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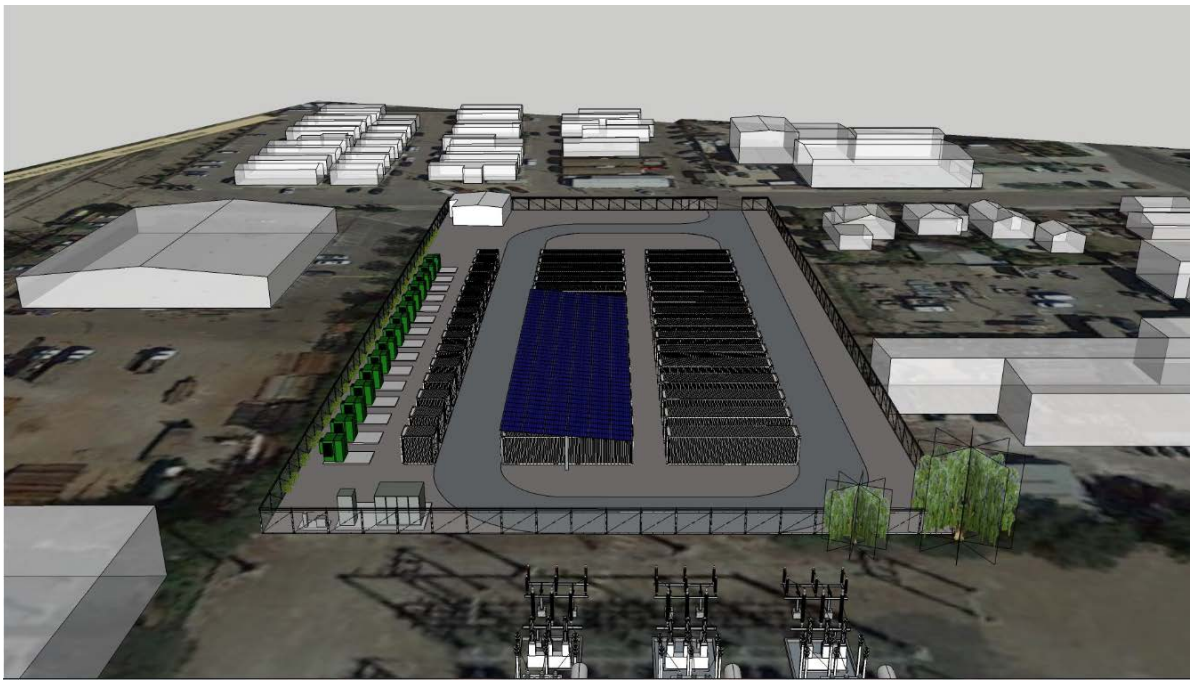

Santa Paula Battery Energy Storage System

Draft Initial Study – Mitigated Negative Declaration

Project No. 16-CUP-06

prepared by

City of Santa Paula
200 South 10th Street
Santa Paula, California 93061

prepared with the assistance of

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, California 93003

May 2017

Rincon Consultants, Inc.
Environmental Scientists Planners Engineers
www.rinconconsultants.com

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Initial Study

1 Project Title/Case Number

Santa Paula Battery Energy Storage System Project (BESS)

Application No. 16-CUP-06

2 Property Owner and Project Applicant

Z Global, Inc.
604 Sutter Street, Suite 250
Folsom, California 95630

3 Lead Agency Name and Address

City of Santa Paula
Planning Department
200 South 10th Street
Santa Paula, California 93061

4 Project Location and Assessor's Parcel Numbers

The project site is located at 132 North 13th Street, in the City of Santa Paula, just east of the downtown area, on the first block north of East Main Street. The project site measures approximately 1.53 acres. The Assessor's Parcel Number for the site is 101-0-241-185.

