate oil and diesel fuel odors during construction from equipment use as well as odors related to asphalt paving. The odors would be limited to the construction period and would be intermittent and temporary. Furthermore, these odors would dissipate rapidly with distance from in-use construction equipment. With respect to operation, CARB's Air Quality and Land Use Handbook: A Community Health Perspective (2005) provides recommendations regarding the siting of new sensitive land uses near potential sources of odors (e.g., sewage treatment plants, landfills, recycling facilities, biomass operations, autobody shops, fiberglass manufacturing, and livestock operations). BESS site operations are not identified on this list. Therefore, the proposed project would not generate objectionable odors affecting a substantial number of people, and impacts would be less than significant.

Threshold 6:	Would the project release substantial quantities of air contaminants beyond the boundaries of the premises upon which the stationary source emitting the contaminants is located?

Impact AQ-5 THE PROJECT WOULD NOT RELEASE SUBSTANTIAL QUANTITIES OF AIR CONTAMINANTS BEYOND THE BOUNDARIES OF THESE PREMISES UPON WHICH THE STATIONARY SOURCE EMITTING THE CONTAMINANT IS LOCATED. NO IMPACT WOULD OCCUR.

The Project does not propose any stationary sources of air pollutant emissions. No Impact would occur.

3.4 Cumulative Air Quality Impacts

The geographic scope for the cumulative air quality impact analysis is the SDAB. Because the SDAB is designated nonattainment for the NAAQS and CAAQS for ozone and the CAAQS for PM_{10} and $PM_{2.5}$, there is an existing adverse cumulative effect in the SDAB relative to these pollutants.

A project would have a significant cumulative impact if it is inconsistent with the applicable adopted federal and state air quality plans. As discussed under Impact AQ-2, the project would be consistent with the SDAPCD screening thresholds since new operational emissions would not exceed applicable thresholds for criteria pollutants. Additionally, as discussed above under Impact AQ-1, the Project would not conflict with or obstruct implementation of the SDAPCD's RAQS and 2020 Attainment Plan. Therefore, the Project's contribution to cumulative air quality impacts related to criteria air pollutant emissions would be less than significant.

TAC emissions are a localized issue. In general, TAC concentrations are typically highest near the emission source and decline with increased distance. CARB recommends distances that should be incorporated when siting new sources or sensitive receptors near a source of TACs. This generally ranges from 500 to 1,000 feet depending on the source category (CARB 2005). Therefore, in the absence of any specific guidance from the SDAPCD, the potential cumulative impacts from TACs was analyzed based on a radius of 1,000 feet measured from the Project site boundary. There are no sensitive receptors within 1,000 feet from the Project boundary; therefore, there is no risk that the combined emissions would result in a cumulatively considerable impact to health risk.

As discussed under Impact AQ-3, construction, operation and decommissioning-related traffic is not anticipated to create a CO hotspot, as construction and decommissioning would be short-term there are negligible operational vehicle trips. Therefore, the Project's contribution to cumulative impacts to sensitive receptors related to CO hotspots would be less than significant.

3.5 Project-Level Greenhouse Gas Project Impacts

Threshold 1:	Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Impact GHG-1 CONSTRUCTION, OPERATION AND DECOMMISSIONING OF THE PROJECT WOULD DIRECTLY AND INDIRECTLY GENERATE GHG EMISSIONS. HOWEVER, SUCH EMISSIONS WOULD BE OFFSET BY THE LONG-TERM STORAGE OF RENEWABLE ENERGY AND THE PROJECTS WOULD BE CONSISTENT WITH APPLICABLE PLANS, POLICIES, AND REGULATIONS ADOPTED FOR THE PURPOSE OF REDUCING GHG EMISSIONS. NO IMPACT WOULD OCCUR.

Construction and Decommissioning Emissions

Project-related construction emissions are confined to a relatively short period in relation to the overall life of the Project. Construction-related GHG emissions were quantified for informational purposes. Emissions were amortized over the lifetime of the Project (i.e., 40 years). It is assumed that decommissioning GHG emissions would be similar to or slightly less than the construction GHG emissions. Table 6 shows that Project construction would result in a total of approximately 1,617 MT CO_2e and amortized GHG emissions of 40 MT CO_2e.

Table 6 Estimated Construction GHG Emissions

Construction Phase	Projects Emissions (MT CO_2e)
Access Road Repair	68
Site Prep/Grading	196
Install Foundations & Equipment	237
Set Modules, Inverters, Switchgear	370
Elec Wire Install/Finish Grading	549
Commissioning/Testing	198
Total	**1,617**
Amortized (40 years)	**40**

Source: Appendix A.

Operational Emissions

The proposed Project would generate GHG emissions during operation from minimal area source, energy consumption and mobile emissions[5]. Operation-related GHG emissions were quantified for informational purposes and are shown in Table 7. As shown, the Project would generate approximately 88 MT of CO_2e per year and, including the amortized construction and decommissioning emissions, would result in approximately 169 MT of CO_2e per year.

The Project would help address the limitations of the electric grid and the increasing demand for renewable energy by increasing storage capability which improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. As the use of renewable energy increases, the need for battery storage to maintain electrical supply during both peak demand and when the renewable systems are not generating electricity also increases. It is anticipated that the reduction in GHG emissions from non-renewable electricity generating facilities would more than offset the annual GHG emissions anticipated from the project. Therefore, the project is anticipated to result in a net benefit with respect to GHG emissions generation.

Table 7 Annual GHG Emissions for Proposed Project

Emission Source	Annual Emissions (MT CO_2e)
Operational	
Area	0
Energy	0

[5] Area sources for this project refer to consumer products (such as aerosol cleaners), and architectural coating (maintenance re-coating activities for battery storage enclosures).

Emission Source	Annual Emissions (MT CO_2e)
Mobile	<1
Waste	0
Water	0
Augmentation Activities	88
Total	88
Amortized Construction	**40**
Amortized Decommissioning	**40**
Total Annual Project Emissions	**169**

MT of CO_2e = metric tons of carbon dioxide equivalent. Numbers may not add up due to rounding.
Source: See Appendix A.

Threshold 2: Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Impact GHG-2 CONSTRUCTION, OPERATION AND DECOMMISSIONING OF THE PROJECT WOULD BE CONSISTENT WITH APPLICABLE PLANS, POLICIES, AND REGULATIONS ADOPTED FOR THE PURPOSE OF REDUCING GHG EMISSIONS. NO IMPACT WOULD OCCUR.

The City of San Diego has a qualified Climate Action Plan that meets the applicable state reduction goals. Therefore, a project that is consistent with a qualified CAP would be consistent with the state goals for reducing GHG emissions. The City of San Diego CAP has a CAP Consistency Checklist. The following discussion provides an explanation of how the proposed project complies with Step 1 why measures outlined in Step 2 are not applicable to the Project. The Checklist is provided as Appendix C.

Step 1 Land Use Consistency

The project is consistent with the existing General Plan and Community Plan land use and zoning designations. The project entails adding a BESS facility to the existing nominal 52 MW Border Peaker Plant, which is consistent with the existing permitted uses. Accordingly, the proposed project's land uses and development intensity conform to the land use designations and development intensity requirements set forth in the General Plan.

Step 2: Cap Strategies Consistency

Step 2 of the CAP consistency review requires that the applicable strategies and actions of the City's CAP are incorporated into the project. The following discussion describes how the strategies identified in the CAP Consistency Checklist are not applicable to the proposed Project.

Applicable Strategies

(1) The Project does not include the development of a building and therefore would not include the use of roofing materials. Therefore, the strategy of incorporating roofing material to meet

the performance standard of a minimum 3- year aged solar reflection and thermal emittance or solar reflection index equal to or greater than the values specified in the measures under California Green Building Standards Code for non-residential structures as shown in Appendix A of the City CAP Checklist Application Form is not applicable.

(2) The Project does not have any operational water use and therefore does not incorporate plumbing fixtures or fittings. Therefore, the strategy of utilizing plumbing fixtures and fittings that do not exceed the maximum flow rate specified in Table A5.303.2.3.1 (voluntary measures) of the California Green Building Standards Code is not applicable to the Proposed Project.

(3) The proposed Project does not incorporate any new parking spaces and does not result in more than 4 trips per week (2 employees, for 2 round trip, 4 one way trips) for maintenance activities. The facility will be operated remotely. Therefore, the strategy that fifty percent (50%) of the total spaces required under the law to have listed cabinets, boxes, or enclosures will meet the performance standard in Strategy 3 by also having the necessary electric vehicle supply equipment installed to provide active electric vehicle charging stations ready for use by residents/employees is not applicable to the Project.

(4) The proposed Project does not incorporate any new parking spaces and does not result in more than 4 trips per week for operation and maintenance activities. Additionally, these activities could require equipment to be brought to the site that would not be feasible to carry on a bicycle. Therefore, the strategy to provide short- and long-term bicycle parking in excess of the Chapter 14, Article 2, Division 5 requirements is not applicable to the Project.

(5) The proposed Project does incorporate a building nor any new bicycle parking spaces. Further, monthly trips are specifically for operation and maintenance activities which could require equipment to be brought to the site that would not be feasible to carry on a bicycle. Therefore, the strategy for providing shower/changing facilities and personal effects lockers is not applicable to the Project.

(6) The proposed Project is not located within a Transportation Priority Area (TPA), is a non-residential use, and will not result in more than 4 weekly trips for maintenance activities as the facility will be operated remotely. Therefore, the parking requirements of CAP Consistency Checklist designated parking table are not applicable to the proposed Project.

(7) The proposed Project will not result in any new tenant occupants as the facility will be operated remotely. Therefore, the strategy of incorporating a Transportation Demand Management program is not applicable for the proposed Project.

The Project would help address the limitations of the electric grid and the increasing demand for renewable energy by increasing storage capability which improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. As the use of renewable energy increases, the need for battery storage to maintain electrical supply during both peak demand and when the renewable systems are not generating electricity also increases. It is anticipated that the reduction in GHG emissions from non-renewable electricity generating facilities would more than offset the annual GHG emissions anticipated from the project. Therefore, the project is anticipated to result in a net benefit with respect to GHG emissions generation.

Based on the Project's consistency with the existing General Plan and Community Plan land use and zoning designation, the CAP strategies not being applicable due to the nature of the Project, and the

Project's overall benefit to GHG reductions throughout the City and region, the Project would be consistent with the CAP. Therefore, impacts would be less than significant.

3.6 Greenhouse Gas Cumulative Impacts

The geographic scope for related projects considered in the cumulative impact analysis for GHG emissions is global because impacts of climate change are experienced on a global scale regardless of the location of GHG emission sources. Therefore, GHG emissions and climate change are, by definition, cumulative impacts. Thus, the issue of climate change involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. As discussed under Impact GHG-1 and GHG-2, Project impacts related to GHG emissions would be less than significant since the Project would be consistent with the state plans for reducing GHG emissions. Therefore, the Project's contribution to cumulative GHG impacts would be less than significant and the Project would have a net benefit in the long-term.

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Appendix A

Assumptions and Calculations

Assumptions

Border BESS
General Assumptions

Project Characteristics

Project Location	County
	San Diego
Climate Zone	13
Urbanization	Urban
Operational Year (Buildout)	2024
Construction Year	2023
Utility Company	SDG&E

Project Land Use	**SF**	**Acres**	
Construction Area	130	1.7	Refrigerated Warehouse[1] (battery storage and switch yard)
Laydown area (grading only)		1.34	non-asphalt
Road Repair		0.50	parking lot (no existing striping or painting based on google earth)

Facility Size	52	MW System
Go-by for facility size [2]	400	MW System
	1000	SF building

[1] Refrigerated warehouse used to capture energy required to keep the batteries cool.

[2] Source: Dudek 2021. *Desert Peak Energy Center Project - Phase 1 Air Quality and Greenhouse Gas Emissions Study* - August 16.

Border BESS
General Assumptions

Cable connection trench

170	feet of cable	118	cubic yards or export
trench	40'x4'x280'		

Road Repair

Access Road

600	feet long area	between Sanyo Avenue and the plant gate entrance	
remove existing asphalt		~780	cubic yards exported
repaving with asphalt		~780	cubic yards imported
		2.1	tons/cubic yard[3]
		1638	tons of debris to be removed

[3] Vine Disposal Dumpster Rental Company, 2022. Debris Weight Guide. https://vinedisposal.com/debris-weight-guide.html.

Plant Road

50	feet long	30000
	width of onsite road	

Notes:

-Modules added every 2-5 years, would be similar to Commission/Testing emissions.

- Project lIfe of 40 years

- The construction equipment would be equipped with at least Tier 4 Interim diesel engines with the exception of equipment that is less than 50 horsepower such as portable generators and welders. Portable generators would be electric. The welders would be electric or Tier 4 Final diesel engines.

Border BESS
Construction Assumptions

CalEEMod Defaults are assumed for modeling purposes unless specifically discussed in the Construction Assumptions below.

Project Schedule: Hours: 7 am to 7 pm
8 hrs per day equipment usage
Monday thru Saturday

Construction April 2023
November 2023

Phase Name	Start Date	End Date	Days/Week	Total Days	Months	# Days (for Trucks per day) 15 tks/day	5 tks/day
Access Road Repair	4/1/2023	4/30/2023	6	25	1	25	0
Site Prep/Grading	4/1/2023	5/31/2023	6	52	2	52	0
Install Foundations & Equipment	5/1/2023	6/30/2023	6	53	2	53	0
Set Modules, Inverters, Switchgear	6/1/2023	9/30/2023	6	105	4	25	80
Elec Wire Install/Finish Grading	7/1/2023	11/30/2023	6	131	5	0	131
Commissioning/Testing	11/1/2023	2/28/2024	6	100	4	0	100
15 Haul Trucks Per day	4/1/2023	4/1/2023	6	1		10 to 12 weeks	
5 Haul Trucks Per day	5/1/2023	5/1/23	6	1		3 - 6 months	

Trips and VMT

PhaseName	Worker Trips	Vendor Trips	Haul trips/day	Trip distance	
Worker Trips (Peak)	100	0	0		(Peak 40-50 workers; Ave is 30-35 workers)
15 Haul Trucks Per day	0	0	30	default	
5 Haul Trucks Per day	0	0	10	default	
~~Operational~~	~~2~~	~~0~~	~~0~~	~~default~~	~~(default used as conservative estimate)~~

		Total Trucks	
10/12 weeks	15 trucks per day	1080	Trucks account for both hauling and vendor trucks. Modeled as haul trucks.
6 Months	5 trucks per day	720	

Border BESS
Construction Assumptions

Offroad Equipment

Access Road Repair

Grading

Equipment	Number	Hours/day	
Backhoe	1	8	
Compactor (Plate)	1	8	
Dozer	1	8	
Grader	1	8	
Loader	1	8	
Paver	1	8	Demolition offsite removal
Pickup Trucks[4]	1	4	341 hp

4 Carbuzz 2021. Pickup Trucks have 40% More horsepower than all other cars. Nov 24. https://carbuzz.com/news/pickup-trucks-have-40-more-horsepower-than-all-other-cars#:~:text=Today's%20average%20truck%20puts%20down,years%20ago%20to%20231%20hp.

Site Prep/Grading

Equipment	Number	Hours/day
Backhoes	1	8
Compactor (Plate)	1	8
Air Compressor	2	8
Dozer	1	8
Grader	2	8
Loader	1	8
Off-Highway Trucks	1	8
Sweeper/Scrubbers	1	2
Pickup Trucks (gas)	1	8

Note: Estimated maximum cut and fill, including gravel and roadbed material is approximately 5,900 cubic yards. Approximately 1,400 cubic yards of gravel will be imported for pad construction as well as 1,000 cubic yards of concrete. Cut and Fill asumed to be balanced onsite.

Border BESS
Construction Assumptions

Install Foundations & Equipment

Equipment	Number	Hours/day	
Backhoes	1	8	**Double check equipment!!!!!!**
Compactor (Plate)	1	8	
Air compressor	2	8	
Dozer	1	8	
Loader	1	8	
Off-Highway Trucks	2	8	
Rough Terrain Forklifts	2	8	
Sweeper/Scrubbers	1	8	
Pickup Trucks (gas)	2	8	
Welder	2	8	1,000 cubic yards of concrete import
Portable Electric Generator[5]	1	8	30kVA,25KW - Diesel
Pile driver	1	8	(part of crane, not specific equipment)

[5] Cummins Power Generator - https://pdf.indiamart.com/impdf/21308792233/MY-2827410/30-kva-cummins-diesel-generator.pdf

Set Modules, Inverters, Switchgear

Equipment	Number	Hours/day	
Air Compressor	1	8	
Cranes	2	8	
Off-Highway Trucks	2	8	
Rough terrain forklifts	1	8	
Sweeper/Scrubbers	1	8	
Pick-up truck (diesel)	3	8	
Welder	2	8	
Portable Electric Generator5	1	8	30kVA,25KW - Diesel

Border BESS
Construction Assumptions

Elec Wire Install/Finish Grading

Equipment	Number	Hours/day	
Backhoe	1	8	
Air Compressor	1	8	
Cranes	1	8	
Dozer	1	8	
Loader	1	8	
motor grader	1	8	
Off-Highway Trucks	1	8	
Pavers	1	8	
Forklifts	1	8	
Sweeper/Scrubbers	1	2	
Pickup Trucks (gas)	3	8	
Welder	2	8	
Portable Electric Generator[5]	1	8	30kVA,25KW - Diesel

Commissioning/Testing

Equipment	Number	Hours/day
Compactor (Plate)	1	8
Off-Highway Trucks	1	8
Pickup Trucks (gas)	3	8
Welder	2	8

Dust from Material Movement Soil assumed to be balanced onsite

Demolition

Truck trips per day include the removal of demolition debris and soils as necessary.

Border BESS
Construction Assumptions

Water Use		gal/day	Days/perid	gal/const
	1st 3 months	5,000	78	390,000
	balance	3,000	217	651,000
	Total		295	1,041,000

Water consumption modeled under Operational scenario in CalEEMod for ease of modeling and because there is no operational related water use.

Border BESS
Operational Emissions

CalEEMod Defaults are assumed for modeling purposes unless specifically discussed in the Operational Assumptions below.

Mobile Sources 2 workers, 1 day per month. Modeled as part of Construction Phasing. (Worker Trips)

0.13	ksf building	
4	trips per day	1x per week (Update)
0.0325	trips per ksf	
208	trips per year	

Area Sources No building constructed, no new area sources

Energy Use Energy storage system being implemented, energy not consumed.

Water/Wastewater Fire water . Negligible annual use. No Wastewater generation

Solid Waste No new solid waste generation activities.

Nearest Sensitive Receptors 6940 - 6948 Otay Mesa Rd, San Diego

Augmentation Activity

Augmentation visits would occur every three to five years to update the battery enclosures as the battery performance decreases over time. A limited amount of heavy-duty diesel equipment may be utilized during the augmentation visits, such as a crane . As a conservative estimate of emissions, it was assumed that the same construction equipment used during the Set Modules, Inverters, and Switchgear phase would be required to complete the augmentation visits. It was conservatively assumed that augmentation visits would occur every three years and would last 1 month.

Air Quality Emissions Summary

Border BESS
Air Quality Emissions - Unmitigated

Estimated Construction Air Pollutant Emissions

	Estimated Construction Emissions (lbs/Day)					
	ROG	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
Access Road Repair	1	15	22	<1	2	1
Site Prep/Grading	1	22	34	<1	5	2
Install Foundations & Equipment	2	31	44	<1	2	1
Set Modules, Inverters, Switchgear	2	25	34	<1	2	1
Elec Wire Install/Finish Grading	2	31	46	<1	5	2
Commissioning/Testing	1	13	16	<1	1	1
Overlaps						
Access Road & Site Prep/Grading	2	37	55	<1	7	3
Site Prep/Grading & Installation	3	53	78	<1	7	3
Installation & Set Modules etc.	4	56	78	<1	3	2
Set Modules etc. & Wire/Grading	4	55	79	<1	6	3
Wire/Grading & Testing	3	44	62	<1	6	3
Max Daily	4	56	79	<1	7	3
SDAPCD Screening Threshold	*137*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Estimated Operational Air Pollutant Emissions

	Estimated Operational Emissions (lbs/day)					
	ROG	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
Area	<1	<1	<1	<1	<1	<1
Energy	0	0	0	0	0	0
Mobile	<1	<1	<1	<1	<1	<1
Augmentation Activity	2	25	34	<1	2	1
Total	2	25	34	<1	2	1
SDAPCD Screening Threshold	*137*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

CalEEMod Compiled - Air Quality

Border BESS
Unmitigated CalEEMod - Winter

Construction Note: The Unmitigated scenario is taken from the "Mitigated" CalEEMod output due to use of The project's intended use of Tier 4 construction fleet.

Summary by Task

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Access Road Repair		1	15	21	0	2	0	2	0	0	1
Site Prep/Grading		1	22	34	0	5	0	5	2	0	2
Install Foundations & Equipment		2	31	44	0	1	1	2	0	1	1
Set Modules, Inverters, Switchgear		2	25	34	0	1	1	2	0	1	1
Elec Wire Install/Finish Grading		2	31	45	0	4	1	5	2	1	2
Commissioning/Testing		1	13	16	0	1	0	1	0	0	1
Overlaps											
Access Road & Site Prep/Grading		2	37	55	0	7	0	7	2	0	3
Site Prep/Grading & Installation		3	53	78	0	6	1	7	2	1	3
Installation & Set Modules etc.		4	56	77	0	2	1	3	1	1	2
Set Modules etc. & Wire/Grading		4	55	79	0	5	1	6	2	1	3
Wire/Grading & Testing		3	44	62	0	5	1	6	2	1	3
Max Daily		4	56	79	0	7	1	7	2	1	3

Border BESS
Unmitigated CalEEMod - Winter

Construction - Detailed by Phase

Access Road Repair onsite 2023

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust						0.6388	0	0.6388	0.0967	0	0.0967
Off-Road		0.6724	11.0607	18.0566	0.0328		0.1295	0.1295		0.1225	0.1225
Total		**0.6724**	**11.0607**	**18.0566**	**0.0328**	**0.6388**	**0.1295**	**0.7683**	**0.0967**	**0.1225**	**0.2192**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		6.39E-02	4.08E+00	1.09E+00	1.80E-02	5.25E-01	3.34E-02	5.58E-01	1.44E-01	3.19E-02	1.76E-01
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.2965	0.191	2.2866	6.86E-03	0.8215	4.42E-03	0.8259	0.2179	4.07E-03	0.222
Total		**3.60E-01**	**4.27E+00**	**3.38E+00**	**2.49E-02**	**1.35E+00**	**3.78E-02**	**1.38E+00**	**3.62E-01**	**3.60E-02**	**3.98E-01**

Site Prep/Grading onsite 2023

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust						3.4258	0	3.4258	1.5669	0	1.5669
Off-Road		1.0992	17.3921	30.3811	0.0565		0.1793	0.1793		0.1723	0.1723
Total		**1.0992**	**17.3921**	**30.3811**	**0.0565**	**3.4258**	**0.1793**	**3.6051**	**1.5669**	**0.1723**	**1.7392**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		6.39E-02	4.08E+00	1.09E+00	1.80E-02	5.25E-01	3.34E-02	5.58E-01	1.44E-01	3.19E-02	1.76E-01
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.2965	0.191	2.2866	6.86E-03	0.8215	4.42E-03	0.8259	0.2179	4.07E-03	0.222
Total		**3.60E-01**	**4.27E+00**	**3.38E+00**	**2.49E-02**	**1.35E+00**	**3.78E-02**	**1.38E+00**	**3.62E-01**	**3.60E-02**	**3.98E-01**

Border BESS
Unmitigated CalEEMod - Winter

Install Foundations & Equipment onsite 2022

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust											
Off-Road		1.5778	27.0204	40.399	0.0733		0.4798	0.4798		0.4659	0.4659
Total		**1.5778**	**27.0204**	**40.399**	**0.0733**	**0**	**0.4798**	**0.4798**	**0**	**0.4659**	**0.4659**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		6.39E-02	4.08E+00	1.09E+00	1.80E-02	5.25E-01	3.34E-02	5.58E-01	1.44E-01	3.19E-02	1.76E-01
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.2965	0.191	2.2866	6.86E-03	0.8215	4.42E-03	0.8259	0.2179	4.07E-03	0.222
Total		**3.60E-01**	**4.27E+00**	**3.38E+00**	**2.49E-02**	**1.35E+00**	**3.78E-02**	**1.38E+00**	**3.62E-01**	**3.60E-02**	**3.98E-01**

Set Modules, Inverters, Switchgear onsite 2022

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust											
Off-Road		1.4712	22.9535	30.9657	0.0626		0.5412	0.5412		0.5203	0.5203
Total		**1.4712**	**22.9535**	**30.9657**	**0.0626**	**0**	**0.5412**	**0.5412**	**0**	**0.5203**	**0.5203**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		2.13E-02	1.36E+00	3.64E-01	5.99E-03	1.75E-01	1.11E-02	1.86E-01	4.79E-02	1.06E-02	5.86E-02
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.2965	0.191	2.2866	6.86E-03	0.8215	4.42E-03	0.8259	0.2179	4.07E-03	0.222
Total		**3.18E-01**	**1.55E+00**	**2.65E+00**	**1.29E-02**	**9.96E-01**	**1.55E-02**	**1.01E+00**	**2.66E-01**	**1.47E-02**	**2.81E-01**

Border BESS
Unmitigated CalEEMod - Winter

Elec Wire Install/Finish Grading onsite 2023

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust						3.1872	0	3.1872	1.5411	0	1.5411
Off-Road		1.7746	29.1342	42.7465	0.081		0.5307	0.5307		0.5098	0.5098
Total		**1.7746**	**29.1342**	**42.7465**	**0.081**	**3.1872**	**0.5307**	**3.7179**	**1.5411**	**0.5098**	**2.0509**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		2.13E-02	1.36E+00	3.64E-01	5.99E-03	1.75E-01	1.11E-02	1.86E-01	4.79E-02	1.06E-02	5.86E-02
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.2965	0.191	2.2866	6.86E-03	0.8215	4.42E-03	0.8259	0.2179	4.07E-03	0.222
Total		**3.18E-01**	**1.55E+00**	**2.65E+00**	**1.29E-02**	**9.96E-01**	**1.55E-02**	**1.01E+00**	**2.66E-01**	**1.47E-02**	**2.81E-01**

Commissioning/Testing onsite 2024

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust											
Off-Road		0.7588	11.3755	13.5248	0.0313		0.2888	0.2888		0.2749	0.2749
Total		**0.7588**	**11.3755**	**13.5248**	**0.0313**	**0**	**0.2888**	**0.2888**	**0**	**0.2749**	**0.2749**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		2.13E-02	1.36E+00	3.64E-01	5.99E-03	1.75E-01	1.11E-02	1.86E-01	4.79E-02	1.06E-02	5.86E-02
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.2965	0.191	2.2866	6.86E-03	0.8215	4.42E-03	0.8259	0.2179	4.07E-03	0.222
Total		**3.18E-01**	**1.55E+00**	**2.65E+00**	**1.29E-02**	**9.96E-01**	**1.55E-02**	**1.01E+00**	**2.66E-01**	**1.47E-02**	**2.81E-01**

Border BESS
Unmitigated CalEEMod - Winter

On-Road Vehicles

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
15 Trucks per day		0.0639	4.0827	1.0915	0.018	0.5247	0.0334	0.5581	0.1438	0.0319	0.1758
5 Trucks per day		0.0213	1.3609	0.3638	5.99E-03	0.1749	0.0111	0.186	0.0479	0.0106	0.0586

Border BESS
Unmitigated CalEEMod - Winter

Operational Emissions 2024

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Area		0.0473	0	2.00E-04	0		0	0		0	0
Energy		0	0	0	0		0	0		0	0
Mobile		1.00E-05	4.00E-05	4.10E-04	0	1.80E-04	0	1.80E-04	5.00E-05	0	5.00E-05
Augmentation Activity		1.79	24.51	33.62	0.08	1.00	0.56	1.55	0.27	0.53	0.80
Total		**1.83631**	**24.50544**	**33.61671**	**0.07545**	**0.99658**	**0.55672**	**1.55328**	**0.26585**	**0.53497**	**0.80095**

Border BESS
Unmitigated CalEEMod - Summer

Construction Note: The Unmitigated scenario is taken from the "Mitigated" CalEEMod output due to use of The project's intended use of Tier 4 construction fleet.