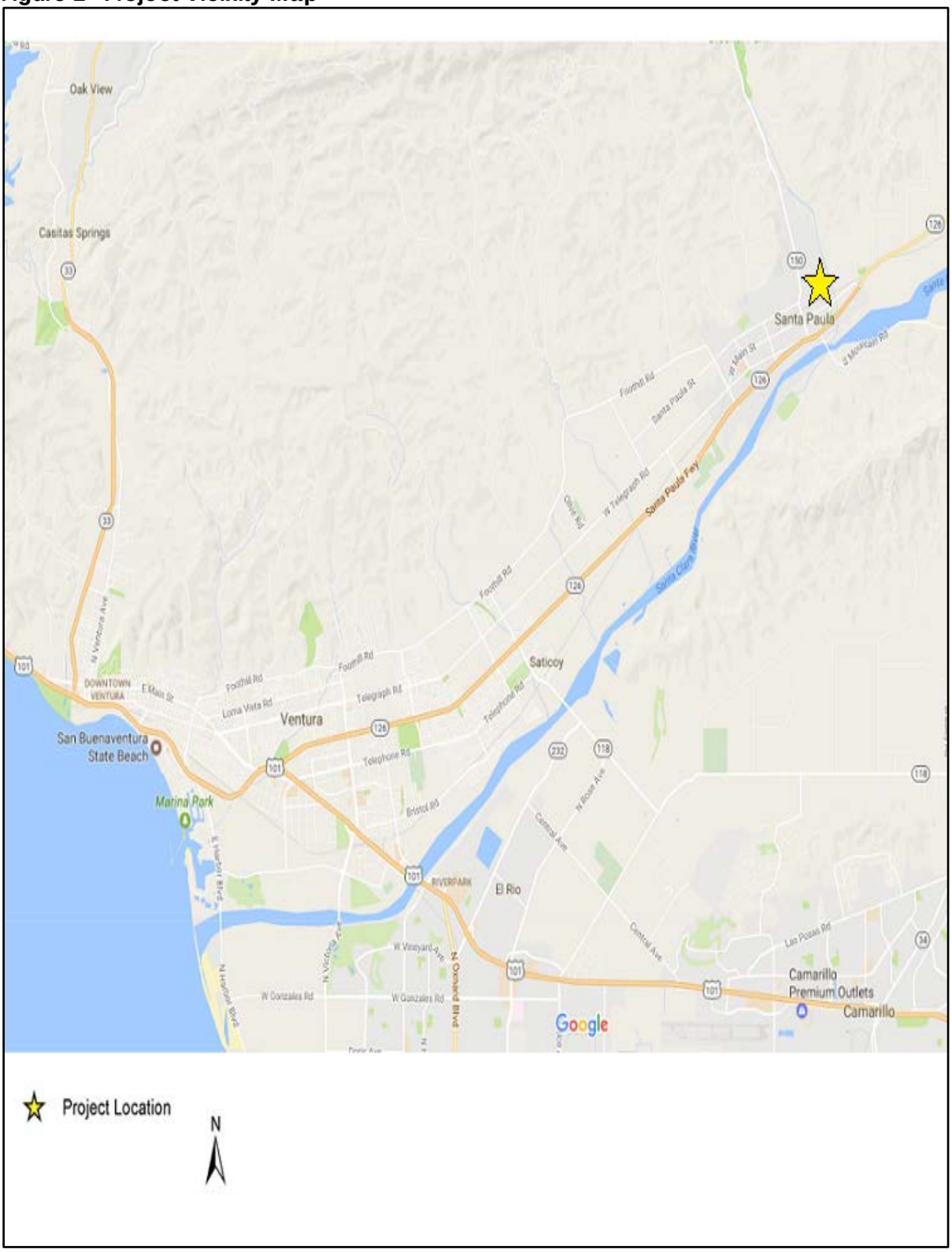
Figure 1 illustrates the location of the site within the region, and Figure 2 shows the project site within the neighborhood context.

5 General Plan Designation

The City of Santa Paula General Plan (1998) designation for the project site is Commercial/Light Industrial (C/LI) mixed land use. The General Plan does not describe the C/LI designation as a discrete land use, and, instead, as a mix of the Commercial and Light Industrial land use classifications:

Commercial Designation. The purpose of this land use category is to designate areas that will provide services for the entire community and accommodate specialized uses which serve the City at large, such as auto sales. The classification is applied to the "downtown" area of the City as well as East Area 2. The "downtown" area is the traditional commercial center of the City. The Commercial land use designation provides a range of goods and services at a compact scale. This classification is also applied to all other commercial uses in the City, including areas zoned C-1 and C-2, but not areas zoned neighborhood commercial areas or commercial office.

Figure 1 Project Vicinity Map



Basemap provided by Google and its licensors ©, 2017

Figure 2 Neighborhood Context Location

Imagery provided by Google and its licensors ©, 2017

Light Industrial Designation. The purpose of the Industrial designation is to provide for a wide range of industrial uses. Development and performance standards are required to mitigate objectionable characteristics. Light manufacturing activities include manufacturing typically having few if any nuisance characteristics, including manufacture, compounding, assembling or treatment of articles or merchandise from previously prepared materials, manufacturing of food, clothing, cosmetics, electrical instruments, furniture, tools, and other related types of activities.

The Light Industrial land use also provides a location where mixed manufacturing and administrative office uses can be sited. Any light industrial activity that could successfully mitigate objectionable characteristics would be acceptable within this category. This land use category contains site development standards for landscaping, screening, and site design, through a planned development review process.

6 Zoning

The current zoning designation for the project site is Commercial – Light Industrial (C/LI). The C/LI zone allows heavy commercial uses that may involve outdoor storage activity and low-intensity industrial businesses. This zone is intended to provide a district for a mix of commercial and industrial operations that do not produce emissions of odor, dust, gas, fumes, smoke, glare, liquids, waste, noise, vibrations, disturbances or other similar impacts to surrounding properties. All operations shall be conducted entirely within enclosed buildings

Santa Paula Municipal Code (SPMC) Section 16.21.020 includes Table 21-1 with allowed and conditional uses within zones, including C/LI. The conditional use “utility distribution and transmission stations” was determined by City staff at the October 25, 2016, Planning Commission Pre-Application hearing to be the most applicable use. City staff determined that a Conditional Use Permit (CUP) is required for the proposed project and assigned Permit No. 16-CUP-06. Chapter 16.42 of the SPMC also contains performance requirements for light industrial uses. The application of uniformly applied development standards and conditions of approval are required in order for the City to find the project consistent with the zoning code.

7 Project Objectives

The proposed project would provide operational support and a more secure electrical power system for the Southern California Edison (SCE) distribution and transmission system as a whole, in addition to providing local capacity reserves and energy security benefits for the immediate surrounding City of Santa Paula area. With a ready supply of dispatchable reserve energy, SCE could reduce its reliance on gas-generation peaking power plants to serve peak power demands or possible loss of transmission capacity due to earthquake, landslides, or wild fires along the Moorpark to Pardee transmission corridor east of Santa Paula.

The following objectives have been identified for the project:

- Assist the State in achieving the Renewable Portfolio Standard (RPS) and greenhouse gas (GHG) emissions reduction objectives by constructing a solar powered BESS;
- Improve energy reliability for the City of Santa Paula and Ventura County, as well as the larger Southern California region;
- Locate the project as close as possible to existing transmission facilities to avoid lengthy easements or other encumbrances of property within the City;

- Locate the project on a parcel that is zoned to allow for utility and electrical infrastructure to minimize conflicts with residential and other land uses in the City;
- Minimize environmental effects by locating the project on disturbed or developed land to the extent feasible; and
- Use technology that is demonstrated and proven to be safe in urban and city settings.

8 Description of Project

The proposed project consists of a battery electrical storage system (BESS) that would store up to 20 megawatts (MW) or 80 megawatt hours (MWh) of electricity for dispatch into the local SCE grid via the existing adjacent Wakefield Substation. At complete buildout, the BESS would consist of 20 fully-enclosed battery storage containers that would each house 603 battery modules mounted in racks, and associated electrical equipment. The battery storage containers would be made from converted shipping containers, and would measure 53 feet in length, 8 feet in width, and 9 feet in height. Each storage container would have an access drive aisle. An overhead solar panel array would be constructed across the top of the modules to charge the batteries. The entire project site would be fenced for security and to restrict access.

The BESS would be constructed in two phases. The first phase would include the construction of five battery storage containers (i.e., 5 MW of power) over a 3 to 5 month period. The second phase would include the construction of the remaining 15 battery storage containers, for a total of 20 MW of power storage. The BESS modules and associated infrastructure (e.g., inverters, switches, etc.) would be serviced on an intermittent basis by technicians.

An existing building on the project site would be renovated and converted into a small office. It would serve as a temporary construction office for the duration of construction. After construction, it would be used as the local office and base for the project applicant. The proposed plan at full buildout is shown on Figure 3. A site plan rendering, not depicting the solar panel array, is shown on Figure 4. Typical battery storage module elevations are shown on Figure 5.