Summary by Task

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Access Road Repair		1	15	22	0	2	0	2	0	0	1
Site Prep/Grading		1	21	34	0	5	0	5	2	0	2
Install Foundations & Equipment		2	31	44	0	1	1	2	0	1	1
Set Modules, Inverters, Switchgear		2	24	34	0	1	1	2	0	1	1
Elec Wire Install/Finish Grading		2	31	46	0	4	1	5	2	1	2
Commissioning/Testing		1	13	16	0	1	0	1	0	0	1
Overlaps											
Access Road & Site Prep/Grading		2	37	55	0	7	0	7	2	0	3
Site Prep/Grading & Installation		3	53	78	0	6	1	7	2	1	3
Installation & Set Modules etc.		4	56	78	0	2	1	3	1	1	2
Set Modules etc. & Wire/Grading		4	55	79	0	5	1	6	2	1	3
Wire/Grading & Testing		3	43	62	0	5	1	6	2	1	3
Max Daily		4	56	79	0	7	1	7	2	1	3

Border BESS
Unmitigated CalEEMod - Summer

Construction - Detailed by Phase

Access Road Repair onsite 2022

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust						0.6388	0	0.6388	0.0967	0	0.0967
Off-Road		0.6724	11.0607	18.0566	0.0328		0.1295	0.1295		0.1225	0.1225
Total		**0.6724**	**11.0607**	**18.0566**	**0.0328**	**0.6388**	**0.1295**	**0.7683**	**0.0967**	**0.1225**	**0.2192**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		6.79E-02	3.92E+00	1.08E+00	1.80E-02	5.25E-01	3.33E-02	5.58E-01	1.44E-01	3.19E-02	1.76E-01
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.2735	0.1698	2.4064	7.26E-03	0.8215	4.42E-03	0.8259	0.2179	4.07E-03	0.222
Total		**3.41E-01**	**4.09E+00**	**3.48E+00**	**2.53E-02**	**1.35E+00**	**3.77E-02**	**1.38E+00**	**3.62E-01**	**3.60E-02**	**3.98E-01**

Site Prep/Grading onsite 2022

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust						3.4258	0	3.4258	1.5669	0	1.5669
Off-Road		1.0992	17.3921	30.3811	0.0565		0.1793	0.1793		0.1723	0.1723
Total		**1.0992**	**17.3921**	**30.3811**	**0.0565**	**3.4258**	**0.1793**	**3.6051**	**1.5669**	**0.1723**	**1.7392**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		6.79E-02	3.92E+00	1.08E+00	1.80E-02	5.25E-01	3.33E-02	5.58E-01	1.44E-01	3.19E-02	1.76E-01
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.2735	0.1698	2.4064	7.26E-03	0.8215	4.42E-03	0.8259	0.2179	4.07E-03	0.222
Total		**3.41E-01**	**4.09E+00**	**3.48E+00**	**2.53E-02**	**1.35E+00**	**3.77E-02**	**1.38E+00**	**3.62E-01**	**3.60E-02**	**3.98E-01**

Border BESS
Unmitigated CalEEMod - Summer

Install Foundations & Equipment onsite 2022

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust											
Off-Road		1.5778	27.0204	40.399	0.0733		0.4798	0.4798		0.4659	0.4659
Total		**1.5778**	**27.0204**	**40.399**	**0.0733**	**0**	**0.4798**	**0.4798**	**0**	**0.4659**	**0.4659**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		6.79E-02	3.92E+00	1.08E+00	1.80E-02	5.25E-01	3.33E-02	5.58E-01	1.44E-01	3.19E-02	1.76E-01
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.2735	0.1698	2.4064	7.26E-03	0.8215	4.42E-03	0.8259	0.2179	4.07E-03	0.222
Total		**3.41E-01**	**4.09E+00**	**3.48E+00**	**2.53E-02**	**1.35E+00**	**3.77E-02**	**1.38E+00**	**3.62E-01**	**3.60E-02**	**3.98E-01**

Set Modules, Inverters, Switchgear onsite 2022

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust											
Off-Road		1.4712	22.9535	30.9657	0.0626		0.5412	0.5412		0.5203	0.5203
Total		**1.4712**	**22.9535**	**30.9657**	**0.0626**	**0**	**0.5412**	**0.5412**	**0**	**0.5203**	**0.5203**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		2.27E-02	1.31E+00	3.59E-01	5.98E-03	1.75E-01	1.11E-02	1.86E-01	4.79E-02	1.06E-02	5.86E-02
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.2735	0.1698	2.4064	7.26E-03	0.8215	4.42E-03	0.8259	0.2179	4.07E-03	0.222
Total		**2.96E-01**	**1.48E+00**	**2.77E+00**	**1.32E-02**	**9.96E-01**	**1.55E-02**	**1.01E+00**	**2.66E-01**	**1.47E-02**	**2.81E-01**

Border BESS
Unmitigated CalEEMod - Summer

Elec Wire Install/Finish Grading onsite 2023

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust						3.1872	0	3.1872	1.5411	0	1.5411
Off-Road		1.7746	29.1342	42.7465	0.081		0.5307	0.5307		0.5098	0.5098
Total		**1.7746**	**29.1342**	**42.7465**	**0.081**	**3.1872**	**0.5307**	**3.7179**	**1.5411**	**0.5098**	**2.0509**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		2.27E-02	1.31E+00	3.59E-01	5.98E-03	1.75E-01	1.11E-02	1.86E-01	4.79E-02	1.06E-02	5.86E-02
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.2735	0.1698	2.4064	7.26E-03	0.8215	4.42E-03	0.8259	0.2179	4.07E-03	0.222
Total		**2.96E-01**	**1.48E+00**	**2.77E+00**	**1.32E-02**	**9.96E-01**	**1.55E-02**	**1.01E+00**	**2.66E-01**	**1.47E-02**	**2.81E-01**

Commissioning/Testing onsite 2024

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust											
Off-Road		0.7588	11.3755	13.5248	0.0313		0.2888	0.2888		0.2749	0.2749
Total		**0.7588**	**11.3755**	**13.5248**	**0.0313**	**0**	**0.2888**	**0.2888**	**0**	**0.2749**	**0.2749**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		2.27E-02	1.31E+00	3.59E-01	5.98E-03	1.75E-01	1.11E-02	1.86E-01	4.79E-02	1.06E-02	5.86E-02
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.2735	0.1698	2.4064	7.26E-03	0.8215	4.42E-03	0.8259	0.2179	4.07E-03	0.222
Total		**2.96E-01**	**1.48E+00**	**2.77E+00**	**1.32E-02**	**9.96E-01**	**1.55E-02**	**1.01E+00**	**2.66E-01**	**1.47E-02**	**2.81E-01**

Border BESS
Unmitigated CalEEMod - Summer

On-Road Vehicles

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	lb/day										
15 Trucks per day		0.0679	3.9244	1.078	0.018	0.5247	0.0333	0.558	0.1438	0.0319	0.1757
5 Trucks per day		0.0227	1.3081	0.3594	5.98E-03	0.1749	0.0111	0.186	0.0479	0.0106	0.0586

Border BESS
Unmitigated CalEEMod - Summer

Operational Emissions 2024

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Area		0.0473	0	2.00E-04	0		0	0		0	0
Energy		0	0	0	0		0	0		0	0
Mobile		1.00E-05	3.00E-05	4.50E-04	0	1.80E-04	0	1.80E-04	5.00E-05	0	5.00E-05
Augmentation Activity		1.77E+00	2.44E+01	3.37E+01	7.58E-02	9.96E-01	5.57E-01	1.55E+00	2.66E-01	5.35E-01	8.01E-01
Total		**0.04731**	**0.00003**	**0.00065**	**0**	**0.00018**	**0**	**0.00018**	**0.00005**	**0**	**0.00005**

GHG Emissions Summary

Border BESS
Unmitigated GHG Emissions

Construction Emissions

Emission Source	Annual Emissions (MT CO_2e)
Access Road Repair	68
Site Prep/Grading	196
Install Foundations & Equipment	237
Set Modules, Inverters, Switchgear	370
Elec Wire Install/Finish Grading	549
Commissioning/Testing	198
Total	1,617
Amortized Emissions	
40 years	40

Operational Emissions

Emission Source	Annual Emissions (MT CO_2e)	% Emissions
Area	0	0.0000%
Energy	0	0.0000%
Mobile	0.024	0.0142%
Waste	0	0.0000%
Water	0	0.0000%
Augmentation Emissions	88	52.1234%
Total	88	
Amortized Construction	40	23.9312%
Amortized Decommissioning	40	23.9312%
Total Operational Emissions	169	

CalEEMod Compiled - GHG

Border BESS
Unmitigated CalEEMod - Annual

Construction

Note: The Unmitigated scenario is taken from the "Mitigated" CalEEMod output due to use of The project's intended use of Tier 4 construction fleet.

Summary by Year

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/year					
Access Road Repair	0.00	44.13	44.13	0.01	0.00	68.09
Site Prep/Grading	0.00	145.51	145.51	0.04	0.00	195.67
Install Foundations & Equipment	0.00	185.30	185.30	0.05	0.00	236.60
Set Modules, Inverters, Switchgear	0.00	318.84	318.84	0.08	0.00	369.86
Elec Wire Install/Finish Grading	0.00	503.72	503.72	0.13	0.00	548.61
Commissioning/Testing	0.00	165.73	165.73	0.04	0.00	198.44
Total Project						1617
Amortized over 40 years						40

Border BESS
Unmitigated CalEEMod - Annual

Construction - Detailed by Phase

Access Road Repair

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	# Days
Category	tons/year						
Fugitive Dust	0	0	0	0	0	0	
Water Use	0	0.2400678	0.2400678	1.44E-05	1.695E-06	0.2409576	25
Off-Road	0	35.8578	35.8578	0.0115	0	36.1456	
Total	**0**	**36.097868**	**36.097868**	**0.011514**	**1.695E-06**	**36.386558**	

							# days	
	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	15/day	5/day
Category	tons/year							
Hauling	0	0	0	0	0	23.6	25	0
Vendor	0	0	0	0	0	0		
Worker	0	8.0313	8.0313	2.40E-04	2.20E-04	8.1031		
Total	**0.00**	**8.03**	**8.03**	**0.00**	**0.00**	**31.70**		

Site Prep/Grading

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	# Days
Category	tons/year						
Fugitive Dust	0	0	0	0	0	0	
Water Use	0	0.499341	0.499341	3E-05	3.525E-06	0.5011919	52
Off-Road	0	128.3054	128.3054	0.0367	0	129.2217	
Total	**0**	**128.80474**	**128.80474**	**0.03673**	**3.525E-06**	**129.72289**	

							# days	
	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	15/day	5/day
Category	tons/year							
Hauling	0	0	0	0	0	49.088	52	0
Vendor	0	0	0	0	0	0		
Worker	0	16.7051	16.7051	4.90E-04	4.60E-04	16.8545		
Total	**0.00**	**16.71**	**16.71**	**0.00**	**0.00**	**65.94**		

Border BESS
Unmitigated CalEEMod - Annual

Install Foundations & Equipment

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	# Days
Category	tons/year						
Fugitive Dust	0	0	0	0	0	0	
Water Use	0	0.5089437	0.5089437	3.05E-05	3.593E-06	0.5108302	53
Off-Road	0	167.7667	167.7667	0.0445	0	168.8802	
Total	**0**	**168.27564**	**168.27564**	**0.044531**	**3.593E-06**	**169.39103**	

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	# days 15/day	# days 5/day
Category	tons/year							
Hauling	0	0	0	0	0	50.032	53	0
Vendor	0	0	0	0	0	0		
Worker	0	17.0264	17.0264	5.00E-04	4.70E-04	17.1787		
Total	**0.00**	**17.03**	**17.03**	**0.00**	**0.00**	**67.21**		

Set Modules, Inverters, Switchgear

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	# Days
Category	tons/year						
Fugitive Dust	0	0	0	0	0	0	
Water Use	0	1.0082847	1.0082847	6.05E-05	7.119E-06	1.012022	105
Off-Road	0	284.0994	284.0994	0.0777	0	286.042	
Total	**0**	**285.10768**	**285.10768**	**0.077761**	**7.119E-06**	**287.05402**	

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	# days 15/day	# days 5/day
Category	tons/year							
Hauling	0	0	0	0	0	48.776	25	80
Vendor	0	0	0	0	0	0		
Worker	0	33.7315	33.7315	9.90E-04	9.30E-04	34.0332		
Total	**0.00**	**33.73**	**33.73**	**0.00**	**0.00**	**82.81**		

Border BESS
Unmitigated CalEEMod - Annual

Elec Wire Install/Finish Grading

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	# Days
Category	tons/year						
Fugitive Dust	0	0	0	0	0	0	
Water Use	0	1.2579553	1.2579553	7.55E-05	8.881E-06	1.262618	131
Off-Road	0	460.3812	460.3812	0.1312	0	463.6614	
Total	**0**	**461.63916**	**461.63916**	**0.131275**	**8.881E-06**	**464.92402**	

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	# days 15/day	5/day
Category	tons/year							
Hauling	0	0	0	0	0	41.2257	0	131
Vendor	0	0	0	0	0	0		
Worker	0	42.0841	42.0841	1.23E-03	1.16E-03	42.4604		
Total	**0.00**	**42.08**	**42.08**	**0.00**	**0.00**	**83.69**		

Commissioning/Testing 2023

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	# Days
Category	tons/year						
Fugitive Dust	0	0	0	0	0	0	
Water Use	0	0.4801356	0.4801356	2.88E-05	3.39E-06	0.4819153	50
Off-Road	0	69.16	69.16	0.0201	0	69.6623	
Total	**0**	**69.640136**	**69.640136**	**0.020129**	**3.39E-06**	**70.144215**	

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	# days 15/day	5/day
Category	tons/year							
Hauling	0	0	0	0	0	15.735	0	50
Vendor	0	0	0	0	0	0		
Worker	0	16.7051	16.7051	4.90E-04	4.60E-04	16.8545		
Total	**0.00**	**16.71**	**16.71**	**0.00**	**0.00**	**32.59**		

Border BESS
Unmitigated CalEEMod - Annual

Commissioning/Testing 2024

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/year						
Off-Road	0	0	0	0	0	0	
Water Use	0	0.4801356	0.4801356	2.88E-05	3.39E-06	0.4819153	50
Fugitive	0	63.8665	63.8665	0.0185	0	64.3288	
Total	**0**	**64.346636**	**64.346636**	**0.018529**	**3.39E-06**	**64.810715**	

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	# days 15/day	5/day
Category	tons/year							
Hauling	0	0	0	0	0	15.735	0	50
Vendor	0	0	0	0	0	0		
Worker	0	15.0337	15.0337	4.10E-04	4.00E-04	15.1623		
Total	**0.00**	**15.03**	**15.03**	**0.00**	**0.00**	**30.90**		

Offsite Vehicles

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/year					
1 day - 15 trucks per day	0	0.9002	0.9002	5.00E-05	1.40E-04	0.944
5 days - 15 trucks per day	0	0.3001	0.3001	2.00E-05	5.00E-05	0.3147

Water Use Emissions

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	# Days
Category	tons/year						
Total Water Use	0	2.8328	2.8328	1.70E-04	2.00E-05	2.8433	**295.00**
Daily Water Use	0	0.0096027	0.0096027	5.76E-07	6.78E-08	0.0096383	**1.00**

Border BESS
Unmitigated CalEEMod - Annual

Operational Emissions

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	MT/yr						
Area	0	0	0	0	0	0	
Energy	0	0	0	0	0	0	
Mobile	0	0.0238	0.0238	0	0	0.024	
Waste	0	0	0	0	0	0	
Water	0	0	0	0	0	0	
Augmentation Emissions	0	75.914092	75.914092	0.01875	0.0002231	88.062672	25
Total	**0**	**75.937892**	**75.937892**	**0.01875**	**0.0002231**	**88.086672**	

Mobile Adjustment

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
1040 trips per year	0	0.0258	0.0258	0	0	0.0259	4 trips per day/20 trips per week/52 weeks per year
	0	2.481E-05	2.481E-05	0	0	2.49E-05	
208 trips per year	0	0.00516	0.00516	0	0	0.00518	4 trips per day/1 day per week/52 weeks per year

Appendix B

CalEEMod Outputs

Border 52 MW BESS Project - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Border 52 MW BESS Project

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	0.13	1000sqft	1.70	130.00	0
Other Non-Asphalt Surfaces	1.34	Acre	1.34	58,370.40	0
Parking Lot	0.50	Acre	0.50	21,780.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2024
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Refrigerated warehouse = Battery Storage and Switch Yard area; Non-Asphalt surface = Laydown yard; Parking Lot = road repair.

Construction Phase - See Assumptions

Off-road Equipment - See Assumptions - on-road vehicles only

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Off-road Equipment - See Assumptions - on-road vehicles only

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Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Trips and VMT - See Assumptions

Demolition - See Assumptions

Grading - See Assumptions

Vehicle Trips - See Assumptions

Landscape Equipment - No Landscaping

Energy Use - No Operational Energy Consumption

Water And Wastewater - Construction water use

Solid Waste - See Assumptions - No New operational uses

Construction Off-road Equipment Mitigation - "Mitigated" CalEEMod scenario is the Unmitigated Project Scenario as Tier 4/CNG equipment is part of the project as well as fugitive dust suppression

Fleet Mix - See Assumptions

Area Coating -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

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tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	1.00
tblConstructionPhase	NumDays	230.00	53.00
tblConstructionPhase	NumDays	230.00	1.00
tblConstructionPhase	NumDays	230.00	105.00
tblConstructionPhase	NumDays	230.00	100.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	8.00	131.00
tblConstructionPhase	NumDays	5.00	52.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	3.61	0.00
tblEnergyUse	NT24E	27.88	0.00

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tblEnergyUse	NT24NG	0.02	0.00
tblEnergyUse	T24E	1.85	0.00
tblEnergyUse	T24NG	6.28	0.00
tblFleetMix	HHD	6.2660e-003	0.00
tblFleetMix	LDA	0.56	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	6.2690e-003	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.12	1.00
tblFleetMix	MH	4.9490e-003	0.00
tblFleetMix	MHD	8.7340e-003	0.00
tblFleetMix	OBUS	7.0800e-004	0.00
tblFleetMix	SBUS	9.7100e-004	0.00
tblFleetMix	UBUS	5.6600e-004	0.00
tblGrading	MaterialExported	0.00	118.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblLandUse	LotAcreage	0.00	1.70
tblOffRoadEquipment	HorsePower	84.00	53.00
tblOffRoadEquipment	HorsePower	84.00	53.00
tblOffRoadEquipment	HorsePower	84.00	53.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors

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tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblSolidWaste	SolidWasteGenerationRate	0.12	0.00
tblTripsAndVMT	HaulingTripNumber	162.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	30.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	15.00	0.00
tblTripsAndVMT	VendorTripNumber	13.00	0.00
tblTripsAndVMT	VendorTripNumber	13.00	0.00
tblTripsAndVMT	VendorTripNumber	13.00	0.00
tblTripsAndVMT	VendorTripNumber	13.00	0.00
tblTripsAndVMT	VendorTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	100.00
tblTripsAndVMT	WorkerTripNumber	28.00	100.00
tblTripsAndVMT	WorkerTripNumber	34.00	0.00
tblTripsAndVMT	WorkerTripNumber	34.00	100.00
tblTripsAndVMT	WorkerTripNumber	34.00	0.00
tblTripsAndVMT	WorkerTripNumber	34.00	100.00
tblTripsAndVMT	WorkerTripNumber	40.00	100.00
tblTripsAndVMT	WorkerTripNumber	34.00	100.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	9.50	60.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	2.12	0.00
tblVehicleTrips	SU_TR	2.12	0.00
tblVehicleTrips	WD_TR	2.12	0.03
tblWater	IndoorWaterUseRate	30,062.50	0.00
tblWater	OutdoorWaterUseRate	0.00	1,041,000.00

2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	7.9387	66.9465	62.5339	0.1574	11.2001	2.7752	13.2666	4.2766	2.5989	6.5514	0.0000	15,116.9609	15,116.9609	3.8820	0.3554	15,225.7999
2024	1.7301	10.7483	12.4212	0.0379	0.8215	0.3913	1.2128	0.2179	0.3684	0.5863	0.0000	3,617.8091	3,617.8091	0.8686	0.0185	3,645.0315
Maximum	**7.9387**	**66.9465**	**62.5339**	**0.1574**	**11.2001**	**2.7752**	**13.2666**	**4.2766**	**2.5989**	**6.5514**	**0.0000**	**15,116.9609**	**15,116.9609**	**3.8820**	**0.3554**	**15,225.7999**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.8388	52.4697	78.2855	0.1574	6.2323	1.0807	6.5832	2.2432	1.0383	3.0152	0.0000	15,116.9609	15,116.9609	3.8820	0.3554	15,225.7999
2024	1.0244	11.2055	15.6318	0.0379	0.8215	0.2818	1.1033	0.2179	0.2685	0.4864	0.0000	3,617.8091	3,617.8091	0.8686	0.0185	3,645.0315
Maximum	**3.8388**	**52.4697**	**78.2855**	**0.1574**	**6.2323**	**1.0807**	**6.5832**	**2.2432**	**1.0383**	**3.0152**	**0.0000**	**15,116.9609**	**15,116.9609**	**3.8820**	**0.3554**	**15,225.7999**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	49.70	18.04	-25.30	0.00	41.32	56.97	46.91	45.24	55.96	50.94	0.00	0.00	0.00	0.00	0.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0473	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.3000e-004	4.3000e-004	0.0000		4.6000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.0000e-005	4.0000e-005	4.1000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005		0.2007	0.2007	0.0000	0.0000	0.2020
Total	**0.0473**	**4.0000e-005**	**6.1000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**		**0.2011**	**0.2011**	**0.0000**	**0.0000**	**0.2025**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0473	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.3000e-004	4.3000e-004	0.0000		4.6000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.0000e-005	4.0000e-005	4.1000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005		0.2007	0.2007	0.0000	0.0000	0.2020
Total	**0.0473**	**4.0000e-005**	**6.1000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**		**0.2011**	**0.2011**	**0.0000**	**0.0000**	**0.2025**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	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	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Access Road Repair	Demolition	4/1/2023	4/30/2023	6	25	
2	Site Preparation & Grading	Site Preparation	4/1/2023	5/31/2023	6	52	
3	15 Haul Trucks Per day	Building Construction	4/1/2023	4/1/2023	6	1	
4	Install Foundations & Equipment	Building Construction	5/1/2023	6/30/2023	6	53	
5	5 Haul Trucks Per day	Building Construction	5/1/2023	5/1/2023	6	1	
6	Set Modules, Inverters, Switchgear	Building Construction	6/1/2023	9/30/2023	6	105	
7	Elec Wire Install/Finish Grading	Grading	7/1/2023	11/30/2023	6	131	
8	Commissioning/Testing	Building Construction	11/1/2023	2/24/2024	6	100	

Acres of Grading (Site Preparation Phase): 78

Acres of Grading (Grading Phase): 131

Acres of Paving: 1.84

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Access Road Repair	Concrete/Industrial Saws	0	8.00	81	0.73
Access Road Repair	Excavators	0	8.00	158	0.38
Access Road Repair	Graders	1	8.00	187	0.41

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Access Road Repair	Other Construction Equipment	1	4.00	341	0.42
Access Road Repair	Pavers	1	8.00	130	0.42
Access Road Repair	Rubber Tired Dozers	1	8.00	247	0.40
Access Road Repair	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation & Grading	Graders	2	8.00	187	0.41
Site Preparation & Grading	Off-Highway Trucks	1	8.00	402	0.38
Site Preparation & Grading	Other Construction Equipment	1	4.00	341	0.42
Site Preparation & Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation & Grading	Sweepers/Scrubbers	1	2.00	64	0.46
Site Preparation & Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
15 Haul Trucks Per day	Cranes	0	7.00	231	0.29
15 Haul Trucks Per day	Forklifts	0	8.00	89	0.20
15 Haul Trucks Per day	Generator Sets	0	8.00	84	0.74
15 Haul Trucks Per day	Tractors/Loaders/Backhoes	0	7.00	97	0.37
15 Haul Trucks Per day	Welders	0	8.00	46	0.45
Install Foundations & Equipment	Cranes	1	8.00	231	0.29
Install Foundations & Equipment	Forklifts	0	8.00	89	0.20
Install Foundations & Equipment	Generator Sets	1	8.00	53	0.74
Install Foundations & Equipment	Off-Highway Trucks	1	8.00	402	0.38
Install Foundations & Equipment	Other Construction Equipment	2	4.00	341	0.42
Install Foundations & Equipment	Rough Terrain Forklifts	2	8.00	100	0.40
Install Foundations & Equipment	Rubber Tired Dozers	1	8.00	247	0.40
Install Foundations & Equipment	Sweepers/Scrubbers	1	8.00	64	0.46
Install Foundations & Equipment	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Install Foundations & Equipment	Welders	2	8.00	46	0.45
5 Haul Trucks Per day	Cranes	0	7.00	231	0.29
5 Haul Trucks Per day	Forklifts	0	8.00	89	0.20
5 Haul Trucks Per day	Generator Sets	0	8.00	84	0.74
5 Haul Trucks Per day	Tractors/Loaders/Backhoes	0	7.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5 Haul Trucks Per day	Welders	0	8.00	46	0.45
Set Modules, Inverters, Switchgear	Cranes	2	8.00	231	0.29
Set Modules, Inverters, Switchgear	Forklifts	0	8.00	89	0.20
Set Modules, Inverters, Switchgear	Generator Sets	0	8.00	84	0.74
Set Modules, Inverters, Switchgear	Generator Sets	1	8.00	53	0.74
Set Modules, Inverters, Switchgear	Off-Highway Trucks	1	8.00	402	0.38
Set Modules, Inverters, Switchgear	Other Construction Equipment	3	4.00	341	0.42
Set Modules, Inverters, Switchgear	Rough Terrain Forklifts	1	8.00	100	0.40
Set Modules, Inverters, Switchgear	Sweepers/Scrubbers	1	8.00	64	0.46
Set Modules, Inverters, Switchgear	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Set Modules, Inverters, Switchgear	Welders	2	8.00	46	0.45
Elec Wire Install/Finish Grading	Cranes	1	8.00	231	0.29
Elec Wire Install/Finish Grading	Excavators	0	8.00	158	0.38
Elec Wire Install/Finish Grading	Generator Sets	1	8.00	53	0.74
Elec Wire Install/Finish Grading	Graders	1	8.00	187	0.41
Elec Wire Install/Finish Grading	Off-Highway Trucks	1	8.00	402	0.38
Elec Wire Install/Finish Grading	Other Construction Equipment	3	4.00	341	0.42
Elec Wire Install/Finish Grading	Pavers	1	8.00	130	0.42
Elec Wire Install/Finish Grading	Rough Terrain Forklifts	1	8.00	100	0.40
Elec Wire Install/Finish Grading	Rubber Tired Dozers	1	8.00	247	0.40
Elec Wire Install/Finish Grading	Sweepers/Scrubbers	1	2.00	64	0.46
Elec Wire Install/Finish Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Elec Wire Install/Finish Grading	Welders	2	8.00	46	0.45
Commissioning/Testing	Cranes	0	7.00	231	0.29
Commissioning/Testing	Forklifts	0	8.00	89	0.20
Commissioning/Testing	Generator Sets	0	8.00	84	0.74
Commissioning/Testing	Off-Highway Trucks	1	8.00	402	0.38
Commissioning/Testing	Other Construction Equipment	2	4.00	341	0.42
Commissioning/Testing	Tractors/Loaders/Backhoes	0	7.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Commissioning/Testing	Welders	2	8.00	46	0.45
Access Road Repair	Plate Compactors	1	8.00	8	0.43
Site Preparation & Grading	Air Compressors	2	8.00	78	0.48
Site Preparation & Grading	Plate Compactors	1	8.00	8	0.43
Install Foundations & Equipment	Plate Compactors	1	8.00	8	0.43
Install Foundations & Equipment	Air Compressors	2	8.00	78	0.48
Set Modules, Inverters, Switchgear	Air Compressors	1	8.00	78	0.48
Elec Wire Install/Finish Grading	Air Compressors	1	8.00	78	0.48
Commissioning/Testing	Plate Compactors	1	8.00	8	0.43

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Access Road Repair	7	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation & Grading	11	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
15 Haul Trucks Per day	0	0.00	0.00	30.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Install Foundations & Equipment	16	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
5 Haul Trucks Per day	0	0.00	0.00	10.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Set Modules, Inverters, Switchgear	12	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Elec Wire Install/Finish Grading	16	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Commissioning/Testing	6	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Border 52 MW BESS Project - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Access Road Repair - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.4196	0.0000	1.4196	0.2150	0.0000	0.2150			0.0000			0.0000
Off-Road	1.8307	19.2745	14.1183	0.0328		0.8085	0.8085		0.7446	0.7446		3,162.1194	3,162.1194	1.0151		3,187.4974
Total	**1.8307**	**19.2745**	**14.1183**	**0.0328**	**1.4196**	**0.8085**	**2.2281**	**0.2150**	**0.7446**	**0.9596**		**3,162.1194**	**3,162.1194**	**1.0151**		**3,187.4974**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2965	0.1910	2.2866	6.8600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		702.0203	702.0203	0.0212	0.0198	708.4442
Total	**0.2965**	**0.1910**	**2.2866**	**6.8600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**702.0203**	**702.0203**	**0.0212**	**0.0198**	**708.4442**

Border 52 MW BESS Project - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Access Road Repair - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6388	0.0000	0.6388	0.0967	0.0000	0.0967			0.0000			0.0000
Off-Road	0.6724	11.0607	18.0566	0.0328		0.1295	0.1295		0.1225	0.1225	0.0000	3,162.1194	3,162.1194	1.0151		3,187.4974
Total	**0.6724**	**11.0607**	**18.0566**	**0.0328**	**0.6388**	**0.1295**	**0.7683**	**0.0967**	**0.1225**	**0.2193**	**0.0000**	**3,162.1194**	**3,162.1194**	**1.0151**		**3,187.4974**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2965	0.1910	2.2866	6.8600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		702.0203	702.0203	0.0212	0.0198	708.4442
Total	**0.2965**	**0.1910**	**2.2866**	**6.8600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**702.0203**	**702.0203**	**0.0212**	**0.0198**	**708.4442**

Border 52 MW BESS Project - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation & Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6128	0.0000	7.6128	3.4820	0.0000	3.4820			0.0000			0.0000
Off-Road	3.0827	29.5137	21.5256	0.0565		1.2158	1.2158		1.1344	1.1344		5,439.7179	5,439.7179	1.5539		5,478.5657
Total	**3.0827**	**29.5137**	**21.5256**	**0.0565**	**7.6128**	**1.2158**	**8.8286**	**3.4820**	**1.1344**	**4.6164**		**5,439.7179**	**5,439.7179**	**1.5539**		**5,478.5657**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2965	0.1910	2.2866	6.8600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		702.0203	702.0203	0.0212	0.0198	708.4442
Total	**0.2965**	**0.1910**	**2.2866**	**6.8600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**702.0203**	**702.0203**	**0.0212**	**0.0198**	**708.4442**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation & Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4258	0.0000	3.4258	1.5669	0.0000	1.5669			0.0000			0.0000
Off-Road	1.0992	17.3921	30.3811	0.0565		0.1793	0.1793		0.1723	0.1723	0.0000	5,439.7179	5,439.7179	1.5539		5,478.5656
Total	**1.0992**	**17.3921**	**30.3811**	**0.0565**	**3.4258**	**0.1793**	**3.6050**	**1.5669**	**0.1723**	**1.7392**	**0.0000**	**5,439.7179**	**5,439.7179**	**1.5539**		**5,478.5656**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2965	0.1910	2.2866	6.8600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		702.0203	702.0203	0.0212	0.0198	708.4442
Total	**0.2965**	**0.1910**	**2.2866**	**6.8600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**702.0203**	**702.0203**	**0.0212**	**0.0198**	**708.4442**

Border 52 MW BESS Project - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 15 Haul Trucks Per day - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0639	4.0827	1.0915	0.0180	0.5247	0.0334	0.5581	0.1438	0.0319	0.1758		1,985.7598	1,985.7598	0.0997	0.3158	2,082.3616
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0639**	**4.0827**	**1.0915**	**0.0180**	**0.5247**	**0.0334**	**0.5581**	**0.1438**	**0.0319**	**0.1758**		**1,985.7598**	**1,985.7598**	**0.0997**	**0.3158**	**2,082.3616**

Border 52 MW BESS Project - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 15 Haul Trucks Per day - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0639	4.0827	1.0915	0.0180	0.5247	0.0334	0.5581	0.1438	0.0319	0.1758		1,985.7598	1,985.7598	0.0997	0.3158	2,082.3616
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0639**	**4.0827**	**1.0915**	**0.0180**	**0.5247**	**0.0334**	**0.5581**	**0.1438**	**0.0319**	**0.1758**		**1,985.7598**	**1,985.7598**	**0.0997**	**0.3158**	**2,082.3616**

Border 52 MW BESS Project - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Install Foundations & Equipment - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9450	34.9447	33.4224	0.0733		1.5232	1.5232		1.4325	1.4325		6,978.5404	6,978.5404	1.8528		7,024.8608
Total	**3.9450**	**34.9447**	**33.4224**	**0.0733**		**1.5232**	**1.5232**		**1.4325**	**1.4325**		**6,978.5404**	**6,978.5404**	**1.8528**		**7,024.8608**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2965	0.1910	2.2866	6.8600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		702.0203	702.0203	0.0212	0.0198	708.4442
Total	**0.2965**	**0.1910**	**2.2866**	**6.8600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**702.0203**	**702.0203**	**0.0212**	**0.0198**	**708.4442**

Border 52 MW BESS Project - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Install Foundations & Equipment - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5778	27.0204	40.3990	0.0733		0.4798	0.4798		0.4659	0.4659	0.0000	6,978.5404	6,978.5404	1.8528		7,024.8608
Total	**1.5778**	**27.0204**	**40.3990**	**0.0733**		**0.4798**	**0.4798**		**0.4659**	**0.4659**	**0.0000**	**6,978.5404**	**6,978.5404**	**1.8528**		**7,024.8608**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2965	0.1910	2.2866	6.8600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		702.0203	702.0203	0.0212	0.0198	708.4442
Total	**0.2965**	**0.1910**	**2.2866**	**6.8600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**702.0203**	**702.0203**	**0.0212**	**0.0198**	**708.4442**

Border 52 MW BESS Project - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 5 Haul Trucks Per day - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0213	1.3609	0.3638	5.9900e-003	0.1749	0.0111	0.1860	0.0479	0.0106	0.0586		661.9199	661.9199	0.0333	0.1053	694.1205
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0213**	**1.3609**	**0.3638**	**5.9900e-003**	**0.1749**	**0.0111**	**0.1860**	**0.0479**	**0.0106**	**0.0586**		**661.9199**	**661.9199**	**0.0333**	**0.1053**	**694.1205**

Border 52 MW BESS Project - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 5 Haul Trucks Per day - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0213	1.3609	0.3638	5.9900e-003	0.1749	0.0111	0.1860	0.0479	0.0106	0.0586		661.9199	661.9199	0.0333	0.1053	694.1205
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0213**	**1.3609**	**0.3638**	**5.9900e-003**	**0.1749**	**0.0111**	**0.1860**	**0.0479**	**0.0106**	**0.0586**		**661.9199**	**661.9199**	**0.0333**	**0.1053**	**694.1205**

Border 52 MW BESS Project - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Set Modules, Inverters, Switchgear - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1354	27.4626	24.5383	0.0626		1.1477	1.1477		1.0788	1.0788		5,965.0728	5,965.0728	1.6315		6,005.8611
Total	**3.1354**	**27.4626**	**24.5383**	**0.0626**		**1.1477**	**1.1477**		**1.0788**	**1.0788**		**5,965.0728**	**5,965.0728**	**1.6315**		**6,005.8611**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2965	0.1910	2.2866	6.8600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		702.0203	702.0203	0.0212	0.0198	708.4442
Total	**0.2965**	**0.1910**	**2.2866**	**6.8600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**702.0203**	**702.0203**	**0.0212**	**0.0198**	**708.4442**

Border 52 MW BESS Project - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Set Modules, Inverters, Switchgear - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4712	22.9535	30.9657	0.0626		0.5412	0.5412		0.5203	0.5203	0.0000	5,965.0728	5,965.0728	1.6315		6,005.8610
Total	**1.4712**	**22.9535**	**30.9657**	**0.0626**		**0.5412**	**0.5412**		**0.5203**	**0.5203**	**0.0000**	**5,965.0728**	**5,965.0728**	**1.6315**		**6,005.8610**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2965	0.1910	2.2866	6.8600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		702.0203	702.0203	0.0212	0.0198	708.4442
Total	**0.2965**	**0.1910**	**2.2866**	**6.8600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**702.0203**	**702.0203**	**0.0212**	**0.0198**	**708.4442**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Elec Wire Install/Finish Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0827	0.0000	7.0827	3.4248	0.0000	3.4248			0.0000			0.0000
Off-Road	4.2103	39.1020	33.4097	0.0810		1.6187	1.6187		1.5120	1.5120		7,747.8475	7,747.8475	2.2081		7,803.0503
Total	**4.2103**	**39.1020**	**33.4097**	**0.0810**	**7.0827**	**1.6187**	**8.7014**	**3.4248**	**1.5120**	**4.9368**		**7,747.8475**	**7,747.8475**	**2.2081**		**7,803.0503**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2965	0.1910	2.2866	6.8600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		702.0203	702.0203	0.0212	0.0198	708.4442
Total	**0.2965**	**0.1910**	**2.2866**	**6.8600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**702.0203**	**702.0203**	**0.0212**	**0.0198**	**708.4442**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Elec Wire Install/Finish Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1872	0.0000	3.1872	1.5411	0.0000	1.5411			0.0000			0.0000
Off-Road	1.7746	29.1342	42.7465	0.0810		0.5307	0.5307		0.5098	0.5098	0.0000	7,747.8475	7,747.8475	2.2081		7,803.0503
Total	**1.7746**	**29.1342**	**42.7465**	**0.0810**	**3.1872**	**0.5307**	**3.7179**	**1.5411**	**0.5098**	**2.0510**	**0.0000**	**7,747.8475**	**7,747.8475**	**2.2081**		**7,803.0503**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2965	0.1910	2.2866	6.8600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		702.0203	702.0203	0.0212	0.0198	708.4442
Total	**0.2965**	**0.1910**	**2.2866**	**6.8600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**702.0203**	**702.0203**	**0.0212**	**0.0198**	**708.4442**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Commissioning/Testing - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5085	11.2380	10.3810	0.0313		0.4228	0.4228		0.3986	0.3986		2,932.1509	2,932.1509	0.8518		2,953.4462
Total	**1.5085**	**11.2380**	**10.3810**	**0.0313**		**0.4228**	**0.4228**		**0.3986**	**0.3986**		**2,932.1509**	**2,932.1509**	**0.8518**		**2,953.4462**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2965	0.1910	2.2866	6.8600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		702.0203	702.0203	0.0212	0.0198	708.4442
Total	**0.2965**	**0.1910**	**2.2866**	**6.8600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**702.0203**	**702.0203**	**0.0212**	**0.0198**	**708.4442**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Commissioning/Testing - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7588	11.3755	13.5248	0.0313		0.2888	0.2888		0.2749	0.2749	0.0000	2,932.1509	2,932.1509	0.8518		2,953.4462
Total	**0.7588**	**11.3755**	**13.5248**	**0.0313**		**0.2888**	**0.2888**		**0.2749**	**0.2749**	**0.0000**	**2,932.1509**	**2,932.1509**	**0.8518**		**2,953.4462**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2965	0.1910	2.2866	6.8600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		702.0203	702.0203	0.0212	0.0198	708.4442
Total	**0.2965**	**0.1910**	**2.2866**	**6.8600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**702.0203**	**702.0203**	**0.0212**	**0.0198**	**708.4442**

Border 52 MW BESS Project - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Commissioning/Testing - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4508	10.5765	10.2802	0.0313		0.3871	0.3871		0.3645	0.3645		2,933.3683	2,933.3683	0.8493		2,954.6004
Total	**1.4508**	**10.5765**	**10.2802**	**0.0313**		**0.3871**	**0.3871**		**0.3645**	**0.3645**		**2,933.3683**	**2,933.3683**	**0.8493**		**2,954.6004**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2792	0.1718	2.1410	6.6300e-003	0.8215	4.2100e-003	0.8257	0.2179	3.8800e-003	0.2218		684.4408	684.4408	0.0193	0.0185	690.4310
Total	**0.2792**	**0.1718**	**2.1410**	**6.6300e-003**	**0.8215**	**4.2100e-003**	**0.8257**	**0.2179**	**3.8800e-003**	**0.2218**		**684.4408**	**684.4408**	**0.0193**	**0.0185**	**690.4310**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Commissioning/Testing - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7452	11.0337	13.4908	0.0313		0.2776	0.2776		0.2646	0.2646	0.0000	2,933.3683	2,933.3683	0.8493		2,954.6004
Total	**0.7452**	**11.0337**	**13.4908**	**0.0313**		**0.2776**	**0.2776**		**0.2646**	**0.2646**	**0.0000**	**2,933.3683**	**2,933.3683**	**0.8493**		**2,954.6004**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2792	0.1718	2.1410	6.6300e-003	0.8215	4.2100e-003	0.8257	0.2179	3.8800e-003	0.2218		684.4408	684.4408	0.0193	0.0185	690.4310
Total	**0.2792**	**0.1718**	**2.1410**	**6.6300e-003**	**0.8215**	**4.2100e-003**	**0.8257**	**0.2179**	**3.8800e-003**	**0.2218**		**684.4408**	**684.4408**	**0.0193**	**0.0185**	**690.4310**

4.0 Operational Detail - Mobile

Border 52 MW BESS Project - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	4.0000e-005	4.1000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005		0.2007	0.2007	0.0000	0.0000	0.2020
Unmitigated	1.0000e-005	4.0000e-005	4.1000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005		0.2007	0.2007	0.0000	0.0000	0.2020

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	61	61
Total	0.00	0.00	0.00	61	61

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	60.00	7.30	7.30	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Parking Lot	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Refrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Border 52 MW BESS Project - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0473	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.3000e-004	4.3000e-004	0.0000		4.6000e-004
Unmitigated	0.0473	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.3000e-004	4.3000e-004	0.0000		4.6000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0161					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0312					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.3000e-004	4.3000e-004	0.0000		4.6000e-004
Total	**0.0473**	**0.0000**	**2.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**4.3000e-004**	**4.3000e-004**	**0.0000**		**4.6000e-004**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0161					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0312					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.3000e-004	4.3000e-004	0.0000		4.6000e-004
Total	**0.0473**	**0.0000**	**2.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**4.3000e-004**	**4.3000e-004**	**0.0000**		**4.6000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Border 52 MW BESS Project - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Border 52 MW BESS Project

San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	0.13	1000sqft	1.70	130.00	0
Other Non-Asphalt Surfaces	1.34	Acre	1.34	58,370.40	0
Parking Lot	0.50	Acre	0.50	21,780.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2024
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Refrigerated warehouse = Battery Storage and Switch Yard area; Non-Asphalt surface = Laydown yard; Parking Lot = road repair.

Construction Phase - See Assumptions

Off-road Equipment - See Assumptions - on-road vehicles only

Off-road Equipment - See Assumptions - on-road vehicles only

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions - on-road vehicles only

Border 52 MW BESS Project - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Trips and VMT - See Assumptions

Demolition - See Assumptions

Grading - See Assumptions

Vehicle Trips - See Assumptions

Landscape Equipment - No Landscaping

Energy Use - No Operational Energy Consumption

Water And Wastewater - Construction water use

Solid Waste - See Assumptions - No New operational uses

Construction Off-road Equipment Mitigation - "Mitigated" CalEEMod scenario is the Unmitigated Project Scenario as Tier 4/CNG equipment is part of the project as well as fugitive dust suppression

Fleet Mix - See Assumptions

Area Coating -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	1.00
tblConstructionPhase	NumDays	230.00	53.00
tblConstructionPhase	NumDays	230.00	1.00
tblConstructionPhase	NumDays	230.00	105.00
tblConstructionPhase	NumDays	230.00	100.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	8.00	131.00
tblConstructionPhase	NumDays	5.00	52.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	3.61	0.00
tblEnergyUse	NT24E	27.88	0.00

Border 52 MW BESS Project - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblEnergyUse	NT24NG	0.02	0.00
tblEnergyUse	T24E	1.85	0.00
tblEnergyUse	T24NG	6.28	0.00
tblFleetMix	HHD	6.2660e-003	0.00
tblFleetMix	LDA	0.56	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	6.2690e-003	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.12	1.00
tblFleetMix	MH	4.9490e-003	0.00
tblFleetMix	MHD	8.7340e-003	0.00
tblFleetMix	OBUS	7.0800e-004	0.00
tblFleetMix	SBUS	9.7100e-004	0.00
tblFleetMix	UBUS	5.6600e-004	0.00
tblGrading	MaterialExported	0.00	118.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblLandUse	LotAcreage	0.00	1.70
tblOffRoadEquipment	HorsePower	84.00	53.00
tblOffRoadEquipment	HorsePower	84.00	53.00
tblOffRoadEquipment	HorsePower	84.00	53.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors

Border 52 MW BESS Project - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

Border 52 MW BESS Project - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblSolidWaste	SolidWasteGenerationRate	0.12	0.00
tblTripsAndVMT	HaulingTripNumber	162.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	30.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	15.00	0.00
tblTripsAndVMT	VendorTripNumber	13.00	0.00
tblTripsAndVMT	VendorTripNumber	13.00	0.00
tblTripsAndVMT	VendorTripNumber	13.00	0.00
tblTripsAndVMT	VendorTripNumber	13.00	0.00
tblTripsAndVMT	VendorTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	100.00
tblTripsAndVMT	WorkerTripNumber	28.00	100.00
tblTripsAndVMT	WorkerTripNumber	34.00	0.00
tblTripsAndVMT	WorkerTripNumber	34.00	100.00
tblTripsAndVMT	WorkerTripNumber	34.00	0.00
tblTripsAndVMT	WorkerTripNumber	34.00	100.00
tblTripsAndVMT	WorkerTripNumber	40.00	100.00
tblTripsAndVMT	WorkerTripNumber	34.00	100.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	9.50	60.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	2.12	0.00
tblVehicleTrips	SU_TR	2.12	0.00
tblVehicleTrips	WD_TR	2.12	0.03
tblWater	IndoorWaterUseRate	30,062.50	0.00
tblWater	OutdoorWaterUseRate	0.00	1,041,000.00

2.0 Emissions Summary

Border 52 MW BESS Project - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	7.8926	66.9042	62.7734	0.1582	11.2001	2.7752	13.2665	4.2766	2.5989	6.5514	0.0000	15,198.6274	15,198.6274	3.8794	0.3521	15,306.5129
2024	1.7077	10.7293	12.5289	0.0383	0.8215	0.3913	1.2128	0.2179	0.3684	0.5863	0.0000	3,657.5261	3,657.5261	0.8674	0.0171	3,684.3039
Maximum	**7.8926**	**66.9042**	**62.7734**	**0.1582**	**11.2001**	**2.7752**	**13.2665**	**4.2766**	**2.5989**	**6.5514**	**0.0000**	**15,198.6274**	**15,198.6274**	**3.8794**	**0.3521**	**15,306.5129**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.7927	52.4273	78.5250	0.1582	6.2323	1.0807	6.5831	2.2432	1.0383	3.0152	0.0000	15,198.6274	15,198.6274	3.8794	0.3521	15,306.5129
2024	1.0020	11.1865	15.7395	0.0383	0.8215	0.2818	1.1033	0.2179	0.2685	0.4864	0.0000	3,657.5261	3,657.5261	0.8674	0.0171	3,684.3039
Maximum	**3.7927**	**52.4273**	**78.5250**	**0.1582**	**6.2323**	**1.0807**	**6.5831**	**2.2432**	**1.0383**	**3.0152**	**0.0000**	**15,198.6274**	**15,198.6274**	**3.8794**	**0.3521**	**15,306.5129**

Border 52 MW BESS Project - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	50.06	18.06	-25.18	0.00	41.32	56.97	46.91	45.24	55.96	50.94	0.00	0.00	0.00	0.00	0.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Area	0.0473	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.3000e-004	4.3000e-004	0.0000		4.6000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.0000e-005	3.0000e-005	4.5000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005		0.2093	0.2093	0.0000	0.0000	0.2105
Total	**0.0473**	**3.0000e-005**	**6.5000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**		**0.2097**	**0.2097**	**0.0000**	**0.0000**	**0.2110**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Area	0.0473	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.3000e-004	4.3000e-004	0.0000		4.6000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.0000e-005	3.0000e-005	4.5000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005		0.2093	0.2093	0.0000	0.0000	0.2105
Total	**0.0473**	**3.0000e-005**	**6.5000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**		**0.2097**	**0.2097**	**0.0000**	**0.0000**	**0.2110**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	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	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Access Road Repair	Demolition	4/1/2023	4/30/2023	6	25	
2	Site Preparation & Grading	Site Preparation	4/1/2023	5/31/2023	6	52	
3	15 Haul Trucks Per day	Building Construction	4/1/2023	4/1/2023	6	1	
4	Install Foundations & Equipment	Building Construction	5/1/2023	6/30/2023	6	53	
5	5 Haul Trucks Per day	Building Construction	5/1/2023	5/1/2023	6	1	
6	Set Modules, Inverters, Switchgear	Building Construction	6/1/2023	9/30/2023	6	105	
7	Elec Wire Install/Finish Grading	Grading	7/1/2023	11/30/2023	6	131	
8	Commissioning/Testing	Building Construction	11/1/2023	2/24/2024	6	100	

Acres of Grading (Site Preparation Phase): 78

Acres of Grading (Grading Phase): 131

Acres of Paving: 1.84

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Access Road Repair	Concrete/Industrial Saws	0	8.00	81	0.73
Access Road Repair	Excavators	0	8.00	158	0.38
Access Road Repair	Graders	1	8.00	187	0.41

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Access Road Repair	Other Construction Equipment	1	4.00	341	0.42
Access Road Repair	Pavers	1	8.00	130	0.42
Access Road Repair	Rubber Tired Dozers	1	8.00	247	0.40
Access Road Repair	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation & Grading	Graders	2	8.00	187	0.41
Site Preparation & Grading	Off-Highway Trucks	1	8.00	402	0.38
Site Preparation & Grading	Other Construction Equipment	1	4.00	341	0.42
Site Preparation & Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation & Grading	Sweepers/Scrubbers	1	2.00	64	0.46
Site Preparation & Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
15 Haul Trucks Per day	Cranes	0	7.00	231	0.29
15 Haul Trucks Per day	Forklifts	0	8.00	89	0.20
15 Haul Trucks Per day	Generator Sets	0	8.00	84	0.74
15 Haul Trucks Per day	Tractors/Loaders/Backhoes	0	7.00	97	0.37
15 Haul Trucks Per day	Welders	0	8.00	46	0.45
Install Foundations & Equipment	Cranes	1	8.00	231	0.29
Install Foundations & Equipment	Forklifts	0	8.00	89	0.20
Install Foundations & Equipment	Generator Sets	1	8.00	53	0.74
Install Foundations & Equipment	Off-Highway Trucks	1	8.00	402	0.38
Install Foundations & Equipment	Other Construction Equipment	2	4.00	341	0.42
Install Foundations & Equipment	Rough Terrain Forklifts	2	8.00	100	0.40
Install Foundations & Equipment	Rubber Tired Dozers	1	8.00	247	0.40
Install Foundations & Equipment	Sweepers/Scrubbers	1	8.00	64	0.46
Install Foundations & Equipment	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Install Foundations & Equipment	Welders	2	8.00	46	0.45
5 Haul Trucks Per day	Cranes	0	7.00	231	0.29
5 Haul Trucks Per day	Forklifts	0	8.00	89	0.20
5 Haul Trucks Per day	Generator Sets	0	8.00	84	0.74
5 Haul Trucks Per day	Tractors/Loaders/Backhoes	0	7.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5 Haul Trucks Per day	Welders	0	8.00	46	0.45
Set Modules, Inverters, Switchgear	Cranes	2	8.00	231	0.29
Set Modules, Inverters, Switchgear	Forklifts	0	8.00	89	0.20
Set Modules, Inverters, Switchgear	Generator Sets	0	8.00	84	0.74
Set Modules, Inverters, Switchgear	Generator Sets	1	8.00	53	0.74
Set Modules, Inverters, Switchgear	Off-Highway Trucks	1	8.00	402	0.38
Set Modules, Inverters, Switchgear	Other Construction Equipment	3	4.00	341	0.42
Set Modules, Inverters, Switchgear	Rough Terrain Forklifts	1	8.00	100	0.40
Set Modules, Inverters, Switchgear	Sweepers/Scrubbers	1	8.00	64	0.46
Set Modules, Inverters, Switchgear	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Set Modules, Inverters, Switchgear	Welders	2	8.00	46	0.45
Elec Wire Install/Finish Grading	Cranes	1	8.00	231	0.29
Elec Wire Install/Finish Grading	Excavators	0	8.00	158	0.38
Elec Wire Install/Finish Grading	Generator Sets	1	8.00	53	0.74
Elec Wire Install/Finish Grading	Graders	1	8.00	187	0.41
Elec Wire Install/Finish Grading	Off-Highway Trucks	1	8.00	402	0.38
Elec Wire Install/Finish Grading	Other Construction Equipment	3	4.00	341	0.42
Elec Wire Install/Finish Grading	Pavers	1	8.00	130	0.42
Elec Wire Install/Finish Grading	Rough Terrain Forklifts	1	8.00	100	0.40
Elec Wire Install/Finish Grading	Rubber Tired Dozers	1	8.00	247	0.40
Elec Wire Install/Finish Grading	Sweepers/Scrubbers	1	2.00	64	0.46
Elec Wire Install/Finish Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Elec Wire Install/Finish Grading	Welders	2	8.00	46	0.45
Commissioning/Testing	Cranes	0	7.00	231	0.29
Commissioning/Testing	Forklifts	0	8.00	89	0.20
Commissioning/Testing	Generator Sets	0	8.00	84	0.74
Commissioning/Testing	Off-Highway Trucks	1	8.00	402	0.38
Commissioning/Testing	Other Construction Equipment	2	4.00	341	0.42
Commissioning/Testing	Tractors/Loaders/Backhoes	0	7.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Commissioning/Testing	Welders	2	8.00	46	0.45
Access Road Repair	Plate Compactors	1	8.00	8	0.43
Site Preparation & Grading	Air Compressors	2	8.00	78	0.48
Site Preparation & Grading	Plate Compactors	1	8.00	8	0.43
Install Foundations & Equipment	Plate Compactors	1	8.00	8	0.43
Install Foundations & Equipment	Air Compressors	2	8.00	78	0.48
Set Modules, Inverters, Switchgear	Air Compressors	1	8.00	78	0.48
Elec Wire Install/Finish Grading	Air Compressors	1	8.00	78	0.48
Commissioning/Testing	Plate Compactors	1	8.00	8	0.43

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Access Road Repair	7	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation & Grading	11	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
15 Haul Trucks Per day	0	0.00	0.00	30.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Install Foundations & Equipment	16	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
5 Haul Trucks Per day	0	0.00	0.00	10.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Set Modules, Inverters, Switchgear	12	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Elec Wire Install/Finish Grading	16	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Commissioning/Testing	6	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Access Road Repair - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.4196	0.0000	1.4196	0.2150	0.0000	0.2150			0.0000			0.0000
Off-Road	1.8307	19.2745	14.1183	0.0328		0.8085	0.8085		0.7446	0.7446		3,162.1194	3,162.1194	1.0151		3,187.4974
Total	**1.8307**	**19.2745**	**14.1183**	**0.0328**	**1.4196**	**0.8085**	**2.2281**	**0.2150**	**0.7446**	**0.9596**		**3,162.1194**	**3,162.1194**	**1.0151**		**3,187.4974**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2735	0.1698	2.4064	7.2600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		742.8535	742.8535	0.0199	0.0183	748.8008
Total	**0.2735**	**0.1698**	**2.4064**	**7.2600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**742.8535**	**742.8535**	**0.0199**	**0.0183**	**748.8008**

Border 52 MW BESS Project - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Access Road Repair - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6388	0.0000	0.6388	0.0967	0.0000	0.0967			0.0000			0.0000
Off-Road	0.6724	11.0607	18.0566	0.0328		0.1295	0.1295		0.1225	0.1225	0.0000	3,162.1194	3,162.1194	1.0151		3,187.4974
Total	**0.6724**	**11.0607**	**18.0566**	**0.0328**	**0.6388**	**0.1295**	**0.7683**	**0.0967**	**0.1225**	**0.2193**	**0.0000**	**3,162.1194**	**3,162.1194**	**1.0151**		**3,187.4974**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2735	0.1698	2.4064	7.2600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		742.8535	742.8535	0.0199	0.0183	748.8008
Total	**0.2735**	**0.1698**	**2.4064**	**7.2600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**742.8535**	**742.8535**	**0.0199**	**0.0183**	**748.8008**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation & Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6128	0.0000	7.6128	3.4820	0.0000	3.4820			0.0000			0.0000
Off-Road	3.0827	29.5137	21.5256	0.0565		1.2158	1.2158		1.1344	1.1344		5,439.7179	5,439.7179	1.5539		5,478.5657
Total	**3.0827**	**29.5137**	**21.5256**	**0.0565**	**7.6128**	**1.2158**	**8.8286**	**3.4820**	**1.1344**	**4.6164**		**5,439.7179**	**5,439.7179**	**1.5539**		**5,478.5657**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2735	0.1698	2.4064	7.2600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		742.8535	742.8535	0.0199	0.0183	748.8008
Total	**0.2735**	**0.1698**	**2.4064**	**7.2600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**742.8535**	**742.8535**	**0.0199**	**0.0183**	**748.8008**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation & Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4258	0.0000	3.4258	1.5669	0.0000	1.5669			0.0000			0.0000
Off-Road	1.0992	17.3921	30.3811	0.0565		0.1793	0.1793		0.1723	0.1723	0.0000	5,439.7179	5,439.7179	1.5539		5,478.5656
Total	**1.0992**	**17.3921**	**30.3811**	**0.0565**	**3.4258**	**0.1793**	**3.6050**	**1.5669**	**0.1723**	**1.7392**	**0.0000**	**5,439.7179**	**5,439.7179**	**1.5539**		**5,478.5656**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2735	0.1698	2.4064	7.2600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		742.8535	742.8535	0.0199	0.0183	748.8008
Total	**0.2735**	**0.1698**	**2.4064**	**7.2600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**742.8535**	**742.8535**	**0.0199**	**0.0183**	**748.8008**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 15 Haul Trucks Per day - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0679	3.9244	1.0780	0.0180	0.5247	0.0333	0.5580	0.1438	0.0319	0.1757		1,983.8320	1,983.8320	0.1000	0.3155	2,080.3446
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0679**	**3.9244**	**1.0780**	**0.0180**	**0.5247**	**0.0333**	**0.5580**	**0.1438**	**0.0319**	**0.1757**		**1,983.8320**	**1,983.8320**	**0.1000**	**0.3155**	**2,080.3446**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 15 Haul Trucks Per day - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0679	3.9244	1.0780	0.0180	0.5247	0.0333	0.5580	0.1438	0.0319	0.1757		1,983.8320	1,983.8320	0.1000	0.3155	2,080.3446
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0679**	**3.9244**	**1.0780**	**0.0180**	**0.5247**	**0.0333**	**0.5580**	**0.1438**	**0.0319**	**0.1757**		**1,983.8320**	**1,983.8320**	**0.1000**	**0.3155**	**2,080.3446**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Install Foundations & Equipment - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9450	34.9447	33.4224	0.0733		1.5232	1.5232		1.4325	1.4325		6,978.5404	6,978.5404	1.8528		7,024.8608
Total	**3.9450**	**34.9447**	**33.4224**	**0.0733**		**1.5232**	**1.5232**		**1.4325**	**1.4325**		**6,978.5404**	**6,978.5404**	**1.8528**		**7,024.8608**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2735	0.1698	2.4064	7.2600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		742.8535	742.8535	0.0199	0.0183	748.8008
Total	**0.2735**	**0.1698**	**2.4064**	**7.2600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**742.8535**	**742.8535**	**0.0199**	**0.0183**	**748.8008**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Install Foundations & Equipment - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5778	27.0204	40.3990	0.0733		0.4798	0.4798		0.4659	0.4659	0.0000	6,978.5404	6,978.5404	1.8528		7,024.8608
Total	**1.5778**	**27.0204**	**40.3990**	**0.0733**		**0.4798**	**0.4798**		**0.4659**	**0.4659**	**0.0000**	**6,978.5404**	**6,978.5404**	**1.8528**		**7,024.8608**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2735	0.1698	2.4064	7.2600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		742.8535	742.8535	0.0199	0.0183	748.8008
Total	**0.2735**	**0.1698**	**2.4064**	**7.2600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**742.8535**	**742.8535**	**0.0199**	**0.0183**	**748.8008**

Border 52 MW BESS Project - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 5 Haul Trucks Per day - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0227	1.3081	0.3594	5.9800e-003	0.1749	0.0111	0.1860	0.0479	0.0106	0.0586		661.2773	661.2773	0.0333	0.1052	693.4482
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0227**	**1.3081**	**0.3594**	**5.9800e-003**	**0.1749**	**0.0111**	**0.1860**	**0.0479**	**0.0106**	**0.0586**		**661.2773**	**661.2773**	**0.0333**	**0.1052**	**693.4482**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 5 Haul Trucks Per day - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0227	1.3081	0.3594	5.9800e-003	0.1749	0.0111	0.1860	0.0479	0.0106	0.0586		661.2773	661.2773	0.0333	0.1052	693.4482
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0227**	**1.3081**	**0.3594**	**5.9800e-003**	**0.1749**	**0.0111**	**0.1860**	**0.0479**	**0.0106**	**0.0586**		**661.2773**	**661.2773**	**0.0333**	**0.1052**	**693.4482**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Set Modules, Inverters, Switchgear - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1354	27.4626	24.5383	0.0626		1.1477	1.1477		1.0788	1.0788		5,965.0728	5,965.0728	1.6315		6,005.8611
Total	**3.1354**	**27.4626**	**24.5383**	**0.0626**		**1.1477**	**1.1477**		**1.0788**	**1.0788**		**5,965.0728**	**5,965.0728**	**1.6315**		**6,005.8611**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2735	0.1698	2.4064	7.2600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		742.8535	742.8535	0.0199	0.0183	748.8008
Total	**0.2735**	**0.1698**	**2.4064**	**7.2600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**742.8535**	**742.8535**	**0.0199**	**0.0183**	**748.8008**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Set Modules, Inverters, Switchgear - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4712	22.9535	30.9657	0.0626		0.5412	0.5412		0.5203	0.5203	0.0000	5,965.0728	5,965.0728	1.6315		6,005.8610
Total	**1.4712**	**22.9535**	**30.9657**	**0.0626**		**0.5412**	**0.5412**		**0.5203**	**0.5203**	**0.0000**	**5,965.0728**	**5,965.0728**	**1.6315**		**6,005.8610**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2735	0.1698	2.4064	7.2600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		742.8535	742.8535	0.0199	0.0183	748.8008
Total	**0.2735**	**0.1698**	**2.4064**	**7.2600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**742.8535**	**742.8535**	**0.0199**	**0.0183**	**748.8008**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Elec Wire Install/Finish Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0827	0.0000	7.0827	3.4248	0.0000	3.4248			0.0000			0.0000
Off-Road	4.2103	39.1020	33.4097	0.0810		1.6187	1.6187		1.5120	1.5120		7,747.8475	7,747.8475	2.2081		7,803.0503
Total	**4.2103**	**39.1020**	**33.4097**	**0.0810**	**7.0827**	**1.6187**	**8.7014**	**3.4248**	**1.5120**	**4.9368**		**7,747.8475**	**7,747.8475**	**2.2081**		**7,803.0503**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2735	0.1698	2.4064	7.2600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		742.8535	742.8535	0.0199	0.0183	748.8008
Total	**0.2735**	**0.1698**	**2.4064**	**7.2600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**742.8535**	**742.8535**	**0.0199**	**0.0183**	**748.8008**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Elec Wire Install/Finish Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1872	0.0000	3.1872	1.5411	0.0000	1.5411			0.0000			0.0000
Off-Road	1.7746	29.1342	42.7465	0.0810		0.5307	0.5307		0.5098	0.5098	0.0000	7,747.8475	7,747.8475	2.2081		7,803.0503
Total	**1.7746**	**29.1342**	**42.7465**	**0.0810**	**3.1872**	**0.5307**	**3.7179**	**1.5411**	**0.5098**	**2.0510**	**0.0000**	**7,747.8475**	**7,747.8475**	**2.2081**		**7,803.0503**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2735	0.1698	2.4064	7.2600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		742.8535	742.8535	0.0199	0.0183	748.8008
Total	**0.2735**	**0.1698**	**2.4064**	**7.2600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**742.8535**	**742.8535**	**0.0199**	**0.0183**	**748.8008**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Commissioning/Testing - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5085	11.2380	10.3810	0.0313		0.4228	0.4228		0.3986	0.3986		2,932.1509	2,932.1509	0.8518		2,953.4462
Total	**1.5085**	**11.2380**	**10.3810**	**0.0313**		**0.4228**	**0.4228**		**0.3986**	**0.3986**		**2,932.1509**	**2,932.1509**	**0.8518**		**2,953.4462**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2735	0.1698	2.4064	7.2600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		742.8535	742.8535	0.0199	0.0183	748.8008
Total	**0.2735**	**0.1698**	**2.4064**	**7.2600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**742.8535**	**742.8535**	**0.0199**	**0.0183**	**748.8008**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Commissioning/Testing - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7588	11.3755	13.5248	0.0313		0.2888	0.2888		0.2749	0.2749	0.0000	2,932.1509	2,932.1509	0.8518		2,953.4462
Total	**0.7588**	**11.3755**	**13.5248**	**0.0313**		**0.2888**	**0.2888**		**0.2749**	**0.2749**	**0.0000**	**2,932.1509**	**2,932.1509**	**0.8518**		**2,953.4462**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2735	0.1698	2.4064	7.2600e-003	0.8215	4.4200e-003	0.8259	0.2179	4.0700e-003	0.2220		742.8535	742.8535	0.0199	0.0183	748.8008
Total	**0.2735**	**0.1698**	**2.4064**	**7.2600e-003**	**0.8215**	**4.4200e-003**	**0.8259**	**0.2179**	**4.0700e-003**	**0.2220**		**742.8535**	**742.8535**	**0.0199**	**0.0183**	**748.8008**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Commissioning/Testing - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4508	10.5765	10.2802	0.0313		0.3871	0.3871		0.3645	0.3645		2,933.3683	2,933.3683	0.8493		2,954.6004
Total	**1.4508**	**10.5765**	**10.2802**	**0.0313**		**0.3871**	**0.3871**		**0.3645**	**0.3645**		**2,933.3683**	**2,933.3683**	**0.8493**		**2,954.6004**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2569	0.1528	2.2487	7.0200e-003	0.8215	4.2100e-003	0.8257	0.2179	3.8800e-003	0.2218		724.1578	724.1578	0.0181	0.0171	729.7035
Total	**0.2569**	**0.1528**	**2.2487**	**7.0200e-003**	**0.8215**	**4.2100e-003**	**0.8257**	**0.2179**	**3.8800e-003**	**0.2218**		**724.1578**	**724.1578**	**0.0181**	**0.0171**	**729.7035**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Commissioning/Testing - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7452	11.0337	13.4908	0.0313		0.2776	0.2776		0.2646	0.2646	0.0000	2,933.3683	2,933.3683	0.8493		2,954.6004
Total	**0.7452**	**11.0337**	**13.4908**	**0.0313**		**0.2776**	**0.2776**		**0.2646**	**0.2646**	**0.0000**	**2,933.3683**	**2,933.3683**	**0.8493**		**2,954.6004**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2569	0.1528	2.2487	7.0200e-003	0.8215	4.2100e-003	0.8257	0.2179	3.8800e-003	0.2218		724.1578	724.1578	0.0181	0.0171	729.7035
Total	**0.2569**	**0.1528**	**2.2487**	**7.0200e-003**	**0.8215**	**4.2100e-003**	**0.8257**	**0.2179**	**3.8800e-003**	**0.2218**		**724.1578**	**724.1578**	**0.0181**	**0.0171**	**729.7035**

4.0 Operational Detail - Mobile

Border 52 MW BESS Project - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Mitigated	1.0000e-005	3.0000e-005	4.5000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005		0.2093	0.2093	0.0000	0.0000	0.2105
Unmitigated	1.0000e-005	3.0000e-005	4.5000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005		0.2093	0.2093	0.0000	0.0000	0.2105

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	61	61
Total	0.00	0.00	0.00	61	61

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	60.00	7.30	7.30	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Parking Lot	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Refrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0473	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.3000e-004	4.3000e-004	0.0000		4.6000e-004
Unmitigated	0.0473	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.3000e-004	4.3000e-004	0.0000		4.6000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0161					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0312					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.3000e-004	4.3000e-004	0.0000		4.6000e-004
Total	**0.0473**	**0.0000**	**2.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**4.3000e-004**	**4.3000e-004**	**0.0000**		**4.6000e-004**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0161					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0312					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.3000e-004	4.3000e-004	0.0000		4.6000e-004
Total	**0.0473**	**0.0000**	**2.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**4.3000e-004**	**4.3000e-004**	**0.0000**		**4.6000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Border 52 MW BESS Project

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	0.13	1000sqft	1.70	130.00	0
Other Non-Asphalt Surfaces	1.34	Acre	1.34	58,370.40	0
Parking Lot	0.50	Acre	0.50	21,780.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2024
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Refrigerated warehouse = Battery Storage and Switch Yard area; Non-Asphalt surface = Laydown yard; Parking Lot = road repair.