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Figure 3 Proposed Site Plan

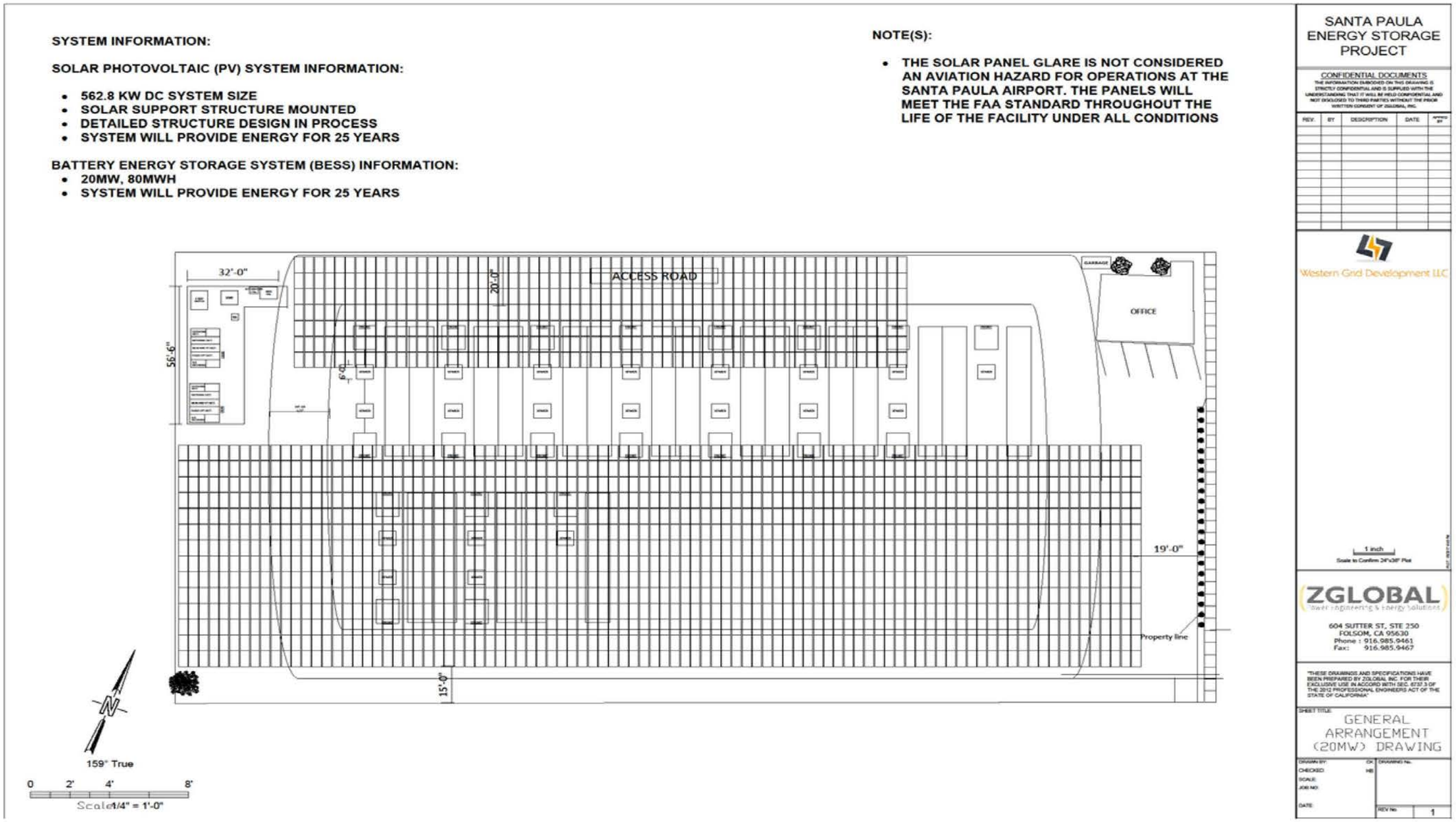


Figure 4 Site Plan Rendering

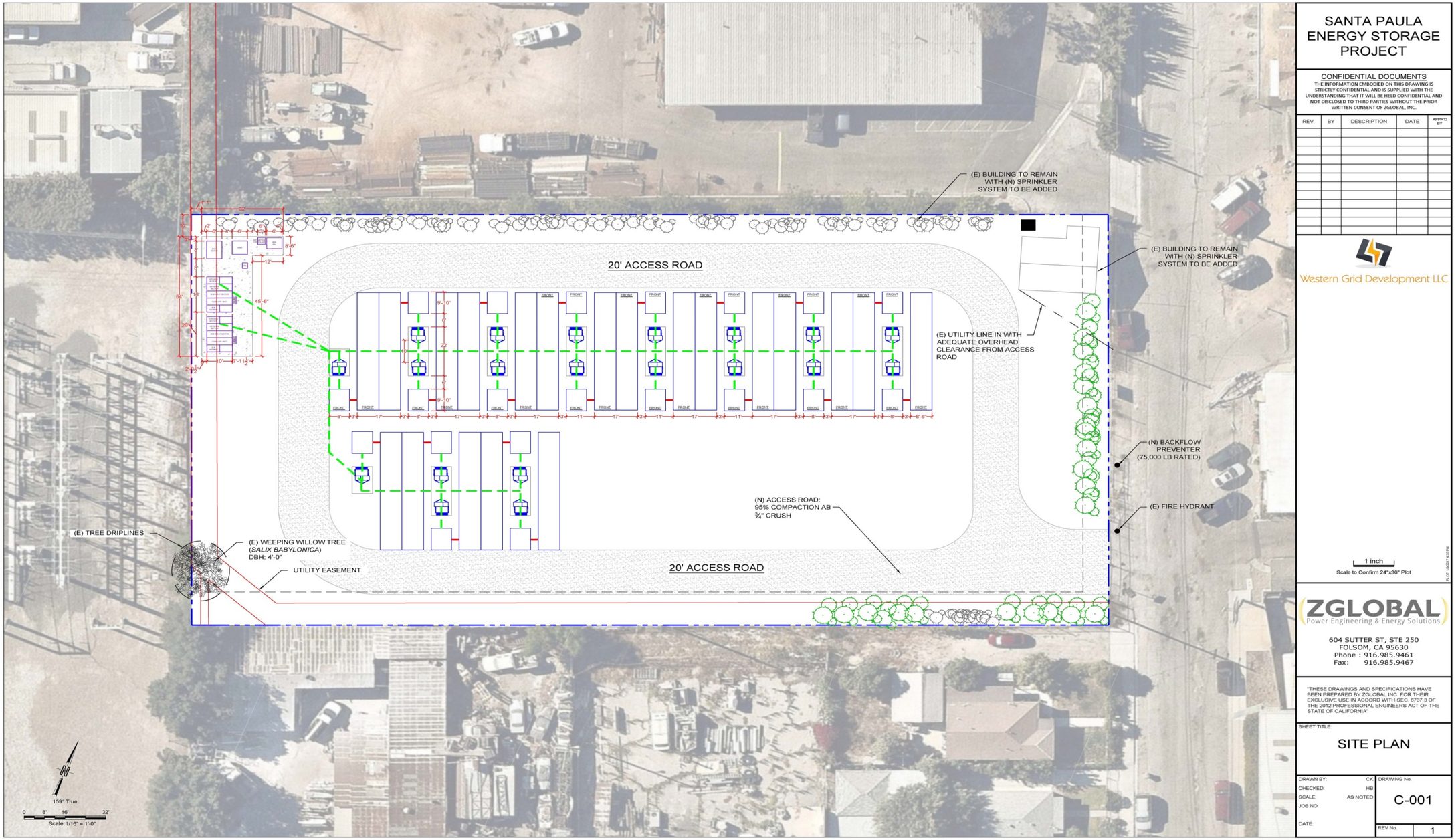
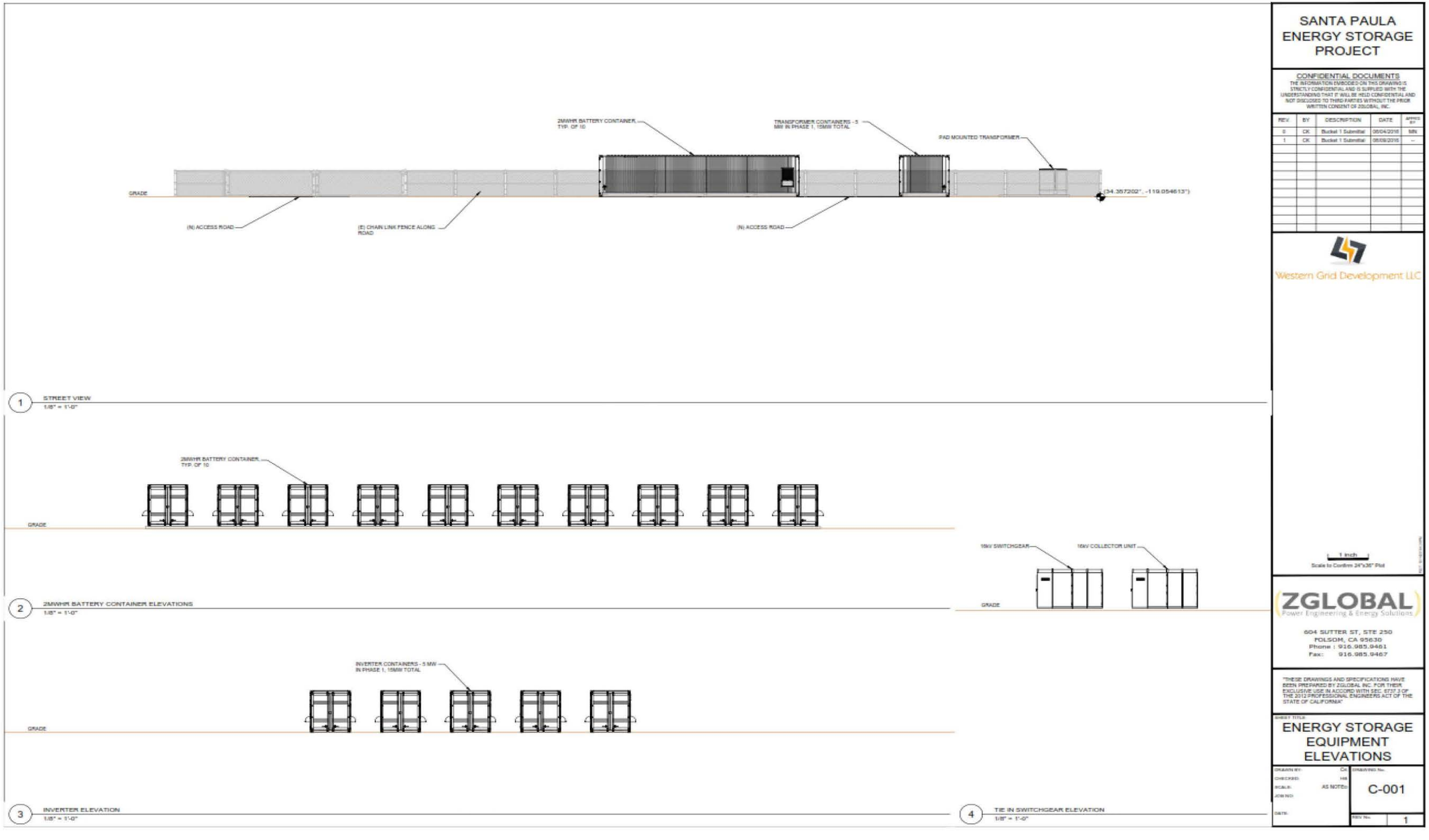


Figure 5 Typical Elevations and Details



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Battery Modules, Lithium-Ion Battery Technology, and Fire Protection

Each battery storage container would be located within a metal frame storage container, retrofitted to add insulation, air-conditioning, and fire suppression with separate enclosures for the electronic controls, inverters, and rectifiers. Due to the positive pressure required within each storage container to ensure functionality of the fire suppression system, the containers would not be vented. Each storage container would utilize a supply and return air conditioning system; this system has a fresh air closed loop system. The mechanics of this type of air conditioning system make it compatible with a positive pressure environment and do not require venting. The primary storage components would consist of self-contained electrochemical battery systems using conventional storage technologies with proven safety and performance records. The battery storage containers are designed such that the periodic maintenance and replacement of underperforming battery components can be easily performed on an as needed basis without replacing the entire module.