Construction Phase - See Assumptions

Off-road Equipment - See Assumptions - on-road vehicles only

Off-road Equipment - See Assumptions - on-road vehicles only

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions - on-road vehicles only

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Trips and VMT - See Assumptions

Demolition - See Assumptions

Grading - See Assumptions

Vehicle Trips - See Assumptions

Landscape Equipment - No Landscaping

Energy Use - No Operational Energy Consumption

Water And Wastewater - Construction water use

Solid Waste - See Assumptions - No New operational uses

Construction Off-road Equipment Mitigation - "Mitigated" CalEEMod scenario is the Unmitigated Project Scenario as Tier 4/CNG equipment is part of the project as well as fugitive dust suppression

Fleet Mix - See Assumptions

Area Coating -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	1.00
tblConstructionPhase	NumDays	230.00	53.00
tblConstructionPhase	NumDays	230.00	1.00
tblConstructionPhase	NumDays	230.00	105.00
tblConstructionPhase	NumDays	230.00	100.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	8.00	131.00
tblConstructionPhase	NumDays	5.00	52.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	3.61	0.00
tblEnergyUse	NT24E	27.88	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblEnergyUse	NT24NG	0.02	0.00
tblEnergyUse	T24E	1.85	0.00
tblEnergyUse	T24NG	6.28	0.00
tblFleetMix	HHD	6.2660e-003	0.00
tblFleetMix	LDA	0.56	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	6.2690e-003	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.12	1.00
tblFleetMix	MH	4.9490e-003	0.00
tblFleetMix	MHD	8.7340e-003	0.00
tblFleetMix	OBUS	7.0800e-004	0.00
tblFleetMix	SBUS	9.7100e-004	0.00
tblFleetMix	UBUS	5.6600e-004	0.00
tblGrading	MaterialExported	0.00	118.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblLandUse	LotAcreage	0.00	1.70
tblOffRoadEquipment	HorsePower	84.00	53.00
tblOffRoadEquipment	HorsePower	84.00	53.00
tblOffRoadEquipment	HorsePower	84.00	53.00
tblOffRoadEquipment	HorsePower	172.00	341.00
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tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblSolidWaste	SolidWasteGenerationRate	0.12	0.00
tblTripsAndVMT	HaulingTripNumber	162.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	30.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	15.00	0.00
tblTripsAndVMT	VendorTripNumber	13.00	0.00
tblTripsAndVMT	VendorTripNumber	13.00	0.00
tblTripsAndVMT	VendorTripNumber	13.00	0.00
tblTripsAndVMT	VendorTripNumber	13.00	0.00
tblTripsAndVMT	VendorTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	100.00
tblTripsAndVMT	WorkerTripNumber	28.00	100.00
tblTripsAndVMT	WorkerTripNumber	34.00	0.00
tblTripsAndVMT	WorkerTripNumber	34.00	100.00
tblTripsAndVMT	WorkerTripNumber	34.00	0.00
tblTripsAndVMT	WorkerTripNumber	34.00	100.00
tblTripsAndVMT	WorkerTripNumber	40.00	100.00
tblTripsAndVMT	WorkerTripNumber	34.00	100.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	9.50	60.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	2.12	0.00
tblVehicleTrips	SU_TR	2.12	0.00
tblVehicleTrips	WD_TR	2.12	0.03
tblWater	IndoorWaterUseRate	30,062.50	0.00
tblWater	OutdoorWaterUseRate	0.00	1,041,000.00

2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.7438	6.2713	5.8466	0.0147	0.8475	0.2603	1.1078	0.3622	0.2437	0.6058	0.0000	1,281.0556	1,281.0556	0.3257	3.8900e-003	1,290.3577
2024	0.0409	0.2579	0.2981	9.1000e-004	0.0193	9.3900e-003	0.0286	5.1100e-003	8.8400e-003	0.0140	0.0000	78.9002	78.9002	0.0189	4.0000e-004	79.4911
Maximum	**0.7438**	**6.2713**	**5.8466**	**0.0147**	**0.8475**	**0.2603**	**1.1078**	**0.3622**	**0.2437**	**0.6058**	**0.0000**	**1,281.0556**	**1,281.0556**	**0.3257**	**3.8900e-003**	**1,290.3577**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.3486	4.7575	7.3417	0.0147	0.4738	0.0906	0.5644	0.1875	0.0871	0.2746	0.0000	1,281.0542	1,281.0542	0.3257	3.8900e-003	1,290.3563
2024	0.0240	0.2689	0.3751	9.1000e-004	0.0193	6.7600e-003	0.0260	5.1100e-003	6.4400e-003	0.0116	0.0000	78.9002	78.9002	0.0189	4.0000e-004	79.4910
Maximum	**0.3486**	**4.7575**	**7.3417**	**0.0147**	**0.4738**	**0.0906**	**0.5644**	**0.1875**	**0.0871**	**0.2746**	**0.0000**	**1,281.0542**	**1,281.0542**	**0.3257**	**3.8900e-003**	**1,290.3563**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**52.52**	**23.02**	**-25.59**	**0.00**	**43.12**	**63.89**	**48.05**	**47.55**	**62.96**	**53.83**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**4-1-2023**	**6-30-2023**	2.5722	1.7345
2	**7-1-2023**	**9-30-2023**	2.9491	2.2167
3	**10-1-2023**	**12-31-2023**	1.4910	1.1508
4	**1-1-2024**	**3-31-2024**	0.2941	0.2883
		Highest	2.9491	2.2167

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	8.6300e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	5.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0238	0.0238	0.0000	0.0000	0.0240
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	2.8328	2.8328	1.7000e-004	2.0000e-005	2.8433
Total	**8.6300e-003**	**0.0000**	**5.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**2.8565**	**2.8565**	**1.7000e-004**	**2.0000e-005**	**2.8673**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	8.6300e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	5.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0238	0.0238	0.0000	0.0000	0.0240
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	2.8328	2.8328	1.7000e-004	2.0000e-005	2.8433
Total	**8.6300e-003**	**0.0000**	**5.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**2.8565**	**2.8565**	**1.7000e-004**	**2.0000e-005**	**2.8673**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**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**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Access Road Repair	Demolition	4/1/2023	4/30/2023	6	25	
2	Site Preparation & Grading	Site Preparation	4/1/2023	5/31/2023	6	52	
3	15 Haul Trucks Per day	Building Construction	4/1/2023	4/1/2023	6	1	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Install Foundations & Equipment	Building Construction	5/1/2023	6/30/2023	6	53	
5	5 Haul Trucks Per day	Building Construction	5/1/2023	5/1/2023	6	1	
6	Set Modules, Inverters, Switchgear	Building Construction	6/1/2023	9/30/2023	6	105	
7	Elec Wire Install/Finish Grading	Grading	7/1/2023	11/30/2023	6	131	
8	Commissioning/Testing	Building Construction	11/1/2023	2/24/2024	6	100	

Acres of Grading (Site Preparation Phase): 78

Acres of Grading (Grading Phase): 131

Acres of Paving: 1.84

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Access Road Repair	Concrete/Industrial Saws	0	8.00	81	0.73
Access Road Repair	Excavators	0	8.00	158	0.38
Access Road Repair	Graders	1	8.00	187	0.41
Access Road Repair	Other Construction Equipment	1	4.00	341	0.42
Access Road Repair	Pavers	1	8.00	130	0.42
Access Road Repair	Rubber Tired Dozers	1	8.00	247	0.40
Access Road Repair	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation & Grading	Graders	2	8.00	187	0.41
Site Preparation & Grading	Off-Highway Trucks	1	8.00	402	0.38
Site Preparation & Grading	Other Construction Equipment	1	4.00	341	0.42
Site Preparation & Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation & Grading	Sweepers/Scrubbers	1	2.00	64	0.46
Site Preparation & Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
15 Haul Trucks Per day	Cranes	0	7.00	231	0.29
15 Haul Trucks Per day	Forklifts	0	8.00	89	0.20

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

15 Haul Trucks Per day	Generator Sets	0	8.00	84	0.74
15 Haul Trucks Per day	Tractors/Loaders/Backhoes	0	7.00	97	0.37
15 Haul Trucks Per day	Welders	0	8.00	46	0.45
Install Foundations & Equipment	Cranes	1	8.00	231	0.29
Install Foundations & Equipment	Forklifts	0	8.00	89	0.20
Install Foundations & Equipment	Generator Sets	1	8.00	53	0.74
Install Foundations & Equipment	Off-Highway Trucks	1	8.00	402	0.38
Install Foundations & Equipment	Other Construction Equipment	2	4.00	341	0.42
Install Foundations & Equipment	Rough Terrain Forklifts	2	8.00	100	0.40
Install Foundations & Equipment	Rubber Tired Dozers	1	8.00	247	0.40
Install Foundations & Equipment	Sweepers/Scrubbers	1	8.00	64	0.46
Install Foundations & Equipment	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Install Foundations & Equipment	Welders	2	8.00	46	0.45
5 Haul Trucks Per day	Cranes	0	7.00	231	0.29
5 Haul Trucks Per day	Forklifts	0	8.00	89	0.20
5 Haul Trucks Per day	Generator Sets	0	8.00	84	0.74
5 Haul Trucks Per day	Tractors/Loaders/Backhoes	0	7.00	97	0.37
5 Haul Trucks Per day	Welders	0	8.00	46	0.45
Set Modules, Inverters, Switchgear	Cranes	2	8.00	231	0.29
Set Modules, Inverters, Switchgear	Forklifts	0	8.00	89	0.20
Set Modules, Inverters, Switchgear	Generator Sets	0	8.00	84	0.74
Set Modules, Inverters, Switchgear	Generator Sets	1	8.00	53	0.74
Set Modules, Inverters, Switchgear	Off-Highway Trucks	1	8.00	402	0.38
Set Modules, Inverters, Switchgear	Other Construction Equipment	3	4.00	341	0.42
Set Modules, Inverters, Switchgear	Rough Terrain Forklifts	1	8.00	100	0.40
Set Modules, Inverters, Switchgear	Sweepers/Scrubbers	1	8.00	64	0.46
Set Modules, Inverters, Switchgear	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Set Modules, Inverters, Switchgear	Welders	2	8.00	46	0.45
Elec Wire Install/Finish Grading	Cranes	1	8.00	231	0.29

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Elec Wire Install/Finish Grading	Excavators	0	8.00	158	0.38
Elec Wire Install/Finish Grading	Generator Sets	1	8.00	53	0.74
Elec Wire Install/Finish Grading	Graders	1	8.00	187	0.41
Elec Wire Install/Finish Grading	Off-Highway Trucks	1	8.00	402	0.38
Elec Wire Install/Finish Grading	Other Construction Equipment	3	4.00	341	0.42
Elec Wire Install/Finish Grading	Pavers	1	8.00	130	0.42
Elec Wire Install/Finish Grading	Rough Terrain Forklifts	1	8.00	100	0.40
Elec Wire Install/Finish Grading	Rubber Tired Dozers	1	8.00	247	0.40
Elec Wire Install/Finish Grading	Sweepers/Scrubbers	1	2.00	64	0.46
Elec Wire Install/Finish Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Elec Wire Install/Finish Grading	Welders	2	8.00	46	0.45
Commissioning/Testing	Cranes	0	7.00	231	0.29
Commissioning/Testing	Forklifts	0	8.00	89	0.20
Commissioning/Testing	Generator Sets	0	8.00	84	0.74
Commissioning/Testing	Off-Highway Trucks	1	8.00	402	0.38
Commissioning/Testing	Other Construction Equipment	2	4.00	341	0.42
Commissioning/Testing	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Commissioning/Testing	Welders	2	8.00	46	0.45
Access Road Repair	Plate Compactors	1	8.00	8	0.43
Site Preparation & Grading	Air Compressors	2	8.00	78	0.48
Site Preparation & Grading	Plate Compactors	1	8.00	8	0.43
Install Foundations & Equipment	Plate Compactors	1	8.00	8	0.43
Install Foundations & Equipment	Air Compressors	2	8.00	78	0.48
Set Modules, Inverters, Switchgear	Air Compressors	1	8.00	78	0.48
Elec Wire Install/Finish Grading	Air Compressors	1	8.00	78	0.48
Commissioning/Testing	Plate Compactors	1	8.00	8	0.43

Trips and VMT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Access Road Repair	7	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation & Grading	11	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
15 Haul Trucks Per day	0	0.00	0.00	30.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Install Foundations & Equipment	16	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
5 Haul Trucks Per day	0	0.00	0.00	10.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Set Modules, Inverters, Switchgear	12	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Elec Wire Install/Finish Grading	16	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Commissioning/Testing	6	100.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Access Road Repair - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0177	0.0000	0.0177	2.6900e-003	0.0000	2.6900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2409	0.1765	4.1000e-004		0.0101	0.0101		9.3100e-003	9.3100e-003	0.0000	35.8578	35.8578	0.0115	0.0000	36.1456
Total	**0.0229**	**0.2409**	**0.1765**	**4.1000e-004**	**0.0177**	**0.0101**	**0.0279**	**2.6900e-003**	**9.3100e-003**	**0.0120**	**0.0000**	**35.8578**	**35.8578**	**0.0115**	**0.0000**	**36.1456**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Access Road Repair - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3800e-003	2.3400e-003	0.0286	9.0000e-005	0.0100	6.0000e-005	0.0101	2.6600e-003	5.0000e-005	2.7100e-003	0.0000	8.0313	8.0313	2.4000e-004	2.2000e-004	8.1031
Total	**3.3800e-003**	**2.3400e-003**	**0.0286**	**9.0000e-005**	**0.0100**	**6.0000e-005**	**0.0101**	**2.6600e-003**	**5.0000e-005**	**2.7100e-003**	**0.0000**	**8.0313**	**8.0313**	**2.4000e-004**	**2.2000e-004**	**8.1031**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.9900e-003	0.0000	7.9900e-003	1.2100e-003	0.0000	1.2100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.4100e-003	0.1383	0.2257	4.1000e-004		1.6200e-003	1.6200e-003		1.5300e-003	1.5300e-003	0.0000	35.8578	35.8578	0.0115	0.0000	36.1456
Total	**8.4100e-003**	**0.1383**	**0.2257**	**4.1000e-004**	**7.9900e-003**	**1.6200e-003**	**9.6100e-003**	**1.2100e-003**	**1.5300e-003**	**2.7400e-003**	**0.0000**	**35.8578**	**35.8578**	**0.0115**	**0.0000**	**36.1456**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Access Road Repair - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3800e-003	2.3400e-003	0.0286	9.0000e-005	0.0100	6.0000e-005	0.0101	2.6600e-003	5.0000e-005	2.7100e-003	0.0000	8.0313	8.0313	2.4000e-004	2.2000e-004	8.1031
Total	**3.3800e-003**	**2.3400e-003**	**0.0286**	**9.0000e-005**	**0.0100**	**6.0000e-005**	**0.0101**	**2.6600e-003**	**5.0000e-005**	**2.7100e-003**	**0.0000**	**8.0313**	**8.0313**	**2.4000e-004**	**2.2000e-004**	**8.1031**

3.3 Site Preparation & Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1979	0.0000	0.1979	0.0905	0.0000	0.0905	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0802	0.7674	0.5597	1.4700e-003		0.0316	0.0316		0.0295	0.0295	0.0000	128.3056	128.3056	0.0367	0.0000	129.2219
Total	**0.0802**	**0.7674**	**0.5597**	**1.4700e-003**	**0.1979**	**0.0316**	**0.2295**	**0.0905**	**0.0295**	**0.1200**	**0.0000**	**128.3056**	**128.3056**	**0.0367**	**0.0000**	**129.2219**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation & Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0300e-003	4.8700e-003	0.0594	1.8000e-004	0.0209	1.1000e-004	0.0210	5.5400e-003	1.1000e-004	5.6500e-003	0.0000	16.7051	16.7051	4.9000e-004	4.6000e-004	16.8545
Total	**7.0300e-003**	**4.8700e-003**	**0.0594**	**1.8000e-004**	**0.0209**	**1.1000e-004**	**0.0210**	**5.5400e-003**	**1.1000e-004**	**5.6500e-003**	**0.0000**	**16.7051**	**16.7051**	**4.9000e-004**	**4.6000e-004**	**16.8545**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0891	0.0000	0.0891	0.0407	0.0000	0.0407	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0286	0.4522	0.7899	1.4700e-003		4.6600e-003	4.6600e-003		4.4800e-003	4.4800e-003	0.0000	128.3054	128.3054	0.0367	0.0000	129.2217
Total	**0.0286**	**0.4522**	**0.7899**	**1.4700e-003**	**0.0891**	**4.6600e-003**	**0.0937**	**0.0407**	**4.4800e-003**	**0.0452**	**0.0000**	**128.3054**	**128.3054**	**0.0367**	**0.0000**	**129.2217**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation & Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0300e-003	4.8700e-003	0.0594	1.8000e-004	0.0209	1.1000e-004	0.0210	5.5400e-003	1.1000e-004	5.6500e-003	0.0000	16.7051	16.7051	4.9000e-004	4.6000e-004	16.8545
Total	**7.0300e-003**	**4.8700e-003**	**0.0594**	**1.8000e-004**	**0.0209**	**1.1000e-004**	**0.0210**	**5.5400e-003**	**1.1000e-004**	**5.6500e-003**	**0.0000**	**16.7051**	**16.7051**	**4.9000e-004**	**4.6000e-004**	**16.8545**

3.4 15 Haul Trucks Per day - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 15 Haul Trucks Per day - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	2.0400e-003	5.4000e-004	1.0000e-005	2.6000e-004	2.0000e-005	2.7000e-004	7.0000e-005	2.0000e-005	9.0000e-005	0.0000	0.9002	0.9002	5.0000e-005	1.4000e-004	0.9440
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.0000e-005**	**2.0400e-003**	**5.4000e-004**	**1.0000e-005**	**2.6000e-004**	**2.0000e-005**	**2.7000e-004**	**7.0000e-005**	**2.0000e-005**	**9.0000e-005**	**0.0000**	**0.9002**	**0.9002**	**5.0000e-005**	**1.4000e-004**	**0.9440**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 15 Haul Trucks Per day - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	2.0400e-003	5.4000e-004	1.0000e-005	2.6000e-004	2.0000e-005	2.7000e-004	7.0000e-005	2.0000e-005	9.0000e-005	0.0000	0.9002	0.9002	5.0000e-005	1.4000e-004	0.9440
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.0000e-005**	**2.0400e-003**	**5.4000e-004**	**1.0000e-005**	**2.6000e-004**	**2.0000e-005**	**2.7000e-004**	**7.0000e-005**	**2.0000e-005**	**9.0000e-005**	**0.0000**	**0.9002**	**0.9002**	**5.0000e-005**	**1.4000e-004**	**0.9440**

3.5 Install Foundations & Equipment - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1045	0.9260	0.8857	1.9400e-003		0.0404	0.0404		0.0380	0.0380	0.0000	167.7669	167.7669	0.0445	0.0000	168.8804
Total	**0.1045**	**0.9260**	**0.8857**	**1.9400e-003**		**0.0404**	**0.0404**		**0.0380**	**0.0380**	**0.0000**	**167.7669**	**167.7669**	**0.0445**	**0.0000**	**168.8804**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Install Foundations & Equipment - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1700e-003	4.9600e-003	0.0606	1.8000e-004	0.0213	1.2000e-004	0.0214	5.6500e-003	1.1000e-004	5.7500e-003	0.0000	17.0264	17.0264	5.0000e-004	4.7000e-004	17.1787
Total	**7.1700e-003**	**4.9600e-003**	**0.0606**	**1.8000e-004**	**0.0213**	**1.2000e-004**	**0.0214**	**5.6500e-003**	**1.1000e-004**	**5.7500e-003**	**0.0000**	**17.0264**	**17.0264**	**5.0000e-004**	**4.7000e-004**	**17.1787**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0418	0.7160	1.0706	1.9400e-003		0.0127	0.0127		0.0124	0.0124	0.0000	167.7667	167.7667	0.0445	0.0000	168.8802
Total	**0.0418**	**0.7160**	**1.0706**	**1.9400e-003**		**0.0127**	**0.0127**		**0.0124**	**0.0124**	**0.0000**	**167.7667**	**167.7667**	**0.0445**	**0.0000**	**168.8802**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Install Foundations & Equipment - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1700e-003	4.9600e-003	0.0606	1.8000e-004	0.0213	1.2000e-004	0.0214	5.6500e-003	1.1000e-004	5.7500e-003	0.0000	17.0264	17.0264	5.0000e-004	4.7000e-004	17.1787
Total	**7.1700e-003**	**4.9600e-003**	**0.0606**	**1.8000e-004**	**0.0213**	**1.2000e-004**	**0.0214**	**5.6500e-003**	**1.1000e-004**	**5.7500e-003**	**0.0000**	**17.0264**	**17.0264**	**5.0000e-004**	**4.7000e-004**	**17.1787**

3.6 5 Haul Trucks Per day - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 5 Haul Trucks Per day - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	6.8000e-004	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3001	0.3001	2.0000e-005	5.0000e-005	0.3147
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0000e-005**	**6.8000e-004**	**1.8000e-004**	**0.0000**	**9.0000e-005**	**1.0000e-005**	**9.0000e-005**	**2.0000e-005**	**1.0000e-005**	**3.0000e-005**	**0.0000**	**0.3001**	**0.3001**	**2.0000e-005**	**5.0000e-005**	**0.3147**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 5 Haul Trucks Per day - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	6.8000e-004	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3001	0.3001	2.0000e-005	5.0000e-005	0.3147
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0000e-005**	**6.8000e-004**	**1.8000e-004**	**0.0000**	**9.0000e-005**	**1.0000e-005**	**9.0000e-005**	**2.0000e-005**	**1.0000e-005**	**3.0000e-005**	**0.0000**	**0.3001**	**0.3001**	**2.0000e-005**	**5.0000e-005**	**0.3147**

3.7 Set Modules, Inverters, Switchgear - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1646	1.4418	1.2883	3.2900e-003		0.0603	0.0603		0.0566	0.0566	0.0000	284.0997	284.0997	0.0777	0.0000	286.0423
Total	**0.1646**	**1.4418**	**1.2883**	**3.2900e-003**		**0.0603**	**0.0603**		**0.0566**	**0.0566**	**0.0000**	**284.0997**	**284.0997**	**0.0777**	**0.0000**	**286.0423**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Set Modules, Inverters, Switchgear - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0142	9.8300e-003	0.1200	3.6000e-004	0.0421	2.3000e-004	0.0423	0.0112	2.1000e-004	0.0114	0.0000	33.7315	33.7315	9.9000e-004	9.3000e-004	34.0332
Total	**0.0142**	**9.8300e-003**	**0.1200**	**3.6000e-004**	**0.0421**	**2.3000e-004**	**0.0423**	**0.0112**	**2.1000e-004**	**0.0114**	**0.0000**	**33.7315**	**33.7315**	**9.9000e-004**	**9.3000e-004**	**34.0332**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0772	1.2051	1.6257	3.2900e-003		0.0284	0.0284		0.0273	0.0273	0.0000	284.0994	284.0994	0.0777	0.0000	286.0420
Total	**0.0772**	**1.2051**	**1.6257**	**3.2900e-003**		**0.0284**	**0.0284**		**0.0273**	**0.0273**	**0.0000**	**284.0994**	**284.0994**	**0.0777**	**0.0000**	**286.0420**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Set Modules, Inverters, Switchgear - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0142	9.8300e-003	0.1200	3.6000e-004	0.0421	2.3000e-004	0.0423	0.0112	2.1000e-004	0.0114	0.0000	33.7315	33.7315	9.9000e-004	9.3000e-004	34.0332
Total	**0.0142**	**9.8300e-003**	**0.1200**	**3.6000e-004**	**0.0421**	**2.3000e-004**	**0.0423**	**0.0112**	**2.1000e-004**	**0.0114**	**0.0000**	**33.7315**	**33.7315**	**9.9000e-004**	**9.3000e-004**	**34.0332**

3.8 Elec Wire Install/Finish Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4639	0.0000	0.4639	0.2243	0.0000	0.2243	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2758	2.5612	2.1883	5.3100e-003		0.1060	0.1060		0.0990	0.0990	0.0000	460.3818	460.3818	0.1312	0.0000	463.6619
Total	**0.2758**	**2.5612**	**2.1883**	**5.3100e-003**	**0.4639**	**0.1060**	**0.5699**	**0.2243**	**0.0990**	**0.3234**	**0.0000**	**460.3818**	**460.3818**	**0.1312**	**0.0000**	**463.6619**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Elec Wire Install/Finish Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0177	0.0123	0.1497	4.5000e-004	0.0525	2.9000e-004	0.0528	0.0140	2.7000e-004	0.0142	0.0000	42.0841	42.0841	1.2300e-003	1.1600e-003	42.4604
Total	**0.0177**	**0.0123**	**0.1497**	**4.5000e-004**	**0.0525**	**2.9000e-004**	**0.0528**	**0.0140**	**2.7000e-004**	**0.0142**	**0.0000**	**42.0841**	**42.0841**	**1.2300e-003**	**1.1600e-003**	**42.4604**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2088	0.0000	0.2088	0.1009	0.0000	0.1009	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1162	1.9083	2.7999	5.3100e-003		0.0348	0.0348		0.0334	0.0334	0.0000	460.3812	460.3812	0.1312	0.0000	463.6614
Total	**0.1162**	**1.9083**	**2.7999**	**5.3100e-003**	**0.2088**	**0.0348**	**0.2435**	**0.1009**	**0.0334**	**0.1343**	**0.0000**	**460.3812**	**460.3812**	**0.1312**	**0.0000**	**463.6614**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Elec Wire Install/Finish Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0177	0.0123	0.1497	4.5000e-004	0.0525	2.9000e-004	0.0528	0.0140	2.7000e-004	0.0142	0.0000	42.0841	42.0841	1.2300e-003	1.1600e-003	42.4604
Total	**0.0177**	**0.0123**	**0.1497**	**4.5000e-004**	**0.0525**	**2.9000e-004**	**0.0528**	**0.0140**	**2.7000e-004**	**0.0142**	**0.0000**	**42.0841**	**42.0841**	**1.2300e-003**	**1.1600e-003**	**42.4604**

3.9 Commissioning/Testing - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0392	0.2922	0.2699	8.1000e-004		0.0110	0.0110		0.0104	0.0104	0.0000	69.1601	69.1601	0.0201	0.0000	69.6624
Total	**0.0392**	**0.2922**	**0.2699**	**8.1000e-004**		**0.0110**	**0.0110**		**0.0104**	**0.0104**	**0.0000**	**69.1601**	**69.1601**	**0.0201**	**0.0000**	**69.6624**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Commissioning/Testing - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0300e-003	4.8700e-003	0.0594	1.8000e-004	0.0209	1.1000e-004	0.0210	5.5400e-003	1.1000e-004	5.6500e-003	0.0000	16.7051	16.7051	4.9000e-004	4.6000e-004	16.8545
Total	**7.0300e-003**	**4.8700e-003**	**0.0594**	**1.8000e-004**	**0.0209**	**1.1000e-004**	**0.0210**	**5.5400e-003**	**1.1000e-004**	**5.6500e-003**	**0.0000**	**16.7051**	**16.7051**	**4.9000e-004**	**4.6000e-004**	**16.8545**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0197	0.2958	0.3517	8.1000e-004		7.5100e-003	7.5100e-003		7.1500e-003	7.1500e-003	0.0000	69.1600	69.1600	0.0201	0.0000	69.6623
Total	**0.0197**	**0.2958**	**0.3517**	**8.1000e-004**		**7.5100e-003**	**7.5100e-003**		**7.1500e-003**	**7.1500e-003**	**0.0000**	**69.1600**	**69.1600**	**0.0201**	**0.0000**	**69.6623**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Commissioning/Testing - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0300e-003	4.8700e-003	0.0594	1.8000e-004	0.0209	1.1000e-004	0.0210	5.5400e-003	1.1000e-004	5.6500e-003	0.0000	16.7051	16.7051	4.9000e-004	4.6000e-004	16.8545
Total	**7.0300e-003**	**4.8700e-003**	**0.0594**	**1.8000e-004**	**0.0209**	**1.1000e-004**	**0.0210**	**5.5400e-003**	**1.1000e-004**	**5.6500e-003**	**0.0000**	**16.7051**	**16.7051**	**4.9000e-004**	**4.6000e-004**	**16.8545**

3.9 Commissioning/Testing - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0348	0.2538	0.2467	7.5000e-004		9.2900e-003	9.2900e-003		8.7500e-003	8.7500e-003	0.0000	63.8666	63.8666	0.0185	0.0000	64.3288
Total	**0.0348**	**0.2538**	**0.2467**	**7.5000e-004**		**9.2900e-003**	**9.2900e-003**		**8.7500e-003**	**8.7500e-003**	**0.0000**	**63.8666**	**63.8666**	**0.0185**	**0.0000**	**64.3288**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Commissioning/Testing - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-003	4.0400e-003	0.0513	1.6000e-004	0.0193	1.0000e-004	0.0194	5.1100e-003	9.0000e-005	5.2100e-003	0.0000	15.0337	15.0337	4.1000e-004	4.0000e-004	15.1623
Total	**6.1000e-003**	**4.0400e-003**	**0.0513**	**1.6000e-004**	**0.0193**	**1.0000e-004**	**0.0194**	**5.1100e-003**	**9.0000e-005**	**5.2100e-003**	**0.0000**	**15.0337**	**15.0337**	**4.1000e-004**	**4.0000e-004**	**15.1623**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0179	0.2648	0.3238	7.5000e-004		6.6600e-003	6.6600e-003		6.3500e-003	6.3500e-003	0.0000	63.8665	63.8665	0.0185	0.0000	64.3288
Total	**0.0179**	**0.2648**	**0.3238**	**7.5000e-004**		**6.6600e-003**	**6.6600e-003**		**6.3500e-003**	**6.3500e-003**	**0.0000**	**63.8665**	**63.8665**	**0.0185**	**0.0000**	**64.3288**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Commissioning/Testing - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-003	4.0400e-003	0.0513	1.6000e-004	0.0193	1.0000e-004	0.0194	5.1100e-003	9.0000e-005	5.2100e-003	0.0000	15.0337	15.0337	4.1000e-004	4.0000e-004	15.1623
Total	**6.1000e-003**	**4.0400e-003**	**0.0513**	**1.6000e-004**	**0.0193**	**1.0000e-004**	**0.0194**	**5.1100e-003**	**9.0000e-005**	**5.2100e-003**	**0.0000**	**15.0337**	**15.0337**	**4.1000e-004**	**4.0000e-004**	**15.1623**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	5.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0238	0.0238	0.0000	0.0000	0.0240
Unmitigated	0.0000	0.0000	5.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0238	0.0238	0.0000	0.0000	0.0240

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	61	61
Total	0.00	0.00	0.00	61	61

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	60.00	7.30	7.30	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949
Parking Lot	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Refrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	8.6300e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	8.6300e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.9400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.6900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.6300e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.9400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.6900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.6300e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.8328	1.7000e-004	2.0000e-005	2.8433
Unmitigated	2.8328	1.7000e-004	2.0000e-005	2.8433

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0 / 1.041	2.8328	1.7000e-004	2.0000e-005	2.8433
Total		**2.8328**	**1.7000e-004**	**2.0000e-005**	**2.8433**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0 / 1.041	2.8328	1.7000e-004	2.0000e-005	2.8433
Total		**2.8328**	**1.7000e-004**	**2.0000e-005**	**2.8433**

8.0 Waste Detail

8.1 Mitigation Measures Waste

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

11.0 Vegetation

Appendix C

CAP Consistency Checklist

CLIMATE ACTION PLAN CONSISTENCY CHECKLIST INTRODUCTION

In December 2015, the City adopted a Climate Action Plan (CAP) that outlines the actions that City will undertake to achieve its proportional share of State greenhouse gas (GHG) emission reductions. The purpose of the Climate Action Plan Consistency Checklist (Checklist) is to, in conjunction with the CAP, provide a streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to the California Environmental Quality Act (CEQA).[1]

Analysis of GHG emissions and potential climate change impacts from new development is required under CEQA. The CAP is a plan for the reduction of GHG emissions in accordance with CEQA Guidelines Section 15183.5. Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of the CAP.

This Checklist is part of the CAP and contains measures that are required to be implemented on a project-by-project basis to ensure that the specified emissions targets identified in the CAP are achieved. Implementation of these measures would ensure that new development is consistent with the CAP's assumptions for relevant CAP strategies toward achieving the identified GHG reduction targets. Projects that are consistent with the CAP as determined through the use of this Checklist may rely on the CAP for the cumulative impacts analysis of GHG emissions. Projects that are not consistent with the CAP must prepare a comprehensive project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions and incorporation of the measures in this Checklist to the extent feasible. Cumulative GHG impacts would be significant for any project that is not consistent with the CAP.

The Checklist may be updated to incorporate new GHG reduction techniques or to comply with later amendments to the CAP or local, State, or federal law.

[1] Certain projects seeking ministerial approval may be required to complete the Checklist. For example, projects in a Community Plan Implementation Overlay Zone may be required to use the Checklist to qualify for ministerial level review. See Supplemental Development Regulations in the project's community plan to determine applicability.

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CAP CONSISTENCY CHECKLIST SUBMITTAL APPLICATION

- The Checklist is required only for projects subject to CEQA review.[2]
- If required, the Checklist must be included in the project submittal package. Application submittal procedures can be found in Chapter 11: Land Development Procedures of the City's Municipal Code.
- The requirements in the Checklist will be included in the project's conditions of approval.
- The applicant must provide an explanation of how the proposed project will implement the requirements described herein to the satisfaction of the Planning Department.

Application Information

Project No./Name: Border 52 MW BESS Project

Property Address: 2060 Sanyo Avenue in San Diego, California

Applicant Name/Co.:

Contact Phone: Contact Email:

Was a consultant retained to complete this checklist? ■ Yes ☐ No If Yes, complete the following

Consultant Name: Contact Phone:

Company Name: Rincon Consultants, Inc. Contact Email:

Project Information

1. What is the size of the project (acres)? ~4
2. Identify all applicable proposed land uses:
   - ☐ Residential (indicate # of single-family units):
   - ☐ Residential (indicate # of multi-family units):
   - ☐ Commercial (total square footage):
   - ☐ Industrial (total square footage):
   - ■ Other (describe): Battery energy storage system
3. Is the project or a portion of the project located in a Transit Priority Area? ☐ Yes ■ No
4. Provide a brief description of the project proposed:

Construction of a Battery Energy Storage System capable of providing up to 52 MW of BESS electricity for short durations.

[2] Certain projects seeking ministerial approval may be required to complete the Checklist. For example, projects in a Community Plan Implementation Overlay Zone may be required to use the Checklist to qualify for ministerial level review. See Supplemental Development Regulations in the project's community plan to determine applicability.

CAP CONSISTENCY CHECKLIST QUESTIONS

Step 1: Land Use Consistency

The first step in determining CAP consistency for discretionary development projects is to assess the project's consistency with the growth projections used in the development of the CAP. This section allows the City to determine a project's consistency with the land use assumptions used in the CAP.

Step 1: Land Use Consistency		
Checklist Item (Check the appropriate box and provide explanation and supporting documentation for your answer)	Yes	No
A. Is the proposed project consistent with the existing General Plan and Community Plan land use and zoning designations?;[3] OR, B. If the proposed project is not consistent with the existing land use plan and zoning designations, and includes a land use plan and/or zoning designation amendment, would the proposed amendment result in an increased density within a Transit Priority Area (TPA)[4] and implement CAP Strategy 3 actions, as determined in Step 3 to the satisfaction of the Development Services Department?; OR, C. If the proposed project is not consistent with the existing land use plan and zoning designations, does the project include a land use plan and/or zoning designation amendment that would result in an equivalent or less GHG-intensive project when compared to the existing designations?	☑	☐

If "***Yes***," proceed to Step 2 of the Checklist. For question B above, complete Step 3. For question C above, provide estimated project emissions under both existing and proposed designation(s) for comparison. Compare the maximum buildout of the existing designation and the maximum buildout of the proposed designation.

If "***No***," in accordance with the City's Significance Determination Thresholds, the project's GHG impact is significant. The project must nonetheless incorporate each of the measures identified in Step 2 to mitigate cumulative GHG emissions impacts unless the decision maker finds that a measure is infeasible in accordance with CEQA Guidelines Section 15091. Proceed and complete Step 2 of the Checklist.

The Project is Consistent with the existing General Plan and Community Plan land use and zoning designations.

[3] This question may also be answered in the affirmative if the project is consistent with SANDAG Series 12 growth projections, which were used to determine the CAP projections, as determined by the Planning Department.

[4] This category applies to all projects that answered in the affirmative to question 3 on the previous page: Is the project or a portion of the project located in a transit priority area.

Step 2: CAP Strategies Consistency

The second step of the CAP consistency review is to review and evaluate a project's consistency with the applicable strategies and actions of the CAP. Step 2 only applies to development projects that involve permits that would require a certificate of occupancy from the Building Official or projects comprised of one and two family dwellings or townhouses as defined in the California Residential Code and their accessory structures.[5] All other development projects that would not require a certificate of occupancy from the Building Official shall implement Best Management Practices for construction activities as set forth in the Greenbook (for public projects).

Step 2: CAP Strategies Consistency			
Checklist Item	Yes	No	N/A
Strategy 1: Energy & Water Efficient Buildings			
1. *Cool/Green Roofs*. • Would the project include roofing materials with a minimum 3-year aged solar reflection and thermal emittance or solar reflection index equal to or greater than the values specified in the voluntary measures under California Green Building Standards Code (Attachment A)?; OR • Would the project roof construction have a thermal mass over the roof membrane, including areas of vegetated (green) roofs, weighing at least 25 pounds per square foot as specified in the voluntary measures under California Green Building Standards Code?; OR • Would the project include a combination of the above two options? Check "N/A" only if the project does not include a roof component. There are no buildings being constructed with the Project	☐	☐	☑

[5] Actions that are not subject to Step 2 would include, for example: 1) discretionary map actions that do not propose specific development, 2) permits allowing wireless communication facilities, 3) special events permits, 4) use permits or other permits that do not result in the expansion or enlargement of a building (e.g., decks, garages, etc.), and 5) non-building infrastructure projects such as roads and pipelines. Because such actions would not result in new occupancy buildings from which GHG emissions reductions could be achieved, the items contained in Step 2 would not be applicable.

2. *Plumbing fixtures and fittings* With respect to plumbing fixtures or fittings provided as part of the project, would those low-flow fixtures/appliances be consistent with each of the following: Residential buildings: • Kitchen faucets: maximum flow rate not to exceed 1.5 gallons per minute at 60 psi; • Standard dishwashers: 4.25 gallons per cycle; • Compact dishwashers: 3.5 gallons per cycle; and • Clothes washers: water factor of 6 gallons per cubic feet of drum capacity? Nonresidential buildings: • Plumbing fixtures and fittings that do not exceed the maximum flow rate specified in Table A5.303.2.3.1 (voluntary measures) of the California Green Building Standards Code (See Attachment A); and • Appliances and fixtures for commercial applications that meet the provisions of Section A5.303.3 (voluntary measures) of the California Green Building Standards Code (See Attachment A)? Check "N/A" only if the project does not include any plumbing fixtures or fittings. No plumbing or fixtures are being incorporated into the Project.	☐	☐	☑

Strategy 3: Bicycling, Walking, Transit & Land Use			
3. *Electric Vehicle Charging* • Multiple-family projects of 17 dwelling units or less: Would 3% of the total parking spaces required, or a minimum of one space, whichever is greater, be provided with a listed cabinet, box or enclosure connected to a conduit linking the parking spaces with the electrical service, in a manner approved by the building and safety official, to allow for the future installation of electric vehicle supply equipment to provide electric vehicle charging stations at such time as it is needed for use by residents? • Multiple-family projects of more than 17 dwelling units: Of the total required listed cabinets, boxes or enclosures, would 50% have the necessary electric vehicle supply equipment installed to provide active electric vehicle charging stations ready for use by residents? • Non-residential projects: Of the total required listed cabinets, boxes or enclosures, would 50% have the necessary electric vehicle supply equipment installed to provide active electric vehicle charging stations ready for use? Check "N/A" only if the project is a single-family project or would not require the provision of listed cabinets, boxes, or enclosures connected to a conduit linking the parking spaces with electrical service, e.g., projects requiring fewer than 10 parking spaces. There is no parking being provided as part of the Project and the Project only has weekly site visits. Otherwise the BESS system is operated remotely. Augmentation activities would result in daily additional employee (contractor) trips for one month every three to five years.	☐	☐	☑

Strategy 3: Bicycling, Walking, Transit & Land Use (Complete this section if project includes non-residential or mixed uses)			
4. *Bicycle Parking Spaces* Would the project provide more short- and long-term bicycle parking spaces than required in the City's Municipal Code (Chapter 14, Article 2, Division 5)?[6] Check "N/A" only if the project is a residential project. There is no parking being provided as part of the Project and the Project only has weekly site visits. Otherwise the BESS system is operated remotely. Augmentation activities would result in daily additional employee (contractor) trips for one month every three to five years.	☐	☐	☑

[6] Non-portable bicycle corrals within 600 feet of project frontage can be counted towards the project's bicycle parking requirements.

5. *Shower facilities*

If the project includes nonresidential development that would accommodate over 10 tenant occupants (employees), would the project include changing/shower facilities in accordance with the voluntary measures under the California Green Building Standards Code as shown in the table below?

Number of Tenant Occupants (Employees)	Shower/Changing Facilities Required	Two-Tier (12" X 15" X 72") Personal Effects Lockers Required
0-10	0	0
11-50	1 shower stall	2
51-100	1 shower stall	3
101-200	1 shower stall	4
Over 200	1 shower stall plus 1 additional shower stall for each 200 additional tenant-occupants	1 two-tier locker plus 1 two-tier locker for each 50 additional tenant-occupants

Check "N/A" only if the project is a residential project, or if it does not include nonresidential development that would accommodate over 10 tenant occupants (employees).

No buildings are being incorporated as part of the Project. There are only workers onsite once per week, otherwise the system is operated remotely. Augmentation activities would result in daily additional employee (contractor) trips for one month every three to five years.

☐	☐	☑

6. *Designated Parking Spaces*

If the project includes a nonresidential use in a TPA, would the project provide designated parking for a combination of low-emitting, fuel-efficient, and carpool/vanpool vehicles in accordance with the following table?

Number of Required Parking Spaces	Number of Designated Parking Spaces
0-9	0
10-25	2
26-50	4
51-75	6
76-100	9
101-150	11
151-200	18
201 and over	At least 10% of total

This measure does not cover electric vehicles. See Question 4 for electric vehicle parking requirements.

Note: Vehicles bearing Clean Air Vehicle stickers from expired HOV lane programs may be considered eligible for designated parking spaces. The required designated parking spaces are to be provided within the overall minimum parking requirement, not in addition to it.

Check "N/A" only if the project is a residential project, or if it does not include nonresidential use in a TPA.

There is no parking being provided as part of the Project and the Project only has weekly site visits. Otherwise the BESS system is operated remotely. Augmentation activities would result in daily additional employee (contractor) trips for one month every three to five years.

☐	☐	☑

7. *Transportation Demand Management Program* If the project would accommodate over 50 tenant-occupants (employees), would it include a transportation demand management program that would be applicable to existing tenants and future tenants that includes: At least one of the following components: • Parking cash out program • Parking management plan that includes charging employees market-rate for single-occupancy vehicle parking and providing reserved, discounted, or free spaces for registered carpools or vanpools • Unbundled parking whereby parking spaces would be leased or sold separately from the rental or purchase fees for the development for the life of the development And at least three of the following components: • Commitment to maintaining an employer network in the SANDAG iCommute program and promoting its RideMatcher service to tenants/employees • On-site carsharing vehicle(s) or bikesharing • Flexible or alternative work hours • Telework program • Transit, carpool, and vanpool subsidies • Pre-tax deduction for transit or vanpool fares and bicycle commute costs • Access to services that reduce the need to drive, such as cafes, commercial stores, banks, post offices, restaurants, gyms, or childcare, either onsite or within 1,320 feet (1/4 mile) of the structure/use? Check "N/A" only if the project is a residential project or if it would not accommodate over 50 tenant-occupants (employees). The project is not a commercial or operational project and would not accommodate over 50 tenant-occupants. Employees would access the site once per week for maintenance. Augmentation activities would result in daily additional employee (contractor) trips for one month every three to five years.	☐	☐	☑

Step 3: Project CAP Conformance Evaluation (if applicable)

The third step of the CAP consistency review only applies if Step 1 is answered in the affirmative under option B. The purpose of this step is to determine whether a project that is located in a TPA but that includes a land use plan and/or zoning designation amendment is nevertheless consistent with the assumptions in the CAP because it would implement CAP Strategy 3 actions. In general, a project that would result in a reduction in density inside a TPA would not be consistent with Strategy 3.The following questions must each be answered in the affirmative and fully explained.

1. **Would the proposed project implement the General Plan's City of Villages strategy in an identified Transit Priority Area (TPA) that will result in an increase in the capacity for transit-supportive residential and/or employment densities?**
   Considerations for this question:
   - Does the proposed land use and zoning designation associated with the project provide capacity for transit-supportive residential densities within the TPA?
   - Is the project site suitable to accommodate mixed-use village development, as defined in the General Plan, within the TPA?
   - Does the land use and zoning associated with the project increase the capacity for transit-supportive employment intensities within the TPA?

2. **Would the proposed project implement the General Plan's Mobility Element in Transit Priority Areas to increase the use of transit?**
   Considerations for this question:
   - Does the proposed project support/incorporate identified transit routes and stops/stations?
   - Does the project include transit priority measures?

3. **Would the proposed project implement pedestrian improvements in Transit Priority Areas to increase walking opportunities?**
   Considerations for this question:
   - Does the proposed project circulation system provide multiple and direct pedestrian connections and accessibility to local activity centers (such as transit stations, schools, shopping centers, and libraries)?
   - Does the proposed project urban design include features for walkability to promote a transit supportive environment?

4. **Would the proposed project implement the City of San Diego's Bicycle Master Plan to increase bicycling opportunities?**
   Considerations for this question:
   - Does the proposed project circulation system include bicycle improvements consistent with the Bicycle Master Plan?
   - Does the overall project circulation system provide a balanced, multimodal, "complete streets" approach to accommodate mobility needs of all users?

5. **Would the proposed project incorporate implementation mechanisms that support Transit Oriented Development?**
   Considerations for this question:
   - Does the proposed project include new or expanded urban public spaces such as plazas, pocket parks, or urban greens in the TPA?
   - Does the land use and zoning associated with the proposed project increase the potential for jobs within the TPA?
   - Do the zoning/implementing regulations associated with the proposed project support the efficient use of parking through mechanisms such as: shared parking, parking districts, unbundled parking, reduced parking, paid or time-limited parking, etc.?

6. **Would the proposed project implement the Urban Forest Management Plan to increase urban tree canopy coverage?**
   Considerations for this question:
   - Does the proposed project provide at least three different species for the primary, secondary and accent trees in order to accommodate varying parkway widths?
   - Does the proposed project include policies or strategies for preserving existing trees?
   - Does the proposed project incorporate tree planting that will contribute to the City's 20% urban canopy tree coverage goal?

CLIMATE ACTION PLAN CONSISTENCY CHECKLIST
ATTACHMENT A

This attachment provides performance standards for applicable Climate Action Pan (CAP) Consistency Checklist measures.

Table 1 Roof Design Values for Question 1: Cool/Green Roofs supporting Strategy 1: Energy & Water Efficient Buildings of the Climate Action Plan

Land Use Type	Roof Slope	Minimum 3-Year Aged Solar Reflectance	Thermal Emittance	Solar Reflective Index
Low-Rise Residential	≤ 2:12	0.55	0.75	64
	> 2:12	0.20	0.75	16
High-Rise Residential Buildings, Hotels and Motels	≤ 2:12	0.55	0.75	64
	> 2:12	0.20	0.75	16
Non-Residential	≤ 2:12	0.55	0.75	64
	> 2:12	0.20	0.75	16

Source: Adapted from the California Green Building Standards Code (CALGreen) Tier 1 residential and non-residential voluntary measures shown in Tables A4.106.5.1 and A5.106.11.2.2, respectively. Roof installation and verification shall occur in accordance with the CALGreen Code.

CALGreen does not include recommended values for low-rise residential buildings with roof slopes of ≤ 2:12 for San Diego's climate zones (7 and 10). Therefore, the values for climate zone 15 that covers Imperial County are adapted here.

Solar Reflectance Index (SRI) equal to or greater than the values specified in this table may be used as an alternative to compliance with the aged solar reflectance values and thermal emittance.

Table 2	Fixture Flow Rates for Non-Residential Buildings related to Question 2: Plumbing Fixtures and Fittings supporting Strategy 1: Energy & Water Efficient Buildings of the Climate Action Plan
Fixture Type	**Maximum Flow Rate**
Showerheads	1.8 gpm @ 80 psi
Lavatory Faucets	0.35 gpm @60 psi
Kitchen Faucets	1.6 gpm @ 60 psi
Wash Fountains	1.6 [rim space(in.)/20 gpm @ 60 psi]
Metering Faucets	0.18 gallons/cycle
Metering Faucets for Wash Fountains	0.18 [rim space(in.)/20 gpm @ 60 psi]
Gravity Tank-type Water Closets	1.12 gallons/flush
Flushometer Tank Water Closets	1.12 gallons/flush
Flushometer Valve Water Closets	1.12 gallons/flush
Electromechanical Hydraulic Water Closets	1.12 gallons/flush
Urinals	0.5 gallons/flush

Source: Adapted from the California Green Building Standards Code (CALGreen) Tier 1 non-residential voluntary measures shown in Tables A5.303.2.3.1 and

Where complying faucets are unavailable, aerators rated at 0.35 gpm or other means may be used to achieve reduction.

Acronyms:
gpm = gallons per minute
psi = pounds per square inch (unit of pressure)
in. = inch

Table 3 Standards for Appliances and Fixtures for Commercial Application related to Question 2:		
Appliance/Fixture Type	**Standard**	
Clothes Washers	Maximum Water Factor (WF) that will reduce the use of water by 10 percent below the California Energy Commissions' WF standards for commercial clothes washers located in Title 20 of the *California Code of Regulations*.	
Conveyor-type Dishwashers	0.70 maximum gallons per rack (2.6 L) (High-Temperature)	0.62 maximum gallons per rack (4.4 L) (Chemical)
Door-type Dishwashers	0.95 maximum gallons per rack (3.6 L) (High-Temperature)	1.16 maximum gallons per rack (2.6 L) (Chemical)
Undercounter-type Dishwashers	0.90 maximum gallons per rack (3.4 L) (High-Temperature)	0.98 maximum gallons per rack (3.7 L) (Chemical)
Combination Ovens	Consume no more than 10 gallons per hour (38 L/h) in the full operational mode.	
Commercial Pre-rinse Spray Valves (manufactured on or after January 1, 2006)	Function at equal to or less than 1.6 gallons per minute (0.10 L/s) at 60 psi (414 kPa) and • Be capable of cleaning 60 plates in an average time of not more than 30 seconds per plate. • Be equipped with an integral automatic shutoff. • Operate at static pressure of at least 30 psi (207 kPa) when designed for a flow rate of 1.3 gallons per minute (0.08 L/s) or less.	

Source: Adapted from the California Green Building Standards Code (CALGreen) Tier 1 non-residential voluntary measures shown in Section A5.303.3. See the California Plumbing Code for definitions of each appliance/fixture type.

Acronyms:
L = liter
L/h = liters per hour
L/s = liters per second
psi = pounds per square inch (unit of pressure)
kPa = kilopascal (unit of pressure)

APPENDIX D

BIOLOGICAL RESOURCES TECHNICAL REPORT

This appendix presents the Biological Resources Technical Report prepared for the Border BESS Project.

Rincon Consultants, Inc.

8825 Aero Drive
Suite 120
San Diego, California 92123

760 918 9444

info@rinconconsultants.com
www.rinconconsultants.com

August 5, 2022
Project No. 22-12591

Hermes BESS LLC
2060 Sanyo Avenue
San Diego, California 92154

Subject: Biological Resources Technical Report for the Border 52 MW BESS Project, City of San Diego

This report, prepared for Hermes BESS LLC documents the findings of a literature review and reconnaissance field survey conducted by Rincon Consultants, Inc. (Rincon) for the proposed Hermes BESS LLC Border 52-Megawatt Battery Energy Storage System (BESS) project (Border 52 MW BESS Project, hereafter referred to as the Border BESS Project) in the City of San Diego, California. The Border BESS Project is located on the parcel of the larger 52 MW Border Peaker Plant (BPP) which was licensed by the California Energy Commission (CEC) in 2001. The current project will be licensed via a CEC post-certification amendment to the BPP as confirmed by the CEC in March 2022.

As a part of the original licensing of the BPP project, a biological technical analysis was conducted (Helix Environmental Planning, Inc. 2001) covering the entire BPP parcel inclusive of the Border BESS Project site. The 2001 report established biological Conditions of Certification (CoC) for the BPP. The purpose of the current report is to document updated existing conditions at the Border BESS Project site and to evaluate the potential for the Border BESS Project to impact special status biological resources beyond those identified in the 2001 report. If no new impacts were identified, and conditions are consistent with those described in 2001, the previously coordinated CoCs for the BPP would be applicable to the Border BESS Project. This report serves to update the findings of the initial biological technical report and verify that the previously applied relevant CoC still apply, or identify new potential impacts to biological resources and new CoCs that may be required to address previously unidentified impacts. As requested by CEC, this report is written in accordance with the City of San Diego Biology Guidelines and meets the written criteria for a Letter Survey Report (City of San Diego 2012).

Project Location

The Border BESS Project site is located within the existing 10.12-acre CalPeak Power-Border LLC, BPP property on Assessor's Parcel Number (APN) 646-130-58, located at 2060 Sanyo Avenue in the City of San Diego, California (Attachment A, Figures 1 and 2). The Border BESS Project encompasses an approximate 3-acre area on the eastern half of the BPP property. The BPP property is bound by California State Route (SR) 11 to the north, SR 125 and SR 905 to the west, and Sanyo Road to the east. Other land uses in the area include undeveloped land to the south and commercial/industrial development to the east.

Project Description

The proposed Border BESS Project includes the development of a BESS facility and the utilization of a temporary construction laydown yard within the existing BPP. See Attachment A, Figure 2 for project site limits and detailed project plans. The key components of the project are listed below:

- Batteries with 52 MW hours (MWh) of energy storage capacity per hour (e.g., 52 MWh for 1 hour or 26 MWh for 2 hours) to be located on an approximate 1.6-acre site within an overall 10.12-acre site owned and operated by CalPeak Power-Border LLC.
- The overall 10.12-acre site includes the existing 4.5-acre nominal 52 MW CalPeak Power-Border LLC BPP that was previously permitted by the CEC as an emergency energy project in 2001 (CEC Docket No. 01-EP-14). The battery storage technologies being considered are lithium iron phosphate and nickel manganese cobalt or other technologies that may become commercially available as the BESS Project undergoes final design.
- The batteries and their associated inverters account for the bulk of the associated BESS equipment and will be located within the parcel (APN 646-130-58, 2060 Sanyo Avenue) that contains the existing nominal 52 MW BPP.
- The 52 MW BESS site is located within an existing open area adjacent to the eastern side of the BPP. Site development for the BESS facilities, including BESS switchyard, on approximately 1.7 acres of land will involve site grading, excavation of soil, and re-compaction to accomplish site stormwater control and to support concrete pad foundations. Similar site grading activities for site stormwater control are planned for the approximately 1.3-acre temporary construction laydown and personnel parking area on the eastern and northern portions of the overall BPP site (laydown area).
- The BESS site and laydown area will be graded at the same time as one overall operation. It is estimated that up to approximately 5,000 cubic yards of balanced cut-and-fill will be required during site preparation and levelling activities. Maximum cut depths are estimated at approximately 4 feet in the southeastern portion of the laydown area. The average depth of cut-and-fill for 5,000 cubic yards of material when averaged over 3 acres is approximately 1 foot.
- The 52 MW BESS will be connected to the San Diego Gas & Electric (SDG&E) Border Substation to the north by installing an approximately 90-foot-long, 13.8 kilovolt (kV) overhead line or underground concrete cable trench from the BESS 13.8 kV switchyard to the low side (13.8 kV) of the existing GSU at the BPP. Connecting to the low side (13.8 kV) of the BPP GSU will allow the BESS to provide transmission voltage to the SDG&E Border Substation without requiring an additional step-up transformer at the Border BESS switchyard. The overhead 13.8 kV line option includes the installation of two, approximately 30-feet-tall H-frame structures on concrete pad foundations, one on each side of the BPP perimeter road, to support the 13.8 kV line span crossing of the road from the BESS switchyard to the BPP connection point. The underground cable option consists of multiple conductors to be installed in a concrete trench approximately 10-foot-wide by three-foot-deep across the BPP perimeter access road and covered with steel plates to allow future access to the cables and crossing by vehicles. The 13.8 kV connection will be installed in accordance with applicable codes and standards.
- The Border BESS Project includes repair of a section of the existing BPP access road between Sanyo Avenue on the east end and the BPP entrance gate on the western end. The road segment to be prepared covers a distance of approximately 600 feet. The repair work will include removal of the existing asphalt surface for asphalt recycling, reconstruction/reconditioning of the roadway subgrade, and repaving with asphalt.

The Border BESS Project will also include a fiber optic communication/controls cabling that will connect the BESS switchyard to the BPP transmission control system interface to integrate the BESS operation with the BPP and the CAISO. The communication line will be installed either overhead or underground for the portion of the route in common with the 13.8 kV line from the BESS Switchyard to the west side of the BPP perimeter road. The communication line will then be installed in aboveground or buried conduit over a distance of approximately 80 feet to the connection point with the existing BPP transmission control system interface to the west.

Regulatory Background

Regulatory authority over biological resources is shared by federal, state, and local authorities under a variety of statutes and guidelines. Primary authority for general biological resources lies within the CEC standards and planning authority of local jurisdictions (in this instance, City of San Diego). Projects within the City of San Diego (City) are subject to the requirements of the City's Multiples Species Conservation Plan (MSCP). The MSCP is a conservation planning document for protecting open space within the City. Within this plan, separate Multi-Habitat Planning Areas (MHPAs) are designated for conservation. The Border BESS Project site is located outside of City MHPA boundaries, therefore specific MSCP requirements do not apply to the Border BESS Project, however all biology reports within the City are subject to the City's Land Use Biology Guidelines (City 2012). According to these guidelines, the Border BESS Project meets the requirements for a letter survey report because it involves minimal disturbance and is located in a highly disturbed area.

The California Department of Fish and Wildlife (CDFW) is a trustee agency for biological resources throughout the state and has direct jurisdiction under the California Fish and Game Code (CFGC). Under the California Endangered Species Act and federal Endangered Species Act (CESA and ESA, respectively), the CDFW and the U.S. Fish and Wildlife Service (USFWS) have direct regulatory authority over species formally listed as Threatened or Endangered as well as native, bird species listed under the Federal Migratory Bird Treaty Act (MBTA), CFGC and Bald and Golden Eagle Protection Act (BGEPA). The U.S. Army Corps of Engineers (USACE) has regulatory authority over waters of the United States, including wetlands, under Section 404 of the Clean Water Act. The CDFW and Regional Water Quality Control Board (RWQCB) protect streams, lakes, and associated riparian habitat and waters of the State, respectively, at the state level. The analysis in this report is guided by the requirements of these laws, and by the operating standards of the implementing agencies.

Methods

The work described in this report consisted of a review of relevant literature and background information, a field reconnaissance survey, and a consistency analysis of the 2001 biological report in the context of current existing conditions and the status of those biological resources protected under current state and federal laws and regulations. The potential for special status species to occur on the Border BESS Project site is based on the literature review and a survey designed to assess habitat suitability for special status species. The study area evaluated is defined in Attachment A, Figure 3 and includes the entire BPP property (APN 646-130-58) plus a 300-foot buffer, yet the project site for the Border BESS Project facilities is a 3-acre area within the eastern portion of the BPP property. While the entire study area was reviewed for this report for consistency with previous licensing, focus was on the project area for the Border BESS Project facilities.