The lithium-ion battery is a high density battery that is rechargeable. Due to the energy density levels of lithium-ion batteries along with their charge and discharge profiles, these batteries are ideal for a project of this size due to space constraints. These batteries will allow a safe and effective installation into a shipping container and be able perform well under rigorous demand should the need arise.

The project would use a built-in fire protection system, utilizing suppression through cooling, isolation, and containment. Each battery storage container would include a gaseous fire suppressant agent (e.g., 3M™ Novec™ 1230 Fire Protection Fluid) and an automatic fire extinguishing system with sound and light alarms. The system would be designed in accordance with National Fire Protection Association (NFPA) safety standards including an automatic shut-down system for fans that keep the container sealed when the fire extinguishing system is activated. The fire suppressant agent is released by a releasing panel that uses an aspirating smoke detection system and has a manual release. The aspirating smoke detection system provides for four levels of signaling before release of the fire suppressant agent. A disable switch would be provided for maintenance personnel to allow for work on the storage containers without accidental discharge.

Direct current electricity would be collected from the batteries via a battery management system (BMS) and conveyed to the inverters. Each battery module would be connected with a BMS to form a rack mountable module assembly. Multiple module assemblies are then combined into a rack, or battery-integrated cabinet (BIC) to optimize battery voltage and battery current. A number of series circuits are combined together to form an individual parallel circuit; parallel circuits are grouped together in individual BICs which are sized appropriately and each BIC contains a rack-level BMS. The number of BICs would vary according to final project specifications and can be sized to accommodate electrical design. BICs combine multiple parallel circuits through a fused bus system to collect the energy into one set of direct current collection cables. The fuses within the BICs create another line of protection from overcurrent. These cables run from the BICs to the inverters, where they would terminate in the direct current side of the inverter.

The project would have a Supervisory Control and Data Acquisition (SCADA) system that would allow for remote monitoring and control of inverters and other project components. The SCADA system would be able to monitor project output and availability, and to run diagnostics on the equipment. The project would also have a local overall plant control system (PCS) that would provide monitoring of the BESS as well as control of the balance of facility systems. The microprocessor-based PCS would provide control, monitoring, alarm, and data storage functions for

plant systems as well as communication with the project's SCADA system. Redundant capability would be provided for critical PCS components so that no single component failure would cause a plant outage. All field instruments and controls would be hardwired to local electrical panels. Local panels would be hard-wired to the plant PCS. Wireless technology would be considered as a potential alternative during final project design.

Solar Panel Array

An overhead solar photovoltaic (PV) energy generating facility would be constructed over the battery storage containers to provide clean, cost effective, sustainable, renewable energy to charge the batteries during daylight hours. The PV modules (i.e., solar cells) would be a fixed-tilt racking system supported by the battery storage containers as mounting structures. The fixed-tilt racking system would be arranged east to west at a 5-degree angle, which would keep the PV modules pointed south to maximize exposure to the sun over the course of each day. The PV modules, at their highest point, would be 14 feet above the ground surface. The solar panel array configuration is shown on Figure 3. The panels are designed to not create glare and would not interfere with flight operations at the Santa Paula Airport.

Site Access, Security, and Lighting

Security would consist of a proposed 8-foot-high chain-link fence with three-strand barbed wire that would be installed around the perimeter of the BESS facility. Chapter 16.44 of the SPMC states that the maximum permitted height of fences is 42 inches in any front yard and 6 feet for any side or rear yard. Additionally, Chapter 16.44 also states that barbed wire may not be used in fences in any front yard. Thus, in accordance with Chapters 16.220 and 16.222, the proposed 8-foot tall fence would require approval of either a variance or minor modification of the City Development Code. If a variance or minor modification is not granted, the security fence would conform to Chapter 16.44, and a setback area would be provided where another taller fence sufficient for securing the site would be constructed. Controlled-access gates would be located at the only entrance, which would be on North 13th Street. These would either be swinging or sliding gates, with a minimum width of 20 feet, as required to access and maintain the facility. This access would be keyed and a KNOX box installed to prevent unauthorized access to the project site.

Additional site security measures may include a monitored camera system designed to cover the entire facility. This system would be remotely monitored and security breaches would be reported to emergency responders as well as site operations. An intrusion detection system may be installed along perimeter fences to alert monitors of fence breaches. A camera working in conjunction with the fence intrusion system would decrease the number of false positives reported. Furthermore, the proposed project would comply with North American Energy Reliability Corporation and Western Electricity Coordinating Council requirements for regulatory control and security systems.