Literature Review

The literature review included queries of the CDFW California Natural Diversity Data Base (CNDDB, CDFW 2022), USFWS Biogeographic Information and Observation System (BIOS, USFWS 2022a), and California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants of California (CNPS 2022a) for special status species occurrences within the *Otay Mesa, California* U.S. Geological Survey (USGS) 7.5-minute quadrangle and the surrounding five quadrangles (Dulzura, Jamul Mountains, Imperial Beach, Otay Mountain, and National City). Other resources included the USFWS National Wetlands Inventory (NWI) (USFWS 2022b), USFWS Information for Planning and Consultation (IPaC) Unofficial Species List (USFWS 2022c), and USFWS Critical Habitat Portal (USFWS 2022d). Aerial photographs, topographic maps, soil survey maps, geologic maps, and climatic data in the area were also examined.

Field Survey

A biological resource reconnaissance survey was conducted within the study area to assess the habitat suitability for potential special status species, map the existing vegetation communities and land cover types present, map any evident sensitive biological resources currently on site, document the presence of potential jurisdictional waters or wetlands, and record all observations of plant and wildlife species within the study area. Rincon Biologists Jessie Beckman and Morgan Henderson conducted a pedestrian survey of the study area on March 31st, 2022, between the hours of 10am and 1:30pm. Weather conditions were calm and clear at the time of the survey, with temperatures ranging from 57-61°F and wind speeds of approximately 1-3 mph. Site photos from the survey are included as Attachment B.

The biologists walked the entirety of the BPP and all accessible areas within the study area to achieve 100% visual cover. All wildlife species observations (either directly observed or detected from calls, tracks, scat, nests, or other sign) were recorded. Biologists searched for special status plants that would have been identifiable during the time of the survey; however, a focused rare plant survey was not conducted. Similarly, biologists documented any water flow and potentially jurisdictional waters or wetlands within the study area; however, the results of this survey do not constitute a formal jurisdictional or wetland delineation.

Survey Limitations

Areas where access was restricted, including private/inaccessible property to the south, north, and west, were surveyed with binoculars. The detection of wildlife species was limited by seasonal and temporal factors. The survey was conducted in the early spring; therefore, potentially occurring winter migrants may not have been observed. The survey was performed during the daylight hours, therefore the identification of nocturnal animals was limited to sign if present within the study area.

Existing Conditions

Topography and Soils

Elevation within the study area is approximately 550 feet above mean sea level (USGS 2022). The topography of the study area and its immediate surroundings is characterized primarily by undeveloped property, industrial uses, and major highways. Based on the most recent U.S. Department of Agriculture, Natural Resources Conservation Service (USDA, NRCS 2022) soil survey for Otay Mesa, California (USDA, NRCS 2022), the study area contains two soil map units:

Diablo clay occurs on complex undulating, rolling to steep uplands with slopes of 5 to 50 percent. This soil is derived from shale, sandstone, and consolidated sediments. It is considered well-drained. This soil type makes up approximately 86.2 percent of the study area. A typical soil profile consists of silty clay to 42 inches and silty clay loam to 60 inches. Depth to restrictive feature ranges from 40 to 80 inches.

Salinas clay occurs on alluvial plains, fans, and terraces and have slopes of 0 to 9 percent. This soil is derived from sandstone and shale. It is considered well-drained. This soil type makes up approximately 13.8 percent of the study area. A typical soil profile consists of clay loam to 33 inches, very fine sandy loam to 75 inches. Depth to restrictive feature ranges from 22 to 36 inches.

Vegetation and Land Cover Types

The study area is in a highly industrialized area, and most of the site has been graded in the past or is currently developed. All non-ornamental vegetation within the study area is routinely mowed, including the Border BESS Project site. The area surrounding the study area is characterized by commercial and industrial uses, undeveloped land, and major highways running to the north and west of the site. All land cover data is highly consistent with the previously collected data for the study area (Helix 2001).

Four vegetation/land cover types were observed in the study area: 1) urban/developed; 2) disturbed habitat); and 3) Diegan coastal sage scrub: Baccharis-dominated (Attachment A, Figure 4). Vegetation classification was based on the classification systems provided in the Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008); and modified as appropriate to reflect the existing site conditions. Upland vegetation communities are divided into four tiers of biological sensitivity based on rarity and ecological importance. Tier I represents the most sensitive vegetation communities while Tier IV represents the least sensitive vegetation communities. The Tier system will be applied as an indication of habitat sensitivity pursuant to the City's Guidelines but have been modified slightly to reflect the existing site conditions most accurately. Plant species nomenclature and taxonomy used for this report follows the treatments within the second edition of *The Jepson Manual* (Baldwin et al. 2012).

Urban/Developed

Areas considered urban/developed within the study area been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation. Areas where no natural land is evident due to a large amount of debris or other materials being placed upon it may also be considered Urban/Developed (e.g., frequently used equipment storage areas). Within the City, this habitat is listed as Tier IV vegetation community.

Consistent with results from the 2001 study, this land cover type comprises the active power plant and associated access road, equipment staging areas, bare ground areas, and ornamental vegetation, as well as surrounding roads, developments, and freeways within the site buffer. The City lists disturbed habitat as a Tier IV vegetation community.

Disturbed Habitat

Areas considered disturbed habitat contain a cover of highly disturbed annual, non-native grasses such as red brome (*Bromus rubens*), wall barley (*Hordeum murinum*), black mustard (*Brassica nigra*), false brome (*Brachypodium distachyon*), red stemmed filaree (*Erodium cicutarium*), and slender oat (*Avena*

barbata). As defined by Oberbauer et al., these are "*areas that have been physically disturbed (by previous legal human activity) and are no longer recognizable as a native or naturalized vegetation association, but continue to retain a soil substrate*." These areas have been disturbed by regular mowing associated with BPP maintenance.

Disturbed habitat exists throughout the study area, mostly in the northeast quadrant of the parcel and extending to the west along the northern fence boundary, including the Border BESS Project site. These areas are routinely mowed as a part of BPP maintenance and, as a result, appear to be in much poorer condition in comparison to the results of the 2001 study. The City lists disturbed habitat as a Tier IV vegetation community.

Diegan Coastal Sage Scrub: Baccharis-Dominated

Diegan coastal sage scrub: Baccharis-dominated is a vegetation community featuring Diegan Coastal Sage Scrub species such as sawtooth goldenbush (*Hazardia squarrosa*) and California sagebrush (*Artemisia californica*), with an abundance of baccharis species, such as broom baccharis (*Baccharis sarothroide*s).

Species in this vegetation community dominate the portion of the study area on a hillslope along the northern boundary of the BPP property. Due to the presence of straw waddles and freshly seeded bank, this area is assumed part of recent and ongoing restoration of native plants associated with the construction of SR 11. The City lists this habitat as a Tier II vegetation community.

General Wildlife

The study area and its surroundings provide habitat for wildlife species that commonly occur in urbanized and disturbed habitats within San Diego County. Wildlife species observed/detected on or adjacent to the site include American crow (*Corvus brachyrhynchos*), mourning dove (*Zenaida macroura*), house finch (*Haemorhous mexicanus*), red-winged blackbird (*Agelaius phoeniceus*), Say's phoebe (*Sayornis saya*), black phoebe (*Sayornis nigricans*), mallard (*Anas platyrhynchos*), yellow-rumped warbler (*Setophaga coronate*), western meadowlark (*Sturnella neglecta*), Cassin's kingbird (*Tyrannus vociferans*), European starling (*Sturnus vulgaris*), northern mockingbird (*Mimus polyglottos*), hooded oriole (*Icterus cucullatus*), lesser goldfinch (*Spinus psaltria*), northern rough-winged swallow (*Stelgidopteryx serripennis*), white-crowned sparrow (*Zonotrichia leucophrys*). Also observed were scat from coyote (*Canis latrans*) and desert cottontail (*Sylvilagus audubonii*). The study area contained various small mammal burrows, concentrated along Sanyo Road and the BPP access road. These burrows are assumed to belong to Botta's pocket gopher (*Thomomys bottae*). Most of these burrows were roughly three inches in diameter and appeared to be inactive at the time of the survey.

Jurisdictional Waters and Wetlands

A formal wetland delineation was not performed as a part of this analysis; however, site conditions related to onsite waters and potential wetlands are noted below. The study area is located within the Tijuana River-Frontal Pacific Ocean watershed (Hydrologic Unit Code [HUC] #180703051304). Natural waterways within this watershed flow from south to north into the Tijuana River before depositing into the Pacific Ocean.

No wetlands or other water features occur within the Border BESS Project area. The areas bordering the study area to the south and the north are listed in NWI as temporarily flooded emergency persistence palustrine wetlands (NWI 2022). Historic aerials prior to the emergency construction of the BPP in the

early 2000s suggest that water once flowed from the south-central extent of the study area through to the northern extent of the study area (NETR 2022). The construction of the BPP in 2001-2002 and SR 11 in 2010 have impeded this flow. The existing elevated BPP access road that connects the BPP to Sanyo Avenue blocks sheet flows from the south from reaching the Border BESS Project area.

Within the study area, water sheet flows into the existing BPP drainage system on the southwestern portion of the BPP property from the undeveloped property to the south. The undeveloped property to the south was surveyed with binoculars along the BPP property boundary. No obvious wetland or hydrophytic vegetation (such as cattails, bulrushes, or sedges) were observed, although a thorough pedestrian survey was not conducted in this area due to lack of access.

A natural erosional feature has formed on the southern extent of the BPP which conveys flow from the southern lot into an approximately two-foot concrete v-ditch that borders most of the study area. This water collects at the northwest corner of the overall BPP property, where it appears to mostly abate into the landscape. A small amount of this flow appears to trickle to the northwest, into the adjacent Caltrans equipment storage yard. This feature is not in or near, or would be impacted by, the Border BESS Project.

Special Status Biological Resources

This section discusses sensitive biological resources within the study area and evaluates the potential for the study area to support special status biological resources.

Special Status Species

Local, state, and federal agencies regulate special status species and may require an assessment of their presence or potential presence to be conducted prior to the approval of proposed development on a property. Assessments for the potential occurrence of special-status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB species occurrence records from other sites in the vicinity of the study area, and previous reports for the study area. The potential for each special status species to occur in the study area was evaluated according to the following criteria:

- **Not expected.** Habitat on and adjacent to the study area is clearly unsuitable for the species' requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime). The species is not analyzed further in this letter report.
- **Low Potential.** Few of the habitat components meeting the species' requirements are present, and/or the majority of habitat on and adjacent to the study area is unsuitable or of very poor quality. The species is not likely to be found within the study area and therefore is not analyzed further in this letter report.
- **Moderate Potential.** Some of the habitat components meeting the species' requirements are present, and/or only some of the habitat on or adjacent to the study area is unsuitable. The species has a moderate probability of being found within the study area.
- **High Potential.** All of the habitat components meeting the species' requirements are present and/or most of the habitat on or adjacent to the study area is highly suitable. The species has a high probability of being found within the study area.
- **Present.** Species is observed on the site or has been recorded (e.g., CNDDB, other reports) within the study area recently (within the last 5 years).

For the purpose of this report, special-status species are those plants and animals listed, proposed for listing, or candidates for listing as Threatened or Endangered by the USFWS or the National Marine Fisheries Service (NMFS) under the ESA; those listed or candidates for listing as Rare, Threatened, or Endangered under the CESA or Native Plant Protection Act; those identified as Fully Protected by the CFGC (Sections 3511, 4700, 5050, and 5515); those identified as Species of Special Concern (SSC) by the CDFW; and plants occurring on lists 1 and 2 of the CNPS California Rare Plant Rank (CRPR) system per the following definitions:

- **Rank 1A** = Plants presumed extinct in California
- **Rank 1B.1** = Rare or endangered in California and elsewhere; seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
- **Rank 1B.2** = Rare or endangered in California and elsewhere; fairly endangered in California (20-80% occurrences threatened)
- **Rank 1B.3** = Rare or endangered in California and elsewhere, not very endangered in California (<20% of occurrences threatened, or no current threats known)
- **Rank 2** = Rare, threatened or endangered in California, but more common elsewhere

Based on a query of the CDFW CNDDB and CNPS Inventory, there are 126 special-status plant species and 73 special-status wildlife species documented within the *Otay Mesa, California* USGS 7.5-minute quadrangle and the five surrounding quadrangles. All 199 special status species have been evaluated for potential to occur within the study area (Attachment C).

Special Status Wildlife Species

The database and literature review performed for the Border BESS Project indicated that 73 special status wildlife species have been documented within the *Otay Mesa* USGS 7.5-minute quadrangle and five surrounding quadrangles. No federal or state listed, or other special status wildlife species were observed during the reconnaissance survey. Of the 73 species evaluated, Rincon determined that none have more than a low potential to occur (Attachment C).

Nesting Birds

The study area contains suitable nesting habitat for a variety of native avian species protected by the MBTA and CFGC Section 3503. Most native bird species that could nest on or adjacent to the Border BESS Project do not have a special status designation but are addressed herein based on the protections afforded under the MBTA and CFGC, and the potential for impacts to active nests during the nesting season. The nesting season generally extends from February through September but can vary based upon annual climatic conditions. Species of birds common to the area that typically utilize open disturbed habitats for foraging and landscaped trees for nesting habitat, such as yellow-rumped warbler, Cassin's kingbird, red-tailed hawk and house finch, were detected during the reconnaissance survey.

Special Status Plant Species

No federal or state listed plants were observed during the reconnaissance-level field survey. A protocol botanical survey for all species was not performed, and the reconnaissance survey was conducted outside the bloom period for some of these species. The database and literature review performed for the Border BESS Project indicated that 126 special status plant species have been documented within the *Otay Mesa, California* USGS 7.5-minute quadrangle and five surrounding quadrangles. These species

occur in a variety of habitats such as vernal pools, riparian woodlands and forests, meadows, and native perennial grasslands, none of which were observed within the study area.

Based on the habitat assessment of the site and special status plant habitat requirements, no special status plant species were determined to have more than low potential to occur within the study area. The majority of the study area is developed with structures and roads used for the operation and maintenance of the BPP. Historical aerial imagery shows that the study area has been maintained, mowed, and graded in association with its industrial uses. Most of the vegetation within the study area is restricted to disturbed habitat and landscaped areas at the perimeter. These land cover types within the study area do not represent more than marginally suitable habitat for any of the evaluated special status plant species with potential to occur in the region. Given the existing and historical site conditions, lack of suitable habitat, and domination of non-native plant species, there is a low potential for any special status plant species to occur within the study area (Attachment C).

Special Status Vegetation Communities

Plant communities are also considered sensitive biological resources if they have limited distributions, have high wildlife value, include sensitive species, or are particularly susceptible to disturbance. The CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in CNDDB. Additionally, as described above, the City divides upland vegetation communities into four tiers of biological sensitivity based on rarity and ecological importance. Tier I represents the most sensitive vegetation communities while Tier IV represents the least sensitive vegetation communities.

No native vegetation communities were mapped within the study area. Recently restored native vegetation (Diegan coastal sage scrub: Baccharis-dominated, a Tier II vegetation community) assumed to be associated with Caltrans' SR 11 on-site mitigation was noted on the northern boundary of the study area. This area is protected by a well-maintained fence and will not be impacted during implementation of the Border BESS Project.

Jurisdictional Waters and Wetlands

Water sheet flows from undeveloped land at the southern extent of the study area into a drainage ditch on the southwestern and western portion of the BPP property. Historic aerials suggest that water once flowed through this area prior to the construction of the BPP and SR 11, and the USFWS NWI mapping displays the areas to the north and south of the BPP as wetlands. Although a formal jurisdictional determination and/or wetlands delineation was not conducted for the Border BESS Project and the property south of the BPP was surveyed from the BPP property boundary with binoculars, no wetland vegetation was observed during the study. Water flowing from the undeveloped land south of the BPP is intercepted by the existing drainage system south of the BPP and ponds in an unvegetated low point at the northwest corner of the BPP, where it mostly abates into the landscape. No wetlands or other water features occur within the project area for the Border BESS.

Impact Analysis and CoC Concurrence

This section discusses the potential impacts and effects to biological resources that may occur from implementation of the Border BESS Project. Construction-related activity and non-paved ground disturbance from the Border BESS Project are limited to the regularly mowed, disturbed habitat area within the eastern portion of the study area (Attachment A, Figure 2). Applicable CoCs developed for the

original BPP project will be required conditions under the licensing of the Border BESS Project. The CoC include conditions BIO-1 through BIO-10.

The 2001 analysis (Helix 2001) covered a larger and more focused survey area than that conducted for this report, with the focus being on previously existing wetlands at the very southern extent of the survey area. The 2001 report identified a mixture of disturbed land and non-native grassland within the current Border BESS Project impact area, whereas currently, this area is most accurately classified as disturbed habitat due to the impacts of regular mowing associated with BPP site maintenance. Given the 20-year time difference between the two reports, some CoC measures do not apply to current conditions within the impact area.

BIO-1 "*The project permitted under this emergency process will avoid all impacts to legally protected species and their habitat on site, adjacent to the site and along the right of way for linear facilities*."

Special Status Plants

No special status plants were observed on-site during the reconnaissance survey and none have more than low potential to occur on-site because the site lacks potentially suitable habitat for special status plants known to occur in the area. Therefore, no impacts to special status plant species are expected.

The study area contains suitable foraging and nesting habitat for birds protected by the Migratory Bird Treaty Act (MBTA). Nesting birds and raptors protected by the California Fish and Game Code (CFGC) and the MBTA have potential to occur on-site. If nesting birds are present on-site during construction, they could be affected directly (loss of individuals) or indirectly (construction noise, dust, and other human disturbances) by Border BESS Project activities. The Border BESS Project could adversely affect raptors and other nesting birds if construction occurs while they are present on or adjacent to the site through direct mortality or abandonment of nests. The loss of a nest due to construction activities would be a violation of the MBTA and CFGC sections 3503 and 3513. CoC BIO-8 would ensure compliance with state and federal law.

Special Status Vegetation

Most of the vegetation within the study area consisted of Tier IV vegetation communities. Impacts resulting from the proposed Border BESS Project are limited to the disturbed habitat area at the eastern end of the study area. One Tier II vegetation community (Diegan coastal sage scrub: Baccharis-dominated) was observed on a hillslope north of the study area. This area is protected by a fence and will not be impacted by the project. Border BESS Project impacts are limited to 2.14 acres of disturbed habitat. Therefore, no impacts to sensitive natural communities are expected.

Jurisdictional Waters and Wetlands

Impacts resulting from the proposed Border BESS Project are limited to 2.14 acres of disturbed habitat at the eastern end of the study area. No impacts to jurisdictional waters or wetlands (legally protected habitat) are anticipated.

BIO-2 "*The project permitted under this emergency process will avoid all impacts to designated critical habitat (wetlands, vernal pools, riparian habitat, preserves) on site or adjacent to the site*."

As discussed in reference to BIO-1, no critical habitat was identified within the study area. Border BESS Project impacts are limited to 2.14 acres of disturbed habitat. As such, no impacts to these resources are anticipated and this CoC measure does not apply.

BIO-3 *"The project permitted under this emergency process will avoid all impacts to locally designated sensitive species and protected areas."*

As discussed in reference to BIO-1, no locally designated sensitive species or environmentally protected areas were identified within the study area. BESS Border Project impacts are limited to 2.14 acres of disturbed habitat. As such, no impacts to these resources are anticipated and this CoC measure does not apply.

BIO-4 "*The project permitted under this emergency process will reduce risk of large bird electrocution by electric transmission lines and any interconnection between structures, substations and transmission lines by using construction methods identified in 'Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996' (APLIC 1996)."*

Border BESS Project plans will be compliant with the proper spacing of design elements compliant with the Suggested Practices in the referenced publication (APLIC 1996).

BIO-5 "*The project biologist, a person knowledgeable of the local/regional biological resources, and Compliance Project Manager (CPM) will have access to the site and linear rights-of-way at any time prior to and during construction and have the authority to halt construction in an area necessary to protect a sensitive biological resource at any time*."

Rincon biologists have been allowed access to the Border BESS Project site. As recommended in the BIO-8, a pre-construction nesting bird survey will be conducted. If results of the nesting bird survey necessitate biological monitoring during construction, the biologist will be present onsite during construction.

BIO-6 "*Upon decommissioning the site, the biological resource values will be reestablished at preconstruction levels or better*".

The impact area includes 2.14 acres of disturbed habitat. The construction laydown area will be returned to pre-construction conditions as practicable upon the completion of construction. This will include the reseeding of the temporarily impacted area with a native grassland seed mixture.

BIO-7 "*Prior to operations, the applicant will submit a report of any impacted sensitive habitat, including NNG and wetlands, to the CPM for review and approval. The applicant will then develop mitigation compensation plans using the following table*:

		Inside MHPA	*Outside MHPA*
Wetlands	*2:1*		
Non-Native Grassland		*0.5:1*	*1:1*

The Border BESS Project is located outside of the City MHPA. and would permanently impact approximately 2.14 acres of disturbed habitat. This area is most accurately classified as disturbed habitat due to being habitually mowed in association with routine BPP maintenance. As such, the vegetation meets the criteria for Tier IV habitat per the City Biology Guidelines (City 2012) and no compensatory mitigation is proposed. The construction laydown area will be returned to pre-construction conditions as practicable at the end of the construction phase for the Border BESS Project, which will include the re-seeding of the area with a native grassland seed mix. The Border BESS construction laydown area will not be recontoured at the end of the construction phase since the site grading and drainage plan for the Border BESS Project requires permanent recontouring of the combined laydown and BESS site area.

BIO-8 "*Prior to any project-related activities a qualified biologist will conduct sensitive bird species surveys of the project site and surrounding habitats within 300 feet of the project boundary. Survey methodologies will allow for a thorough search of these areas to identify potential arboreal and/or ground nesting raptor species*".

A nesting bird survey will be conducted prior to construction. The biologist will submit a report of the findings to the CPM prior to construction.

BIO-9 "*The project biologist, prior to site mobilization, will flag buffers on all potentially affected wetlands. The project biologist will then be present onsite during construction of the transmission poles and lines or until determined by the CPM*".

No wetlands were observed on or adjacent to the Border BESS Project site. No impacts to wetlands are anticipated as a result of the Border BESS Project and therefore this CoC measure does not apply.

BIO-10 "*Landscaping of the Border Project Site will contain no species of tree or plant considered invasive or having pest status. The project landscape specialist shall confer with the California Department of Fish and Game and the CalEPPC, 1999*."

Additional landscaping of the Border BESS Project site is not part of the project plans at this time and therefore this CoC measure does not apply.

Conclusion

In conclusion, conditions within the project impact area have declined in habitat value since the 2001 analysis, as the result of BPP site maintenance. The project is anticipated to be in compliance with the CoCs pending the completion of a pre-construction nesting bird survey prior to project construction (BIO-8). The biologist will submit a report of the findings to the CPM prior to construction.

Sincerely,
Rincon Consultants, Inc.

Jessie Beckman
Senior Biologist

Elizabeth Atherton
Project Manager

Attachments

Attachment A Figures

Attachment B Representative Site Photographs

Attachment C Special Status Species Evaluation Tables

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Attachment A

Figures

Figure 1 Regional Location

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Project Location

N

Figure 2 Project Plans

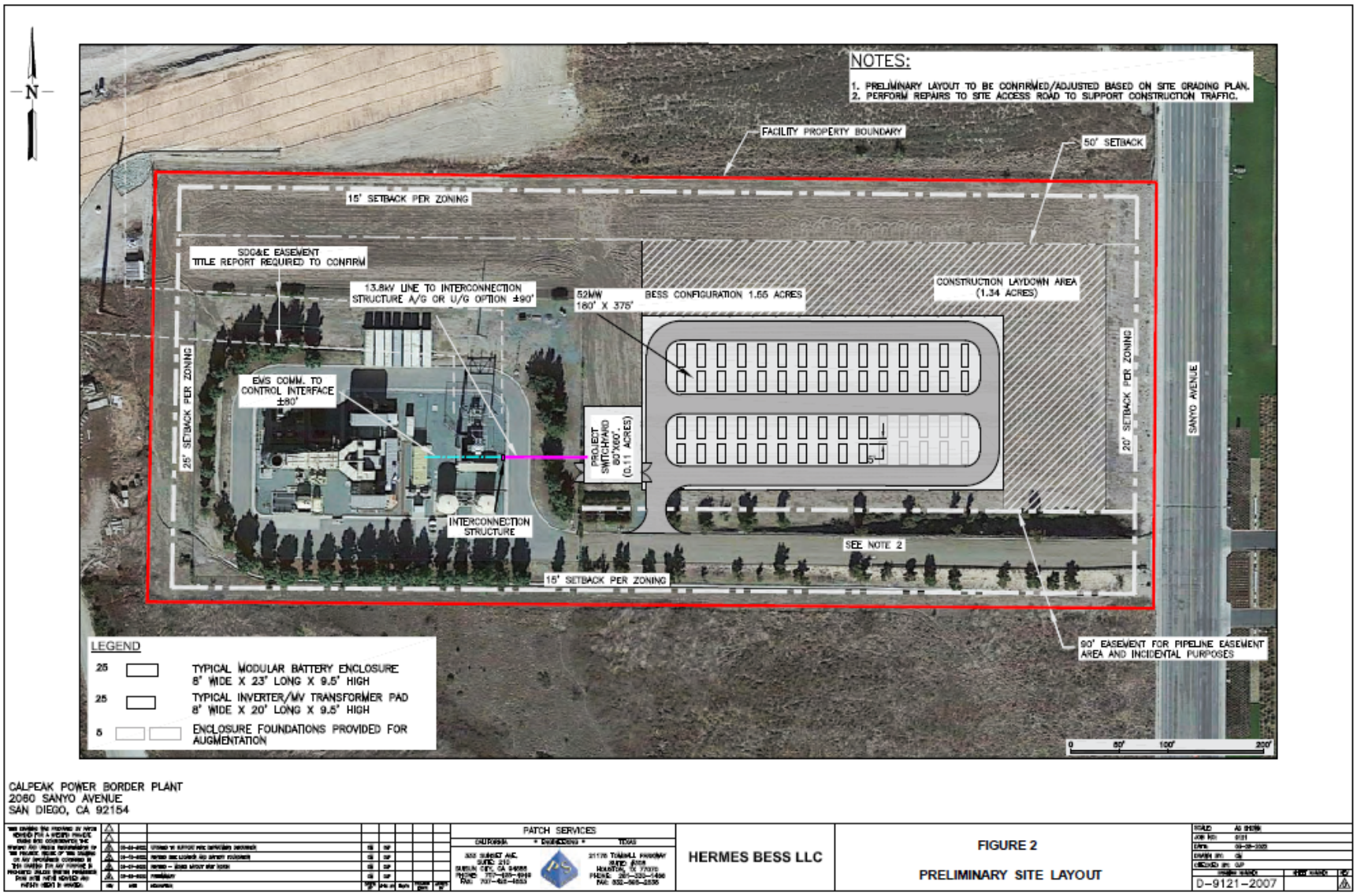

Figure 3 Study Area

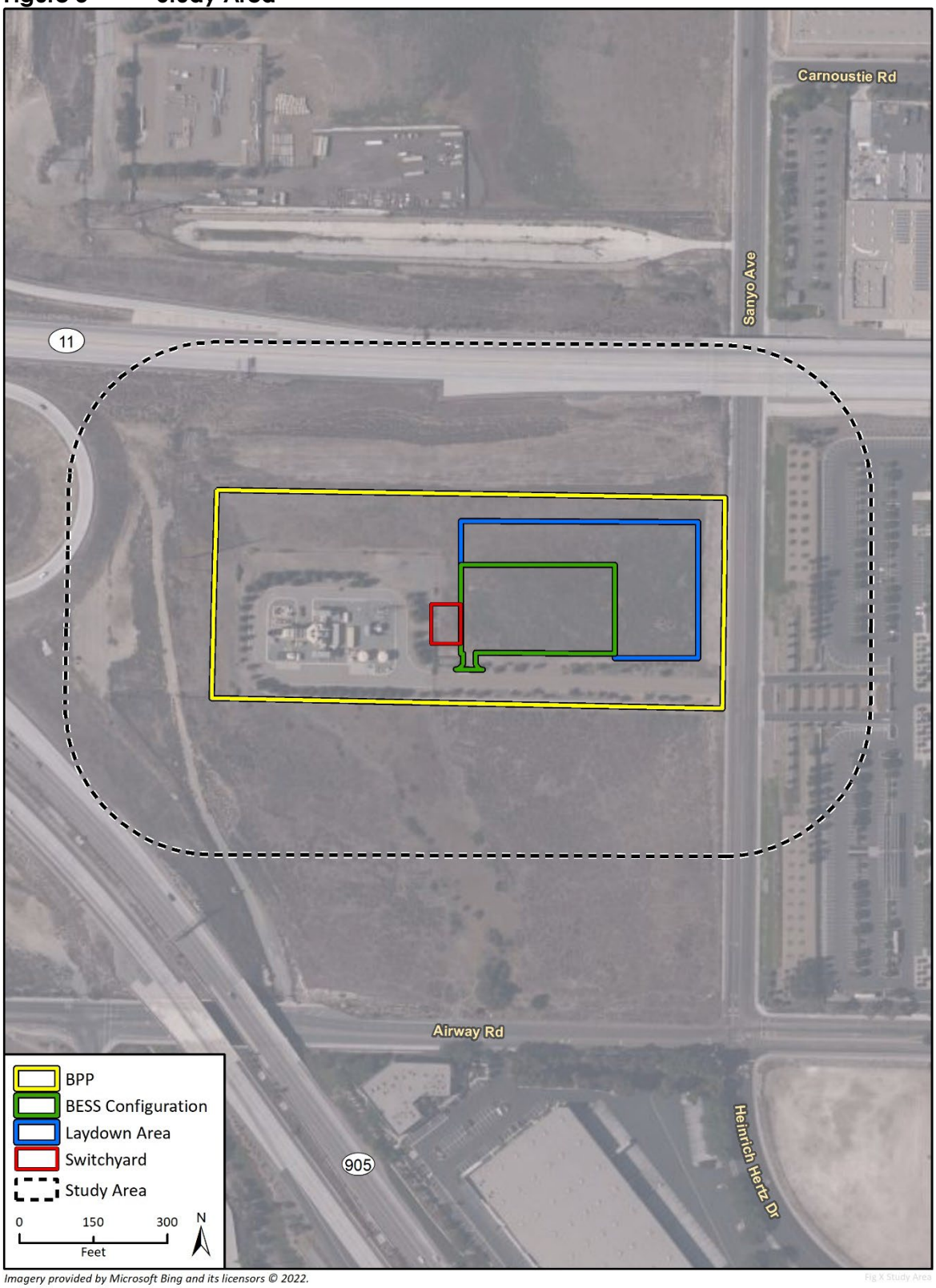

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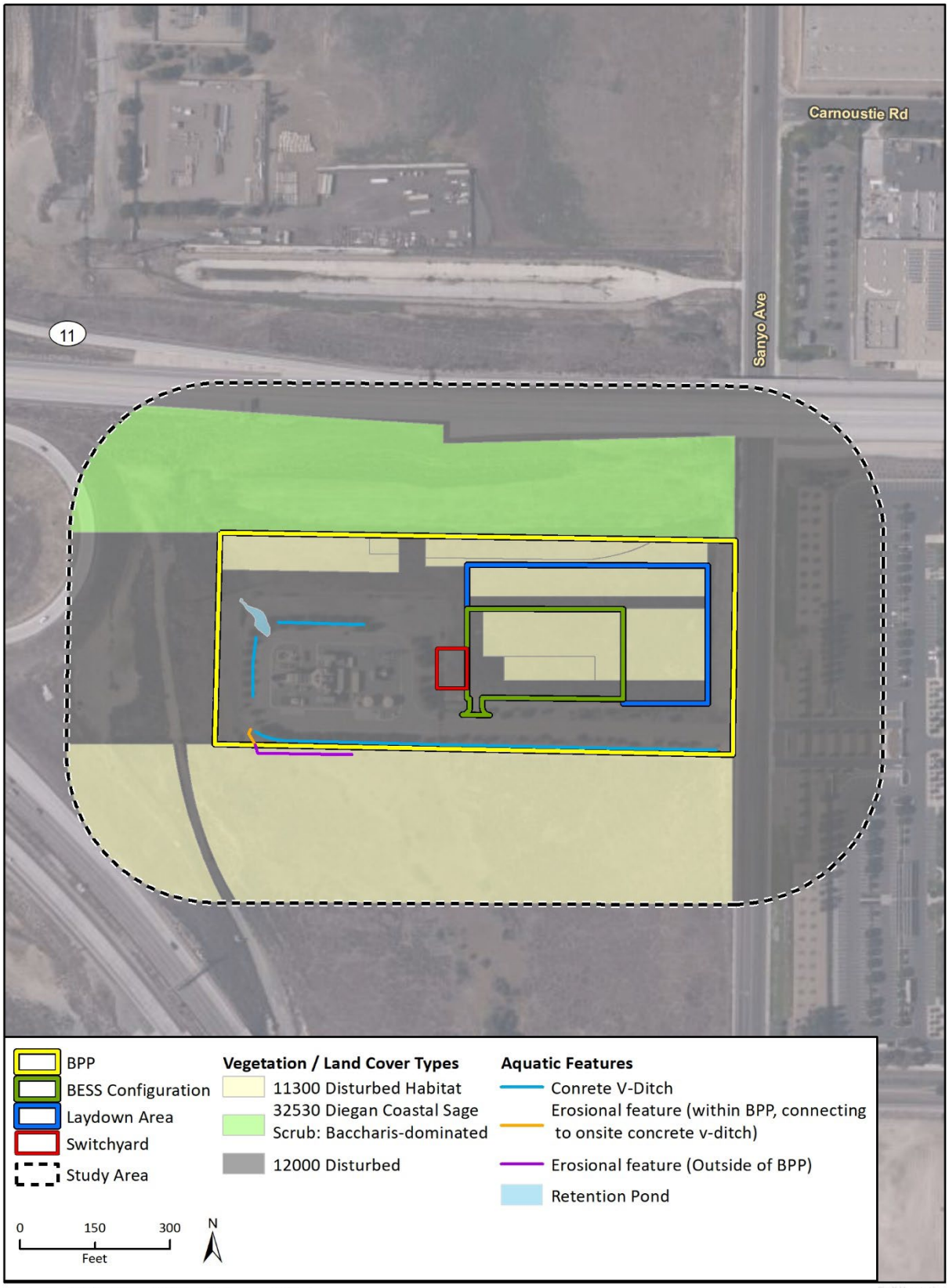
Fig X Study Area

Figure 4 Land Cover Types



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Attachment B

Representative Site Photographs

Photograph 1. Paved access road from middle of site, facing west. Landscaped trees in background and foreground which serve as nesting bird habitat.

Photograph 2. Facing southwest, view of the urban/developed portion of the study area and the existing BPP. Note the structure is surrounded by landscaped trees which make suitable habitat for nesting birds, as well as the disturbed habitat on the northern border of the BPP. Caltrans mitigation area is present in the background, on the upper right-hand site of the photograph. SR 905 and 125 interchange is visible the far background.

Photograph 3. Disturbed habitat populated by non-native species in northeast corner of study area, facing northwest. These grasses are routinely mowed as a result of BPP maintenance. No mowing occurs past the fence line, as seen in the background. Slope at the eastern edge of the study area contains inactive burrows, likely belonging to Botta's pocket gopher.

Photographs 4 and 5. View of the Caltrans mitigation area facing northwest and northeast. Hillside has newly planted native plants and straw waddles north of study area. Native vegetation protected by large well-maintained fence.

Photograph 6. Representative small mammal burrows at the BPP. Facing south along the slope north of the access road into the BPP. Undeveloped land present in the background; surrounding industrial and commercial development in the far background.

Photograph 7. Facing west, sheet flow of water from the south enters the study area at this location. Note the beginning of the erosional feature in the middle of the photo. Majority of the runoff at this location does not connect to the v-ditch inside the fence of the BPP as seen on the right. Note the undeveloped land to the south as well as the state route 905 to the west and the BPP to the north.

Photograph 8. Erosional drainage feature south of study area, facing west. Water flows from east to west at this location and carves into the soil parallel to the v-ditch inside the fenced area.

Photograph 9. Confluence of erosional drainage and v-ditch drainage in southwest corner of the study area facing north. Water flows in from the southeast, meets the v-ditch drainage and flows north onto the study area. Ornamental/landscaped vegetation and existing power plant in background, non-native vegetation in foreground. Caltrans mitigation site in far back.

Photograph 10. Drainage pool in northwest corner of the property, facing east. Water collects at this point from the south via a v-ditch, where it mostly abates into the landscape. A small amount drains to the northwest, into an existing equipment staging yard. Existing power plant in background along with ornamental vegetation and a mobile container to the east. Note native mitigation vegetation, disturbed habitat, and developed land in background.

Photograph 11. Small drainage erosion in the northwest corner of study area, facing northwest. Water leaves the property at this location when drainage depression overflows. Caltrans mitigation area to the north, and staging area with construction materials to the west.

Photograph 12. View from middle of study area, facing northeast, towards Sanyo Ave. Bare slope contains multiple inactive burrows. Disturbed habitat contains mostly black mustard and assorted non-native grasses.

Photograph 13. View from Sanyo Ave of the study area and existing access road to power plant, facing west. Note the disturbed nature of vegetation in this area, which is routinely mowed and maintained. Construction of the project is planned to occur exclusively within this area, with the exception of the access road repair

and the 13.8 kV line connection between the BESS switchyard and the BPP to the west on previously disturbed and developed land.

Attachment C

Special Status Species Evaluation Tables

Special Status Plant Species in the Regional Vicinity (Nine Quadrangles) of the Study Area

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
Plants and Lichens				
Abronia maritima red sand-verbena	None/None G4/S3? 4.2	Perennial herb. Coastal dunes. Dune plant. Elevations: 0-330ft. (0-100m.) Blooms Feb-Nov.	Not Expected	Study area is outside of elevation range for this species and suitable habitat is absent.
Acanthomintha ilicifolia San Diego thorn-mint	FT/SCE G1/S1 1B.1	Annual herb. Chaparral, coastal scrub, valley and foothill grassland, vernal pools. Clay, openings. Elevations: 35-3150ft. (10-960m.) Blooms Apr-Jun.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Acmispon prostratus Nuttall's acmispon	None/None G1G2/S1 1B.1	Annual herb. Coastal dunes, coastal scrub. On sand dunes. Elevations: 0-35ft. (0-10m.) Blooms Mar-Jun(Jul).	Not Expected	Study area is outside of elevation range and geographic area for this species. Suitable habitat is absent.
Adolphia californica California adolphia	None/None G3/S2 2B.1	Perennial deciduous shrub. Chaparral, coastal scrub, valley and foothill grassland. Clay. Elevations: 35-2430ft. (10-740m.) Blooms Dec-May.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Agave shawii var. *shawii* Shaw's agave	None/None G2G3T2/S1 2B.1	Perennial leaf. Coastal bluff scrub, coastal scrub. Coastal bluffs and slopes within coastal sage scrub. Elevations: 10-395ft. (3-120m.) Blooms Sep-May.	Not Expected	Study area is outside of elevation range and geographic area for this species. Suitable habitat is absent.
Ambrosia chenopodiifolia San Diego bur-sage	None/None G2G3/S1 2B.1	Perennial shrub. Coastal scrub. Slopes of canyons in open succulent scrub usually with little herbaceous cover. Elevations: 180-510ft. (55-155m.) Blooms Apr-Jun.	Not Expected	Outside of elevation range for this species. Suitable habitat is absent.
Ambrosia monogyra singlewhorl burrobrush	None/None G5/S2 2B.2	Perennial shrub. Chaparral, sonoran desert scrub. Sandy. Elevations: 35-1640ft. (10-500m.) Blooms Aug-Nov.	Not Expected	Appropriate soil types absent, outside geographic range for this species. Suitable habitat is absent.
Ambrosia pumila San Diego ambrosia	FE/None G1/S1 1B.1	Perennial rhizomatous herb. Chaparral, coastal scrub, valley and foothill grassland, vernal	Low Potential	Marginal habitat present onsite. Not

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
		pools. Alkaline (sometimes), clay (sometimes), disturbed areas (often), sandy (sometimes). Elevations: 65-1360ft. (20-415m.) Blooms Apr-Oct.		observed during survey.
Aphanisma blitoides aphanisma	None/None G3G4/S2 1B.2	Annual herb. Coastal bluff scrub, coastal dunes, coastal scrub. Gravelly (sometimes), sandy (sometimes). Elevations: 5-1000ft. (1-305m.) Blooms Feb-Jun.	Not Expected	Outside of geographic range for species, soil types not suitable for this species. Suitable habitat is absent.
Arctostaphylos otayensis Otay manzanita	None/None G1/S1 1B.2	Perennial evergreen shrub. Chaparral, cismontane woodland. Metavolcanic soils with other chaparral associates. Elevations: 900-5580ft. (275-1700m.) Blooms Jan-Apr.	Not Expected	Study area is outside of elevation range for this species. Suitable habitat is absent.
Artemisia palmeri San Diego sagewort	None/None G3?/S3? 4.2	Perennial deciduous shrub. Chaparral, coastal scrub, riparian forest, riparian scrub, riparian woodland. Mesic, sandy. Elevations: 50-3000ft. (15-915m.) Blooms (Feb)May-Sep.	Not Expected	Suitable habitat absent. Soil types not suitable for this species.
Asplenium vespertinum western spleenwort	None/None G4/S4 4.2	Perennial rhizomatous herb. Chaparral, cismontane woodland, coastal scrub. Rocky. Elevations: 590-3280ft. (180-1000m.) Blooms Feb-Jun.	Not Expected	Suitable habitat is absent.
Astragalus deanei Dean's milk-vetch	None/None G1/S1 1B.1	Perennial herb. Chaparral, cismontane woodland, coastal scrub, riparian forest. Open, brushy south-facing slopes in Diegan coastal sage, sometimes on recently burned-over hillsides. Elevations: 245-2280ft. (75-695m.) Blooms Feb-May.	Not Expected	Suitable habitat is absent.
Astragalus oocarpus San Diego milk-vetch	None/None G2?/S2? 1B.2	Perennial herb. Chaparral, cismontane woodland. Openings in chaparral or on gravelly flats and slopes in thin oak woodland. Elevations: 1000-5000ft. (305-1524m.) Blooms May-Aug.	Not Expected	Study area is outside of elevation range for this species. Suitable habitat is absent.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
Atriplex coulteri Coulter's saltbush	None/None G3/S1S2 1B.2	Perennial herb. Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland. Alkaline (sometimes), clay (sometimes). Elevations: 10-1510ft. (3-460m.) Blooms Mar-Oct.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Atriplex pacifica south coast saltscale	None/None G4/S2 1B.2	Annual herb. Coastal bluff scrub, coastal dunes, coastal scrub, playas. Alkali soils. Elevations: 0-460ft. (0-140m.) Blooms Mar-Oct.	Not Expected	Study area is outside of elevation range for this species. Suitable habitat is absent.
Baccharis vanessae Encinitas baccharis	FT/SCE G1/S1 1B.1	Perennial deciduous shrub. Chaparral, cismontane woodland. Sandstone. Elevations: 195-2360ft. (60-720m.) Blooms Aug-Nov.	Not Expected	Suitable habitat and soil types absent.
Bergerocactus emoryi golden-spined cereus	None/None G2G3/S2 2B.2	Perennial stem. Chaparral, closed-cone coniferous forest, coastal scrub. Sandy. Elevations: 10-1295ft. (3-395m.) Blooms May-Jun.	Not Expected	Soil type not suitable for this species. Suitable habitat is absent.
Bloomeria clevelandii San Diego goldenstar	None/None G2/S3 1B.1	Perennial bulbiferous herb. Chaparral, coastal scrub, valley and foothill grassland, vernal pools. Clay. Elevations: 165-1525ft. (50-465m.) Blooms Apr-May.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Brodiaea orcuttii Orcutt's brodiaea	None/None G2/S2 1B.1	Perennial bulbiferous herb. Chaparral, cismontane woodland, closed-cone coniferous forest, meadows and seeps, valley and foothill grassland, vernal pools. Clay, Mesic. Elevations: 100-5550ft. (30-1692m.) Blooms May-Jul.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Calandrinia breweri Brewer's calandrinia	None/None G4/S4 4.2	Annual herb. Chaparral, coastal scrub. Burned areas, disturbed areas, loam (sometimes), sandy (sometimes). Elevations: 35-4005ft. (10-1220m.) Blooms (Jan)Mar-Jun.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Calochortus dunnii Dunn's mariposa-lily	None/SCR G2G3/S2S3 1B.2	Perennial bulbiferous herb. Chaparral, closed-cone coniferous forest, valley and foothill grassland. Gabbroic (sometimes), rocky. Elevations:	Not Expected	Outside of geographic range for species. Suitable soil types absent.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
		605-6005ft. (185-1830m.) Blooms (Feb)Apr-Jun.		
Camissoniopsis lewisii Lewis' evening-primrose	None/None G4/S4 3	Annual herb. Cismontane woodland, coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland. Clay (sometimes), sandy (sometimes). Elevations: 0-985ft. (0-300m.) Blooms Mar-May(Jun).	Low Potential	Marginal habitat present onsite. Not observed during survey.
Carex obispoensis San Luis Obispo sedge	None/None G3?/S3? 1B.2	Perennial cespitose herb. Chaparral, closed-cone coniferous forest, coastal prairie, coastal scrub, valley and foothill grassland. Usually in transition zone on sand, clay, serpentine, or gabbro. In seeps. Elevations: 35-2690ft. (10-820m.) Blooms Apr-Jun.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Ceanothus cyaneus Lakeside ceanothus	None/None G2/S2 1B.2	Perennial evergreen shrub. Chaparral, closed-cone coniferous forest. Elevations: 770-2475ft. (235-755m.) Blooms Apr-Jun.	Not Expected	Study area is outside of elevation range for this species. Suitable habitat is absent.
Ceanothus otayensis Otay Mountain ceanothus	None/None G1G2/S1 1B.2	Perennial evergreen shrub. Chaparral. Metavolcanic or gabbroic soils. Elevations: 1970-3610ft. (600-1100m.) Blooms Jan-Apr.	Not Expected	Study area is outside of elevation range for this species. Suitable habitat is absent.
Ceanothus verrucosus wart-stemmed ceanothus	None/None G2/S2? 2B.2	Perennial evergreen shrub. Chaparral. Elevations: 5-1245ft. (1-380m.) Blooms Dec-May.	Not Expected	Suitable habitat is absent.
Chaenactis glabriuscula var. *orcuttiana* Orcutt's pincushion	None/None G5T1T2/S1 1B.1	Annual herb. Coastal bluff scrub, coastal dunes. Sandy sites. Elevations: 0-330ft. (0-100m.) Blooms Jan-Aug.	Not Expected	Study area is outside of elevation range for this species. Suitable habitat and soil types absent.
Chamaebatia australis southern mountain misery	None/None G4/S4 4.2	Perennial evergreen shrub. Chaparral. Gabbro or metavolcanic soils. Elevations: 985-3345ft. (300-1020m.) Blooms Nov-May.	Not Expected	Study area is outside of elevation range for this species. Suitable habitat is absent.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
Chloropyron maritimum ssp. *maritimum* salt marsh bird's-beak	FE/SCE G4?T1/S1 1B.2	Annual herb (hemiparasitic). Coastal dunes, marshes and swamps. Limited to the higher zones of salt marsh habitat. Elevations: 0-100ft. (0-30m.) Blooms May-Oct(Nov).	Not Expected	Study area is outside of elevation range for this species. Suitable habitat is absent.
Chorizanthe leptotheca Peninsular spineflower	None/None G3/S3 4.2	Annual herb. Chaparral, coastal scrub, lower montane coniferous forest. Granitic. Elevations: 985-6235ft. (300-1900m.) Blooms May-Aug.	Not Expected	Study area is outside of elevation range for this species. Suitable habitat is absent.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
Chorizanthe polygonoides var. *longispina* long-spined spineflower	None/None G5T3/S3 1B.2	Annual herb. Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools. Clay (often). Elevations: 100-5020ft. (30-1530m.) Blooms Apr-Jul.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Cistanthe maritima seaside cistanthe	None/None G3G4/S3 4.2	Annual herb. Coastal bluff scrub, coastal scrub, valley and foothill grassland. Sandy. Elevations: 15-985ft. (5-300m.) Blooms (Feb)Mar-Jun(Aug).	Not Expected	Suitable habitat is absent.
Clarkia delicata delicate clarkia	None/None G3/S3 1B.2	Annual herb. Chaparral, cismontane woodland. Gabbroic (often). Elevations: 770-3280ft. (235-1000m.) Blooms Apr-Jun.	Not Expected	Outside of geographic range for species. Suitable habitat is absent.
Clinopodium chandleri San Miguel savory	None/None G3/S2 1B.2	Perennial shrub. Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Gabbroic (sometimes), rocky (sometimes). Elevations: 395-3525ft. (120-1075m.) Blooms Mar-Jul.	Not Expected	Soil types not suitable for this species.
Comarostaphylis diversifolia ssp. *diversifolia* summer holly	None/None G3T2/S2 1B.2	Perennial evergreen shrub. Chaparral, cismontane woodland. Often in mixed chaparral in California, sometimes post-burn. Elevations: 100-2590ft. (30-790m.) Blooms Apr-Jun.	Not Expected	Suitable habitat is absent.
Convolvulus simulans small-flowered morning-glory	None/None G4/S4 4.2	Annual herb. Chaparral, coastal scrub, valley and foothill grassland. Clay, seeps, serpentinite. Elevations: 100-2430ft. (30-740m.) Blooms Mar-Jul.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Cordylanthus parviflorus small-flowered bird's-beak	None/None G4/S2 2B.3	Annual herb (hemiparasitic). Joshua tree woodland, mojavean desert scrub, pinyon and juniper woodland. Elevations: 2295-7220ft. (700-2200m.) Blooms Aug-Oct.	Not Expected	Study area is outside of elevation range for this species. Suitable habitat is absent.
Corethrogyne filaginifolia var. *incana* San Diego sand aster	None/None G4T1Q/S1 1B.1	Perennial herb. Chaparral, coastal bluff scrub, coastal scrub. Most sites are disturbed, so hard to tell. Possibly in disturbed sites and ecotones.	Not Expected	Study area is outside of elevation range for this species.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
		Elevations: 10-375ft. (3-115m.) Blooms Jun-Sep.		
Cylindropuntia californica var. *californica* snake cholla	None/None G3T2/S1 1B.1	Perennial stem. Chaparral, coastal scrub. Elevations: 100-490ft. (30-150m.) Blooms Apr-May.	Not Expected	Suitable habitat is absent.
Deinandra conjugens Otay tarplant	FT/SCE G1/S1 1B.1	Annual herb. Coastal scrub, valley and foothill grassland. Coastal plains, mesas, and river bottoms; often in open, disturbed areas; clay soils. Elevations: 80-985ft. (25-300m.) Blooms (Apr)May-Jun.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Deinandra floribunda Tecate tarplant	None/None G2/S2 1B.2	Annual herb. Chaparral, coastal scrub. Often in little drainages or disturbed areas. Elevations: 230-4005ft. (70-1220m.) Blooms Aug-Oct.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Deinandra paniculata paniculate tarplant	None/None G4/S4 4.2	Annual herb. Coastal scrub, valley and foothill grassland, vernal pools. Usually in vernally mesic sites. Sometimes in vernal pools or on mima mounds near them. Elevations: 80-3085ft. (25-940m.) Blooms (Mar)Apr-Nov.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Dendromecon harfordii var. *harfordii* north island bush-poppy	None/None G3T3Q/S3 3.2	Perennial evergreen shrub. Chaparral, closed-cone coniferous forest. On slopes and ridges. Elevations: 50-1380ft. (15-420m.) Blooms Mar-Nov.	Not Expected	Suitable habitat is absent.
Dichondra occidentalis western dichondra	None/None G3G4/S3S4 4.2	Perennial rhizomatous herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. On sandy loam, clay, and rocky soils. Elevations: 165-1640ft. (50-500m.) Blooms (Jan)Mar-Jul.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Dicranostegia orcuttiana Orcutt's bird's-beak	None/None G2G3/S1 2B.1	Annual herb (hemiparasitic). Coastal scrub. Found in coastal scrub associations on slopes; also reported from intermittently moist swales, and in washes. Elevations: 35-1150ft. (10-350m.) Blooms (Mar)Apr-Jul(Sep).	Not Expected	Suitable habitat is absent.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
Diplacus clevelandii Cleveland's bush monkeyflower	None/None G4/S4 4.2	Perennial rhizomatous herb. Chaparral, cismontane woodland, lower montane coniferous forest. Disturbed gravelly roadsides and slopes. Gabbro soils. Elevations: 1475-6560ft. (450-2000m.) Blooms Apr-Jul.	Not Expected	Study area is outside of elevation range for this species.
Dudleya attenuata ssp. *attenuata* Orcutt's dudleya	None/None G4T1T2/S1 2B.1	Perennial herb. Chaparral, coastal bluff scrub, coastal scrub. Rocky mesas, canyons, and ridges. Elevations: 10-165ft. (3-50m.) Blooms May-Jul.	Not Expected	Suitable habitat is absent.
Dudleya blochmaniae ssp. *blochmaniae* Blochman's dudleya	None/None G3T2/S2 1B.1	Perennial herb. Chaparral, coastal bluff scrub, coastal scrub, valley and foothill grassland. Open, rocky slopes; often in shallow clays over serpentine or in rocky areas with little soil. Elevations: 15-1475ft. (5-450m.) Blooms Apr-Jun.	Not Expected	Suitable habitat is absent.and site is outside of species range.
Dudleya variegata variegated dudleya	None/None G2/S2 1B.2	Perennial herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools. In rocky or clay soils; sometimes associated with vernal pool margins. Elevations: 10-1905ft. (3-580m.) Blooms Apr-Jun.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Ericameria palmeri var. *palmeri* Palmer's goldenbush	None/None G4T2?/S2 1B.1	Perennial evergreen shrub. Chaparral, coastal scrub. On granitic soils, on steep hillsides. Mesic sites. Elevations: 100-1970ft. (30-600m.) Blooms (Jul)Sep-Nov.	Not Expected	Suitable habitat is absent.
Eryngium aristulatum var. *parishii* San Diego button-celery	FE/SCE G5T1/S1 1B.1	Annual/perennial herb. Coastal scrub, valley and foothill grassland, vernal pools. San Diego mesa hardpan and claypan vernal pools and southern interior basalt flow vernal pools; usually surrounded by scrub. Elevations: 65-2035ft. (20-620m.) Blooms Apr-Jun.	Not Expected	Suitable habitat is absent.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
Erythranthe diffusa Palomar monkeyflower	None/None G4/S3 4.3	Annual herb. Chaparral, lower montane coniferous forest. Sandy or gravelly soils. Elevations: 4005-6005ft. (1220-1830m.) Blooms Apr-Jun.	Not Expected	Study area is outside of elevation range for this species. Suitable habitat is absent.
Euphorbia misera cliff spurge	None/None G5/S2 2B.2	Perennial shrub. Coastal bluff scrub, coastal scrub, mojavean desert scrub. Rocky sites. Elevations: 35-1640ft. (10-500m.) Blooms (Oct)Dec-Aug.	Not Expected	Suitable habitat is absent.
Ferocactus viridescens San Diego barrel cactus	None/None G3?/S2S3 2B.1	Perennial stem. Chaparral, coastal scrub, valley and foothill grassland, vernal pools. Often on exposed, level or south-sloping areas; often in coastal scrub near crest of slopes. Elevations: 10-1475ft. (3-450m.) Blooms May-Jun.	Not Expected	Suitable habitat is absent.
Frankenia palmeri Palmer's frankenia	None/None G3?/S1 2B.1	Perennial herb. Coastal dunes, marshes and swamps, playas. Elevations: 0-35ft. (0-10m.) Blooms May-Jul.	Not Expected	Study area is outside of elevation range for this species and suitable habitat is absent.
Fraxinus parryi chaparral ash	None/None G3?/S1 2B.2	Perennial shrub. Chaparral. Open mixed chaparral and in the chaparral-sage scrub interface in California. Elevations: 700-2035ft. (213-620m.) Blooms Mar-May.	Not Expected	Study area is outside of elevation range for this species and suitable habitat is absent.
Fremontodendron mexicanum Mexican flannelbush	FE/SCR G2/S1 1B.1	Perennial evergreen shrub. Chaparral, cismontane woodland, closed-cone coniferous forest. Usually scattered along the borders of creeks or in dry canyons; found on gabbro, serpentine, or metavolcanics. Elevations: 35-2350ft. (10-716m.) Blooms Mar-Jun.	Not Expected	Suitable habitat is absent.
Galium proliferum desert bedstraw	None/None G5/S2 2B.2	Annual herb. Joshua tree woodland, mojavean desert scrub, pinyon and juniper woodland. Rocky, limestone substrate. Elevations: 3905-5350ft. (1190-1630m.) Blooms Mar-Jun.	Not Expected	Study area is outside of elevation range for this species and suitable habitat is absent.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
Geothallus tuberosus Campbell's liverwort	None/None G2/S2 1B.1	Ephemeral liverwort. Coastal scrub, vernal pools. Liverwort known from mesic soil. Elevations: 35-1970ft. (10-600m.)	Not Expected	Suitable habitat is absent.
Githopsis diffusa ssp. *filicaulis* Mission Canyon bluecup	None/None G5T1Q/S1 3.1	Annual herb. Chaparral. Probably in open, grassy places and mesic, disturbed areas; much overlooked. Elevations: 1475-2295ft. (450-700m.) Blooms Apr-Jun.	Low Potential	Outside of geographic range for species. Marginal habitat is present onsite. Not observed during survey.
Grindelia hallii San Diego gumplant	None/None G2/S2 1B.2	Perennial herb. Chaparral, lower montane coniferous forest, meadows and seeps, valley and foothill grassland. Frequently occurs in low moist areas in meadows. Associated species commonly include Wyethia, Ranunculus, Sidalcea. Elevations: 605-5725ft. (185-1745m.) Blooms May-Oct.	Low Potential	Outside of geographic range for species. Marginal habitat present onsite. Not observed during survey.
Harpagonella palmeri Palmer's grapplinghook	None/None G4/S3 4.2	Annual herb. Chaparral, coastal scrub, valley and foothill grassland. Clay soils; open grassy areas within shrubland. Elevations: 65-3135ft. (20-955m.) Blooms Mar-May.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Hesperevax caulescens hogwallow starfish	None/None G3/S3 4.2	Annual herb. Valley and foothill grassland, vernal pools. Clay soils; mesic sites. Elevations: 0-1655ft. (0-505m.) Blooms Mar-Jun.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Hesperocyparis forbesii Tecate cypress	None/None G2/S2 1B.1	Perennial evergreen tree. Chaparral, closed-cone coniferous forest. Primarily on north-facing slopes; groves often associated with chaparral. On clay or gabbro. Elevations: 260-4920ft. (80-1500m.)	Not Expected	Suitable habitat absent.
Heterotheca sessiliflora ssp. *sessiliflora* beach goldenaster	None/None G4T2T3/S1 1B.1	Perennial herb. Chaparral, coastal dunes, coastal scrub. Sandy sites. Elevations: 0-4020ft. (0-1225m.) Blooms Mar-Dec.	Not Expected	Suitable habitat absent.
Holocarpha virgata ssp. *elongata* graceful tarplant	None/None G5T3/S3 4.2	Annual herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill	Not Expected	Study area is outside of geographic range

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
		grassland. Elevations: 195-3610ft. (60-1100m.) Blooms May-Nov.		and soil types not suitable for this species.
Hordeum intercedens vernal barley	None/None G3G4/S3S4 3.2	Annual herb. Coastal dunes, coastal scrub, valley and foothill grassland, vernal pools. Vernal pools, dry, saline streambeds, alkaline flats. 5-. Elevations: 15-3280ft. (5-1000m.) Blooms Mar-Jun.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Horkelia truncata Ramona horkelia	None/None G3/S3 1B.3	Perennial herb. Chaparral, cismontane woodland. Habitats in California include: mixed chaparral, vernal streams, and disturbed areas near roads. Clay soil; at least sometimes on gabbro. Elevations: 1310-4265ft. (400-1300m.) Blooms May-Jun.	Not Expected	Study area is outside of elevation range for this species.
Hosackia crassifolia var. *otayensis* Otay Mountain lotus	None/None G5T1/S1 1B.1	Perennial herb. Chaparral. Metavolcanic, often in disturbed areas. Elevations: 1245-3295ft. (380-1005m.) Blooms May-Aug.	Not Expected	Study area is outside of elevation range for this species.
Isocoma menziesii var. *decumbens* decumbent goldenbush	None/None G3G5T2T3/S2 1B.2	Perennial shrub. Chaparral, coastal scrub. Sandy soils; often in disturbed sites. Elevations: 35-445ft. (10-135m.) Blooms Apr-Nov.	Not Expected	Soil types not suitable for this species.
Iva hayesiana San Diego marsh-elder	None/None G3/S2 2B.2	Perennial herb. Marshes and swamps, playas. Riverwashes. Elevations: 35-1640ft. (10-500m.) Blooms Apr-Oct.	Not Expected	Suitable habitat absent.
Juglans californica Southern California black walnut	None/None G4/S4 4.2	Perennial deciduous tree. Chaparral, cismontane woodland, coastal scrub, riparian woodland. Slopes, canyons, alluvial habitats. Elevations: 165-2955ft. (50-900m.) Blooms Mar-Aug.	Not Expected	Suitable habitat absent.
Juncus acutus ssp. *leopoldii* southwestern spiny rush	None/None G5T5/S4 4.2	Perennial rhizomatous herb. Coastal dunes, marshes and swamps, meadows and seeps. Moist saline places. Elevations: 10-2955ft. (3-900m.) Blooms (Mar)May-Jun.	Not Expected	Suitable habitat absent.
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	None/None G4T2/S2 1B.1	Annual herb. Marshes and swamps, playas, vernal pools. Usually found on alkaline soils	Not Expected	Suitable habitat absent.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
		in playas, sinks, and grasslands. 1-. Elevations: 5-4005ft. (1-1220m.) Blooms Feb-Jun.		
Lathyrus splendens pride-of-California	None/None G4/S4 4.3	Perennial herb. Chaparral. Sandy to gravelly soils. Elevations: 655-5005ft. (200-1525m.) Blooms Mar-Jun.	Not Expected	Study area is outside of elevation range, and soil types are not suitable for this species.
Lepechinia ganderi Gander's pitcher sage	None/None G3/S3 1B.3	Perennial shrub. Chaparral, closed-cone coniferous forest, coastal scrub, valley and foothill grassland. Usually found in chaparral or coastal scrub; sometimes in tecate cypress woodland. Gabbro or metavolcanic substrate. Elevations: 1000-3295ft. (305-1005m.) Blooms Jun-Jul.	Not Expected	Study area is outside of elevation range, and soil types are not suitable for this species.
Lepidium virginicum var. *robinsonii* Robinson's pepper-grass	None/None G5T3/S3 4.3	Annual herb. Chaparral, coastal scrub. Dry soils, shrubland. 4-. Elevations: 5-2905ft. (1-885m.) Blooms Jan-Jul.	Not Expected	Suitable habitat absent.
Leptosyne maritima sea dahlia	None/None G2/S1S2 2B.2	Perennial herb. Coastal bluff scrub, coastal scrub. Occurs on a variety of soil types, including sandstone. Elevations: 15-490ft. (5-150m.) Blooms Mar-May.	Not Expected	Study area is outside of elevation range for this species. Suitable habitat absent.
Lilium humboldtii ssp. *humboldtii* Humboldt lily	None/None G4T3/S3 4.2	Perennial bulbiferous herb. Chaparral, cismontane woodland, lower montane coniferous forest. Yellow-pine forest, openings or open forest. Elevations: 295-4200ft. (90-1280m.) Blooms May-Jul(Aug).	Not Expected	Suitable habitat absent.
Lilium humboldtii ssp. *ocellatum* ocellated Humboldt lily	None/None G4T4?/S4? 4.2	Perennial bulbiferous herb. Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland. Yellow-pine forest or openings, oak canyons. Elevations: 100-5905ft. (30-1800m.) Blooms Mar-Jul(Aug).	Not Expected	Suitable habitat absent.
Lycium californicum California box-thorn	None/None G4/S4 4.2	Perennial shrub. Coastal bluff scrub, coastal scrub.	Not Expected	Study area is outside of elevation range for