Low-level lighting would be installed at the gate and at strategic locations around the facility. All project lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties. Lighting would conform to National Electric Safety Code (NESC) requirements and all applicable City of Santa Paula outdoor lighting standards.

Landscaping

Landscaping would comply with the City of Santa Paula's Guidelines and the SPMC. At least 5 percent of the parking area would be landscaped, at least two shade trees would be provided, and an irrigation system would be provided in accordance with Chapter 16.21 of the SPMC. To the

extent possible, native plant species indigenous to the Santa Clara Valley would be used for site landscaping, utilizing accepted planting procedures, consistent with fire safety requirements. To encourage successful establishment and vigor to all proposed new landscaping trees, a Condition of Approval would be applied requiring that tree topping, stubbing, heading back or pollarding is prohibited. A conceptual landscaping plan is shown on Figure 4. A more detailed landscaping plan consistent with or exceeding the City's requirements will be incorporated into the project's final design prior to building permit submittal. Pursuant with SPMC Section 16.21.060, no building permit will be issued until landscaping and irrigation plans have been review and approved by the City Planning Director or designee. Project lighting would be installed for ongoing maintenance and security purposes.

To visually shield the project site, fence slats would be installed on the east facing portion of the site that abuts North 13th Street, and along the south facing portion of the fence that runs parallel to the adjacent residential parcel.

Construction and Grading

The battery storage containers would be constructed on existing soils at 95 percent compaction with a 6-inch covering of cleaned crushed rock. The storage containers would be level. Each container would be fastened to earth screws at all four corners of the container. The PCS and the medium voltage control system (i.e., inverters and transformers) would be constructed on level pads between the battery storage containers. Minor rough grading may be needed for the preparation of the proposed PCS and medium voltage control system pads if the pads cannot be constructed using the existing slope. If rough grading is required, any vegetation that is removed from the grading activities would be taken to a composting facility or chipped and used as mulch. Any cut and fill as a result of any rough grading would be contained within the project site. No import or export of soil from the project site would be required.

Construction of the first phase would begin in the third quarter of 2017 and would be anticipated to be completed by the fourth quarter of 2018. The first phase of the project is anticipated to commence commercial operations and begin delivering energy to the grid by the fourth quarter of 2018. The overall construction period, including commissioning and testing, would be expected to be up to 5 months for each of the two project phases. Construction would generally occur between 8:00 a.m. and 6:00 p.m., on a 5-day-per-week, 8-hour-per-day basis. Additional work hours and days may be necessary to make up for unanticipated schedule delays or to perform certain testing and checkout activities. All construction work performed outside of the normal work schedule would be coordinated with the appropriate agencies and conform to the City of Santa Paula Noise Ordinance.

The construction workers employed for the project would consist of laborers, electricians, supervisory personnel, support personnel, and construction management personnel. The onsite assembly and construction workforce would be expected to reach a maximum of 50 workers. Construction may require the use of graders, compactors, trenchers, backhoes, forklifts, skid steers, front-end loaders, material hauling trucks, and a 5,000-gallon water truck.

Wastewater generated during construction may include storm water runoff and equipment wash water. Construction would adhere to a stormwater pollution prevention plan (SWPPP), which would incorporate best management practices (BMPs) for runoff and erosion control. The project is also subject to the requirements of a Ventura County Municipal Separate Storm Sewer Systems (MS4) permit. Site-specific BMPs would be designed and installed by the contractor in compliance with all applicable regulations and permit conditions of the SWPPP and MS4 requirements.

Operations and Maintenance

Only authorized personnel would be permitted onsite and generally would be limited to the employees monitoring and maintaining the facility. An estimated two or three offsite workers would be required for operation, maintenance, and security of the site. Operation and security would be conducted from an offsite location, and maintenance crews would be dispatched to the site (as needed) during operations.

Facility maintenance would include the periodic maintenance of structures and BESS components. Traffic would be limited to scheduled and emergency maintenance visits and infrequent delivery vehicles. Regular maintenance performed would consist of equipment inspection and replacement and occur primarily during daylight hours. Emergency maintenance could occur at any time, as needed for the situation; however maintenance and emergency service during daylight hours would be encouraged to maximize worker safety. Operation and maintenance vehicles would include trucks (pickups, flatbeds, and dump trucks), forklifts, and loaders for routine and unscheduled maintenance. Large heavy-haul transport equipment may be brought to the site infrequently for equipment repair or replacement.

9 Environmental Setting and Surrounding Land Uses

The project site is rectangular in shape and generally level, with very little topographic relief. The site has been actively occupied since 1920 with a variety of industrial uses, such as the Capitol Crude Oil in 1929 and the LWS Drilling Company in 1954. A small office building and warehouse on the site were in continuous use until recently vacated. The warehouse was demolished in March 2017. Chain link fence surrounds the majority of the project perimeter. The project site is largely clear of vegetation. Vegetation is generally limited to ruderal grass and forb species along the perimeter of the site, and a single willow tree near the southwest corner. The majority of the project site is compacted soil and gravels from past industrial uses. There are also some areas of asphalt paving near the office building.