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
		Elevations: 15-490ft. (5-150m.) Blooms Mar-Aug(Dec).		this species. Suitable habitat absent.
Microseris douglasii ssp. *platycarpha* small-flowered microseris	None/None G4T4/S4 4.2	Annual herb. Cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools. Alkaline clay in river bottoms. Elevations: 50-3510ft. (15-1070m.) Blooms Mar-May.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Monardella hypoleuca ssp. *lanata* felt-leaved monardella	None/None G4T3/S3 1B.2	Perennial rhizomatous herb. Chaparral, cismontane woodland. Occurs in understory in mixed chaparral, chamise chaparral, and southern oak woodland; sandy soil. Elevations: 985-5170ft. (300-1575m.) Blooms Jun-Aug.	Not Expected	Study area is outside of elevation range for this species. Suitable habitat absent.
Monardella stoneana Jennifer's monardella	None/None G2/S1 1B.2	Perennial herb. Chaparral, closed-cone coniferous forest, coastal scrub, riparian scrub. Usually found in rocky, intermittent streambeds. Elevations: 35-2590ft. (10-790m.) Blooms Jun-Sep.	Not Expected	Soil types not suitable for this species, Suitable habitat absent.
Monardella viminea willowy monardella	FE/SCE G1/S1 1B.1	Perennial herb. Chaparral, coastal scrub, riparian forest, riparian scrub, riparian woodland. In canyons, in rocky and sandy places, sometimes in washes or floodplains, with Baccharis, Iva, etc. Alluvial, ephemeral washes with adjacent coastal scrub. Elevations: 165-740ft. (50-225m.) Blooms Jun-Aug.	Not Expected	Suitable habitat absent.
Mucronea californica California spineflower	None/None G3/S3 4.2	Annual herb. Chaparral, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland. Sandy soil. Elevations: 0-4595ft. (0-1400m.) Blooms Mar-Jul(Aug).	Not Expected	Soil types not suitable for this species.
Myosurus minimus ssp. *apus* little mousetail	None/None G5T2Q/S2 3.1	Annual herb. Valley and foothill grassland, vernal pools. Alkaline soils. Elevations: 65-2100ft. (20-640m.) Blooms Mar-Jun.	Not Expected	Suitable habitat and soil type absent.
Nama stenocarpa mud nama	None/None G4G5/S1S2 2B.2	Annual/perennial herb. Marshes and swamps. Lake shores, river banks,	Not Expected	Suitable habitat absent.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
		intermittently wet areas. Elevations: 15-1640ft. (5-500m.) Blooms Jan-Jul.		
Navarretia fossalis spreading navarretia	FT/None G2/S2 1B.1	Annual herb. Chenopod scrub, marshes and swamps, playas, vernal pools. San Diego hardpan and San Diego claypan vernal pools; in swales and vernal pools, often surrouded by other habitat types. Elevations: 100-2150ft. (30-655m.) Blooms Apr-Jun.	Not Expected	Suitable habitat absent.
Navarretia prostrata prostrate vernal pool navarretia	None/None G2/S2 1B.2	Annual herb. Coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools. Alkaline soils in grassland, or in vernal pools. Mesic, alkaline sites. Elevations: 10-3970ft. (3-1210m.) Blooms Apr-Jul.	Not Expected	Suitable habitat absent.
Nemacaulis denudata var. *denudata* coast woolly-heads	None/None G3G4T2/S2 1B.2	Annual herb. Coastal dunes. Elevations: 0-330ft. (0-100m.) Blooms Apr-Sep.	Not Expected	Study area is outside of elevation range for this species. Suitable habitat absent.
Nemacaulis denudata var. *gracilis* slender cottonheads	None/None G3G4T3?/S2 2B.2	Annual herb. Coastal dunes, desert dunes, sonoran desert scrub. In dunes or sand. Elevations: -165-1310ft. (-50-400m.) Blooms (Mar)Apr-May.	Not Expected	Appropriate habitat absent, soil types not suitable for this species.
Nolina interrata Dehesa nolina	None/SCE G2/S2 1B.1	Perennial herb. Chaparral. Typically on rocky hillsides or ravines on ultramafic soils (gabbro, serpentine, or metavolcanic). Elevations: 605-2805ft. (185-855m.) Blooms Jun-Jul.	Not Expected	Study area is outside of elevation range, soil types not suitable for this species. Suitable habitat absent.
Ophioglossum californicum California adder's-tongue	None/None G4/S4 4.2	Perennial rhizomatous herb. Chaparral, valley and foothill grassland, vernal pools. Grassy pastures, vernal pool margins, chaparral. Mesic sites. Elevations: 195-1725ft. (60-525m.) Blooms Jan-Jun(Dec).	Not Expected	Suitable habitat absent.
Orcuttia californica California Orcutt grass	FE/SCE G1/S1 1B.1	Annual herb. Vernal pools. Elevations: 50-2165ft. (15-660m.) Blooms Apr-Aug.	Not Expected	Suitable habitat absent.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
Ornithostaphylos oppositifolia Baja California birdbush	None/SCE G3/S1 2B.1	Perennial evergreen shrub. Chaparral. Associated with Ceanothus verrucosus and Salvia mellifera in California. Elevations: 180-2625ft. (55-800m.) Blooms Jan-Apr.	Not Expected	Suitable habitat absent.
Orobanche parishii ssp. *brachyloba* short-lobed broomrape	None/None G4?T4/S3 4.2	Perennial herb (parasitic). Coastal bluff scrub, coastal dunes, coastal scrub. Sandy soil near beaches; reported to grow on Isocoma menziesii and other shrubs. Elevations: 10-1000ft. (3-305m.) Blooms Apr-Oct.	Not Expected	Appropriate habitat is absent and site is outside of species range.
Packera ganderi Gander's ragwort	None/SCR G2/S2 1B.2	Perennial herb. Chaparral. Recently burned sites and gabbro outcrops. Elevations: 1310-3935ft. (400-1200m.) Blooms Apr-Jun.	Not Expected	Study area is outside of elevation range for this species. Suitable habitat absent.
Pentachaeta aurea ssp. *aurea* golden-rayed pentachaeta	None/None G4T3/S3 4.2	Annual herb. Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland, valley and foothill grassland. Elevations: 260-6070ft. (80-1850m.) Blooms Mar-Jul.	Not Expected	Suitable habitat absent.
Phacelia stellaris Brand's star phacelia	None/None G1/S1 1B.1	Annual herb. Coastal dunes, coastal scrub. Open areas. Elevations: 5-1310ft. (1-400m.) Blooms Mar-Jun.	Not Expected	Suitable habitat absent.
Pickeringia montana var. *tomentosa* woolly chaparral-pea	None/None G5T3T4/S3S4 4.3	Evergreen shrub. Chaparral. Gabbroic or granitic substrates; usually clay. Elevations: 0-5580ft. (0-1700m.) Blooms May-Aug.	Not Expected	Suitable habitat absent.
Piperia cooperi chaparral rein orchid	None/None G3G4/S3S4 4.2	Perennial herb. Chaparral, cismontane woodland, valley and foothill grassland. Elevations: 50-5200ft. (15-1585m.) Blooms Mar-Jun.	Not Expected	Suitable habitat absent.
Pogogyne nudiuscula Otay Mesa mint	FE/SCE G1/S1 1B.1	Annual herb. Vernal pools. Dry beds of vernal pools and moist swales with Eryngium aristulatum var. parishii and Orcuttia californica. Elevations: 295-820ft. (90-250m.) Blooms May-Jul.	Not Expected	Suitable habitat absent.

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Polygala cornuta var. *fishiae* Fish's milkwort	None/None G5T4/S4 4.3	Perennial deciduous shrub. Chaparral, cismontane woodland, riparian woodland. Scree slopes, brushy ridges, and along creeks; often with oaks. Elevations: 330-3280ft. (100-1000m.) Blooms May-Aug.	Not Expected	Suitable habitat absent.
Quercus cedrosensis Cedros Island oak	None/None G3/S1 2B.2	Perennial evergreen tree. Chaparral, closed-cone coniferous forest, coastal scrub. Elevations: 835-3150ft. (255-960m.) Blooms Apr-May.	Not Expected	Suitable habitat absent.
Quercus dumosa Nuttall's scrub oak	None/None G3/S3 1B.1	Perennial evergreen shrub. Chaparral, closed-cone coniferous forest, coastal scrub. Generally on sandy soils near the coast; sometimes on clay loam. Elevations: 50-1310ft. (15-400m.) Blooms Feb-Apr(May-Aug).	Not Expected	Suitable habitat absent.
Quercus engelmannii Engelmann oak	None/None G3/S3 4.2	Perennial deciduous tree. Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. Elevations: 165-4265ft. (50-1300m.) Blooms Mar-Jun.	Not Expected	Suitable habitat absent.
Ribes canthariforme Moreno currant	None/None G2/S2 1B.3	Perennial deciduous shrub. Chaparral, riparian scrub. Among boulders in oak-manzanita thickets; shaded or partially shaded sites. Elevations: 1115-3935ft. (340-1200m.) Blooms Feb-Apr.	Not Expected	Study area is outside of elevation range for this species. Suitable habitat absent.
Ribes viburnifolium Santa Catalina Island currant	None/None G2?/S2? 1B.2	Perennial evergreen shrub. Chaparral, cismontane woodland. Among shrubs in canyons. Elevations: 100-1150ft. (30-350m.) Blooms Feb-Apr.	Not Expected	Suitable habitat absent.
Romneya coulteri Coulter's matilija poppy	None/None G4/S4 4.2	Perennial rhizomatous herb. Chaparral, coastal scrub. In washes and on slopes; also after burns. Elevations: 65-3935ft. (20-1200m.) Blooms Mar-Jul(Aug).	Not Expected	Suitable habitat absent.
Rosa minutifolia small-leaved rose	None/SCE G2G3/SX.C 2B.1	Perennial deciduous shrub. Chaparral, coastal scrub. In the United States, on cobbly soil at	Low Potential	Marginal habitat present onsite. Not

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
		the head of a small, dry canyon on Otay Mesa. Elevations: 490-525ft. (150-160m.) Blooms Jan-Jun.		observed during survey.
Salvia munzii Munz's sage	None/None G2/S2 2B.2	Perennial evergreen shrub. Chaparral, coastal scrub. Rolling hills and slopes, in rocky soil. Elevations: 375-3495ft. (115-1065m.) Blooms Feb-Apr.	Not Expected	Appropriate habitat is absent, soils types not suitable to this species.
Selaginella cinerascens ashy spike-moss	None/None G3G4/S3 4.1	Perennial rhizomatous herb. Chaparral, coastal scrub. Elevations: 65-2100ft. (20-640m.)	Not Expected	Suitable habitat absent.
Senecio aphanactis chaparral ragwort	None/None G3/S2 2B.2	Annual herb. Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. Elevations: 50-2625ft. (15-800m.) Blooms Jan-Apr(May).	Not Expected	Suitable habitat absent.
Sphaerocarpos drewiae bottle liverwort	None/None G1/S1 1B.1	Ephemeral liverwort. Chaparral, coastal scrub. Liverwort in openings; on soil. Elevations: 295-1970ft. (90-600m.)	Not Expected	Suitable habitat absent.
Stemodia durantifolia purple stemodia	None/None G5/S2 2B.1	Perennial herb. Sonoran desert scrub. Sandy soils; mesic sites. Elevations: 590-985ft. (180-300m.) Blooms (Jan)Apr-Dec.	Not Expected	Appropriate habitat absent soil types not suitable for this species.
Stipa diegoensis San Diego County needle grass	None/None G4/S4 4.2	Perennial herb. Chaparral, coastal scrub. Rocky slopes, sea cliffs and stream banks; often in mesic sites. Elevations: 35-2625ft. (10-800m.) Blooms Feb-Jun.	Not Expected	Suitable habitat absent.
Streptanthus bernardinus Laguna Mountains jewelflower	None/None G3G4/S3S4 4.3	Perennial herb. Chaparral, lower montane coniferous forest. Clay or decomposed granite soils; sometimes in disturbed areas such as streamsides or roadcuts. Elevations: 2200-8205ft. (670-2500m.) Blooms May-Aug.	Not Expected	Study area is outside of elevation range for this species.
Stylocline citroleum oil neststraw	None/None G3/S3 1B.1	Annual herb. Chenopod scrub, coastal scrub, valley and foothill grassland. Flats, clay soils in oil-producing areas. Elevations: 165-1310ft. (50-400m.) Blooms Mar-Apr.	Low Potential	Marginal habitat present onsite. Not observed during survey.

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Suaeda esteroa estuary seablite	None/None G3/S2 1B.2	Perennial herb. Marshes and swamps. Coastal salt marshes in clay, silt, and sand substrates. Elevations: 0-15ft. (0-5m.) Blooms (Jan-May)Jul-Oct.	Not Expected	Study area is outside of geographic and elevation range for this species.
Suaeda taxifolia woolly seablite	None/None G4/S4 4.2	Perennial evergreen shrub. Coastal bluff scrub, coastal dunes, marshes and swamps. Margins of salt marshes. Elevations: 0-165ft. (0-50m.) Blooms Jan-Dec.	Not Expected	Study area is outside of elevation range for this species. Suitable habitat absent.
Tetracoccus dioicus Parry's tetracoccus	None/None G2G3/S2 1B.2	Perennial deciduous shrub. Chaparral, coastal scrub. Stony, decomposed gabbro soil. Elevations: 540-3280ft. (165-1000m.) Blooms Apr-May.	Not Expected	Suitable habitat absent.
Tortula californica California screw moss	None/None G2G3/S2? 1B.2	Moss. Chenopod scrub, valley and foothill grassland. Moss growing on sandy soil. Elevations: 35-4790ft. (10-1460m.)	Not Expected	Soil types not suitable for this species.
Viguiera laciniata San Diego County viguiera	None/None G4/S4 4.3	Perennial shrub. Chaparral, coastal scrub. Slopes and ridges. Elevations: 195-2460ft. (60-750m.) Blooms Feb-Jun(Aug).	Not Expected	Suitable habitat is absent.
Xanthisma junceum rush-like bristleweed	None/None G5/S4 4.3	Perennial herb. Chaparral, coastal scrub. Dry hillsides. Elevations: 785-3280ft. (240-1000m.) Blooms Jan-Oct.	Not Expected	Study area is outside of elevation range for this species.
Invertebrates				
Bombus crotchii Crotch bumble bee	None/None G3G4/S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	Not Expected	Suitable habitat is absent.
Branchinecta sandiegonensis San Diego fairy shrimp	FE/None G2/S2	Endemic to San Diego and Orange County mesas. Vernal pools.	Not Expected	Suitable habitat is absent.
Callophrys thornei Thorne's hairstreak	None/None G1/S2	Associated with the endemic tecate cypress (Cupressus forbesii). Only known from vicinity of Otay Mountain.	Not Expected	Suitable habitat is absent.
Cicindela hirticollis gravida	None/None G5T2/S2	Inhabits areas adjacent to non-brackish water along the coast of California from San	Not Expected	Suitable habitat is absent.

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sandy beach tiger beetle		Francisco Bay to northern Mexico. Clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand not affected by wave action.		
Cicindela latesignata western beach tiger beetle	None/None G2G3/S1	Mudflats and beaches of coastal estuaries from San Diego County to Los Angeles County. Typically inhabit wet or dry sandy beaches and mud, sand, or salt flats.	Not Expected	Suitable habitat is absent.
Cicindela senilis frosti senile tiger beetle	None/None G2G3T1T3/S1	Inhabits marine shoreline, from Central California coast south to salt marshes of San Diego. Also found at Lake Elsinore. Inhabits dark-colored mud in the lower zone and dried salt pans in the upper zone.	Not Expected	Suitable habitat is absent.
Coelus globosus globose dune beetle	None/None G1G2/S1S2	Inhabitant of coastal sand dune habitat; erratically distributed from Ten Mile Creek in Mendocino County south to Ensenada, Mexico. Inhabits foredunes and sand hummocks; it burrows beneath the sand surface and is most common beneath dune vegetation.	Not Expected	Suitable habitat is absent.
Danaus plexippus pop. 1 monarch - California overwintering population	FC/None G4T2T3/S2S3	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Not Expected	Suitable habitat is absent.
Deltaspis ivae marsh-elder long-horned beetle	None/None G1/S1	Found in a few scattered locations in San Diego and Riverside counties; larva breeds in Iva hayesiana root collars.	Not Expected	Suitable habitat is absent.
Euphydryas editha quino quino checkerspot butterfly	FE/None G5T1T2/S1S2	Sunny openings within chaparral and coastal sage shrublands in parts of Riverside and San Diego counties. Hills and mesas near the coast. Need high densities of food plants Plantago erecta, P.	Not Expected	Suitable habitat is absent.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
		insularis, and Orthocarpus purpurescens.		
Habroscelimorpha gabbii western tidal-flat tiger beetle	None/None G2G4/S1	Inhabits estuaries and mudflats along the coast of Southern California. Generally found on dark-colored mud in the lower zone; occasionally found on dry saline flats of estuaries.	Not Expected	Suitable habitat is absent.
Lycaena hermes Hermes copper butterfly	FT/None G1/S1	Found in southern mixed chaparral and coastal sage scrub at western edge of Laguna Mountains. Host plant is Rhamnus crocea. Although R. crocea is widespread throughout the coast range, Lycaena hermes is not.	Not Expected	Suitable habitat is absent.
Panoquina errans wandering (=saltmarsh) skipper	None/None G4G5/S2	Southern California coastal salt marshes. Requires moist saltgrass for larval development.	Not Expected	Suitable habitat is absent.
Streptocephalus woottoni Riverside fairy shrimp	FE/None G1G2/S1S2	Endemic to Western Riverside, Orange, and San Diego counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub. Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season.	Not Expected	Suitable habitat is absent.
Tryonia imitator mimic tryonia (=California brackishwater snail)	None/None G2/S2	Inhabits coastal lagoons, estuaries and salt marshes, from Sonoma County south to San Diego County. Found only in permanently submerged areas in a variety of sediment types; able to withstand a wide range of salinities.	Not Expected	Suitable habitat is absent.
Fish				
Oncorhynchus mykiss irideus pop. 10 steelhead - southern California DPS	FE/None G5T1Q/S1	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	Not Expected	Suitable habitat is absent.

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Amphibians				
Anaxyrus californicus arroyo toad	FE/None G2G3/S2S3 SSC	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	Not Expected	Suitable habitat is absent.
Spea hammondii western spadefoot	None/None G2G3/S3 SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Not Expected	Suitable habitat is absent.
Reptiles				
Anniella stebbinsi Southern California legless lizard	None/None G3/S3 SSC	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Not Expected	Suitable habitat is absent.
Arizona elegans occidentalis California glossy snake	None/None G5T2/S2 SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	Not Expected	Suitable habitat is absent.
Aspidoscelis hyperythra orange-throated whiptail	None/None G5/S2S3 WL	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food: termites.	Not Expected	Suitable habitat is absent.

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Aspidoscelis tigris stejnegeri coastal whiptail	None/None G5T5/S3 SSC	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Chelonia mydas green turtle	FT/None G3/S4	Marine. Completely herbivorous; needs adquate supply of seagrasses and algae.	Not Expected	Suitable habitat is absent.
Crotalus ruber red-diamond rattlesnake	None/None G4/S3 SSC	Chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Diadophis punctatus similis San Diego ringneck snake	None/None G5T4Q/S2?	Open, fairly rocky areas. Use boards, flat rocks, woodpiles, stable talus, rotting logs and small ground holes for cover. Prefer areas with surface litter or herbaceous vegetation. Often in somewhat moist areas near intermittent streams.	Not Expected	Suitable habitat is absent.
Emys marmorata western pond turtle	None/None G3G4/S3 SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Not Expected	Suitable habitat is absent.
Masticophis fuliginosus Baja California coachwhip	None/None G5/S1S2 SSC	In California restricted to southern San Diego County, where it is known from grassland and coastal sage scrub. Open areas in grassland and coastal sage scrub.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Phrynosoma blainvillii coast horned lizard	None/None G3G4/S3S4 SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil	Not Expected	Suitable habitat is absent.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
		for burial, and abundant supply of ants and other insects.		
Plestiodon skiltonianus interparietalis Coronado skink	None/None G5T5/S2S3 WL	Grassland, chaparral, pinon-juniper and juniper sage woodland, pine-oak and pine forests in Coast Ranges of Southern California. Prefers early successional stages or open areas. Found in rocky areas close to streams and on dry hillsides.	Not Expected	Suitable habitat is absent.
Salvadora hexalepis virgultea coast patch-nosed snake	None/None G5T4/S2S3 SSC	Brushy or shrubby vegetation in coastal Southern California. Require small mammal burrows for refuge and overwintering sites.	Not Expected	Suitable habitat is absent.
Thamnophis hammondii two-striped gartersnake	None/None G4/S3S4 SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Not Expected	Suitable habitat is absent.
Birds				
Accipiter cooperii Cooper's hawk	None/None G5/S4 WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	Not Expected	Suitable habitat is absent.
Agelaius tricolor tricolored blackbird	None/ST G1G2/S1S2 SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Not Expected	Suitable habitat is absent.
Aimophila ruficeps canescens southern California rufous-crowned sparrow	None/None G5T3/S3 WL	Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	Not Expected	Suitable habitat is absent.
Aquila chrysaetos golden eagle	None/None G5/S3 FP WL	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most	Not Expected	Suitable habitat is absent.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
		parts of range; also, large trees in open areas.		
Artemisiospiza belli belli Bell's sage sparrow	None/None G5T2T3/S3 WL	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range. Nest located on the ground beneath a shrub or in a shrub 6-18 inches above ground. Territories about 50 yds apart.	Not Expected	Suitable habitat is absent.
Athene cunicularia burrowing owl	None/None G4/S3 SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Buteo swainsoni Swainson's hawk	None/ST G5/S3	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Low Potential	Marginal habitat present onsite. Not observed during survey.
Campylorhynchus brunneicapillus sandiegensis coastal cactus wren	None/None G5T3Q/S3 SSC	Southern California coastal sage scrub. Wrens require tall opuntia cactus for nesting and roosting.	Not Expected	Suitable habitat is absent.
Charadrius nivosus nivosus western snowy plover	FT/None G3T3/S2 SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Not Expected	Suitable habitat is absent.
Circus hudsonius northern harrier	None/None G5/S3 SSC	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	Not Expected	Suitable habitat is absent.

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Coccyzus americanus occidentalis western yellow-billed cuckoo	FT/SE G5T2T3/S1	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Not Expected	Suitable habitat is absent.
Empidonax traillii extimus southwestern willow flycatcher	FE/SE G5T2/S1	Riparian woodlands in Southern California.	Not Expected	Suitable habitat is absent.
Eremophila alpestris actia California horned lark	None/None G5T4Q/S4 WL	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Not Expected	Suitable habitat is absent.
Icteria virens yellow-breasted chat	None/None G5/S3 SSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	Not Expected	Suitable habitat is absent..
Laterallus jamaicensis coturniculus California black rail	None/ST G3G4T1/S1 FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	Not Expected	Suitable habitat is absent.
Nannopterum auritum double-crested cormorant	None/None G5/S4 WL	Colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.	Not Expected	Suitable habitat is absent.
Pandion haliaetus osprey	None/None G5/S4 WL	Ocean shore, bays, freshwater lakes, and larger streams. Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	Not Expected	Suitable habitat is absent.

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Passerculus sandwichensis beldingi Belding's savannah sparrow	None/SE G5T3/S3	Inhabits coastal salt marshes, from Santa Barbara south through San Diego County. Nests in Salicornia on and about margins of tidal flats.	Not Expected	Suitable habitat is absent.
Polioptila californica californica coastal California gnatcatcher	FT/None G4G5T3Q/S2 SSC	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	Not Expected	Suitable habitat is absent.
Rallus obsoletus levipes light-footed Ridgway's rail	FE/SE G3T1T2/S1 FP	Found in salt marshes traversed by tidal sloughs, where cordgrass and pickleweed are the dominant vegetation. Requires dense growth of either pickleweed or cordgrass for nesting or escape cover; feeds on molluscs and crustaceans.	Not Expected	Suitable habitat is absent.
Setophaga petechia yellow warbler	None/None G5/S3S4 SSC	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	Not Expected	Suitable habitat is absent.
Sternula antillarum browni California least tern	FE/SE G4T2T3Q/S2 FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, land fills, or paved areas.	Not Expected	Suitable habitat is absent.
Vireo bellii pusillus least Bell's vireo	FE/SE G5T2/S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	Not Expected	Suitable habitat is absent.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
Mammals				
Antrozous pallidus pallid bat	None/None G4/S3 SSC	Found in a variety of habitats including deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts in crevices of rock outcrops, caves, mine tunnels, buildings, bridges, and hollows of live and dead trees which must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Not Expected	Appropriate habitat absent. Could forage throughout the site, but potential roosting sites absent.
Chaetodipus californicus femoralis Dulzura pocket mouse	None/None G5T3/S3 SSC	Found in a variety of habitats including coastal scrub, chaparral, and grassland in San Diego County, Baja California, and Mexico. Attracted to grass-chaparral edges.	Not Expected	Suitable habitat is absent.
Chaetodipus fallax fallax northwestern San Diego pocket mouse	None/None G5T3T4/S3S4 SSC	Inhabits coastal sage scrub, sagebrush scrub, grasslands, and chaparral communities. Found in open, sandy areas in southwestern California and northern Baja California. Prefers moderately gravelly and rocky substrates.	Not Expected	Suitable habitat is absent.
Choeronycteris mexicana Mexican long-tongued bat	None/None G3G4/S1 SSC	Common throughout Mexico, this species is occasionally found in San Diego and Imperial Counties. Feeds on nectar and pollen of night-blooming succulents. Roosts in desert canyons, caves, and rock crevices. Also uses abandoned buildings. canyons, deep caves, mines, or rock crevicesdesert canyons, deep	Not Expected	Suitable habitat is absent.
Corynorhinus townsendii Townsend's big-eared bat	None/None G4/S2 SSC	Occurs throughout California in a wide variety of habitats. Most common in mesic sites, typically coniferous or deciduous forests. Roosts in the open, hanging from walls, ceilings in caves, lava tubes, bridges, and buildings. This species is extremely sensitive to human disturbance.	Not Expected	Suitable habitat is absent.

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Eumops perotis californicus western mastiff bat	None/None G4G5T4/S3S4 SSC	Occurs in open, semi-arid to arid habitats, including coniferous and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces and caves, and buildings. Roosts typically occur high above ground.	Not Expected	Suitable habitat is absent.
Lasiurus blossevillii western red bat	None/None G4/S3 SSC	Roosts in trees in forests and woodlands of varying elevations. Forages in grasslands, shrublands, open woodlands and forests, and agriculture. Typically found in riparian habitats, does not occur in deserts.	Not Expected	Suitable habitat is absent.
Lasiurus cinereus hoary bat	None/None G3G4/S4	Typically roosts in trees in deciduous and coniferous forests and woodlands but occasionally roosts in rocks crevices. Forages in open areas, typically along riparian corridors or over water. Diet primarily consists of moths.	Not Expected	Suitable habitat is absent.
Lasiurus xanthinus western yellow bat	None/None G4G5/S3 SSC	Occurs in arid regions of the southwestern United States. Typically found in riparian woodlands, oak or pinyon-juniper woodland, desert wash, palm oasis habitats, and urban or suburban areas. Roosts in trees, often between palm fronds.	Not Expected	Suitable habitat is absent.
Lepus californicus bennettii San Diego black-tailed jackrabbit	None/None G5T3T4/S3S4 SSC	Occurs in Los Angeles, San Bernardino, Riverside, and San Diego Counties of southern California. Typically found in open shrub habitats. Will also occur in woodland habitats with open understory adjacent to shrublands.	Not Expected	Suitable habitat is absent.
Macrotus californicus California leaf-nosed bat	None/None G3G4/S3 SSC	Occurs in desert riparian, desert wash, desert scrub, desert succulent scrub, alkali scrub and palm oasis habitats. Needs rocky, rugged terrain with abandoned mines or caves for roosting.	Not Expected	Suitable habitat is absent.

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Myotis ciliolabrum western small-footed myotis	None/None G5/S3	Occurs in a wide range of arid and semiarid habitats including woodlands, open forests, riparian zones, and desert shrub. Roosts in rock crevices in caves, tunnels, and mines, also found beneath loose bark and in buildings. Forages for insects over water sources.	Not Expected	Suitable habitat is absent.
Myotis evotis long-eared myotis	None/None G5/S3	Found in all brush, woodland, and forest habitats throughout the western United States and Canada. Roosts in a variety of substrates including buildings, snags and hollow trees, loose bark, mines, caves, rock crevices.	Not Expected	Suitable habitat is absent.
Myotis yumanensis Yuma myotis	None/None G5/S4	Occurs in a variety of lowland and upland habitats including desert scrub, riparian, and woodlands and forests. Distribution is closely tied to bodies of water. Roosts in a variety of areas including caves, cliffs, mines, crevices in live trees, and buildings and other man-made structures.	Not Expected	Suitable habitat is absent.
Neotoma lepida intermedia San Diego desert woodrat	None/None G5T3T4/S3S4 SSC	Occurs in scrub habitats of southern California from San Luis Obispo County to San Diego County.	Not Expected	Suitable habitat is absent.
Nyctinomops femorosaccus pocketed free-tailed bat	None/None G5/S3 SSC	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc. Rocky areas with high cliffs.	Not Expected	Suitable habitat is absent.
Nyctinomops macrotis big free-tailed bat	None/None G5/S3 SSC	Low-lying arid areas in Southern California. Need high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.	Not Expected	Suitable habitat is absent.
Perognathus longimembris pacificus Pacific pocket mouse	FE/None G5T1/S1 SSC	Inhabits the narrow coastal plains from the Mexican border north to El Segundo, Los Angeles County. Seems to prefer soils of fine alluvial sands near the ocean, but much remains to be learned.	Not Expected	Suitable habitat is absent.

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Taxidea taxus American badger	None/None G5/S3 SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Not Expected	Suitable habitat is absent.
Sensitive Natural Communities				
Maritime Succulent Scrub	None/None G2/S1.1		Not Observed	
San Diego Mesa Claypan Vernal Pool	None/None G2/S2.1		Not Observed	
Southern Coast Live Oak Riparian Forest	None/None G4/S4		Not Observed	
Southern Coastal Salt Marsh	None/None G2/S2.1		Not Observed	
Southern Interior Cypress Forest	None/None G2/S2.1		Not Observed	
Southern Riparian Scrub	None/None G3/S3.2		Not Observed	
Southern Willow Scrub	None/None G3/S2.1		Not Observed	