The adjacent property to the north is an office and equipment yard for Layne Christensen, a waste management, construction, and drilling company. East, across North 13th Street from the project site, is the Peppertree Trailer Park with about 30 residences. To the south, there are four single-family residences along North 13th Street and two businesses fronting East Main Street: the Colburn Tile Company workshop, the FM Pearce Company heating and cooling office. To the west and adjacent to the project site is the Southern California Edison (SCE) Wakefield Substation. Further north is the Fillmore and Western Railroad Company single-track railroad line, which is owned by the Ventura County Transportation Commission. Other nearby businesses include Paladin Principles, a public relations firm, Highline Self Storage, and an impound yard for the Santa Paula Police Department.

Figure 6 shows photographs of existing conditions on and adjacent to the project site. Figure 7 shows an aerial view of the site and surroundings. Note that the aerial view shows the warehouse on the project site that has since been demolished. Vehicles shown on the project site have also been removed.

Figure 6 Site Photos: Existing Conditions

Photo A: Northeast end of site, facing east

Photo B: Southeast end of site, facing west

Figure 7 Aerial View of Adjacent Land Uses

10 Other Agencies Whose Approval is Required

The City of Santa Paula is the lead agency for the proposed project. The project requires the following discretionary land use approvals by the City of Santa Paula:

- Conditional Use Permit (Planning Commission); and
- Variance (Planning Commission) or minor modification (Planning Director) of City Development Code.

Subsequent administrative approvals and clearances from the City of Santa Paula are required related to conditions of approval, and/or uniformly applied development standards (e.g., electrical permit, fire permit).

Additionally, construction of the project would require a National Pollutant Discharge Elimination System (NPDES) permit from the Los Angeles Regional Water Quality Control Board.

Environmental Impacts and Basis of Conclusions

The conclusions and recommendations contained herein are professional opinions derived in accordance with current standards of professional practice. They are based on a review of State, Ventura County and City of Santa Paula environmental reports, maps and other data; other sources of information listed herein; comments received; conversations with knowledgeable individuals.

Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Less Than Significant With Mitigation Incorporated" as indicated by the checklist on the following pages.

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

Determination

On the basis of this initial evaluation:

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

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

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

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

☐ I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature	Date
Printed Name Janna Minsk	Title Planning Director

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Environmental Checklist

1 Aesthetics

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

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

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

c. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

The project site is a vacant industrial site within an urban area that would comply with uniformly-applied development standards. As shown in Figure 6, site development would occur on a previously graded flat pad within an urbanized area of the City of Santa Paula. The site does not contain any visually significant trees, or rock outcroppings. Therefore, no impacts to scenic vistas or scenic resources would occur. The project would reuse an existing one-story building and develop the remainder of the site with repurposed shipping containers covered by a solar panel array approximately 14 feet in height. The solar panels are designed to not create glare harmful to local aviation at the Santa Paula airport. New landscaping along North 13th Street would improve the pedestrian level environs, while the project itself would be of a height and scale comparable to industrial buildings in the area. To visually shield the project site, fence slats would be installed on the east facing portion of the site that abuts North 13th Street, and along the south facing portion of the fence that runs adjacent to the residential parcel. Therefore, the project would improve the visual character of the site.

NO IMPACT

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

The solar array would be constructed of panels using tempered glass with anti-reflective coating to minimize glare and spectral lighting. All project lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties. Lighting would conform to National Electric Safety Code (NESC) requirements and all applicable City of Santa Paula outdoor lighting codes. The proposed project would have a less than significant impact with respect to light and glare.

LESS THAN SIGNIFICANT IMPACT

Cumulative Impacts

The proposed project would have no direct or indirect adverse impacts on aesthetics. With incorporation of required uniformly-applied development standards for lighting, impacts of the project with respect to glare and lighting would not be cumulatively considerable.

2 Agriculture and Forest Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Important (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	■
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	■
c. Conflict with existing zoning for, or cause rezoning of, forest land as defined In Public Resources Code Section 12220(g), timberland as defined in Public Resources Code Section 4526, or timberland zoned Timberland Production as defined in Government Code Section 51104(g)?	☐	☐	☐	■
d. Result in the loss of forest land or conversion of forest land to non-forest use in a manner that will significantly affect timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, or other public benefits?	☐	☐	☐	■
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.	☐	☐	☐	■

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

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

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

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use in a manner that will significantly affect timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, or other public benefits?

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

The project site is a vacant industrial site within the fully developed downtown area of east Santa Paula. The current zoning designation for the subject property is Commercial – Light Industrial (C/LI). There are no agricultural or forest uses on the project site or adjacent properties. The project site is not under a Williamson Act contract. Therefore, the project would have no impact on agricultural and forest resources.

NO IMPACT

Cumulative Impacts

Since the proposed project would not conflict with any existing zoning for agricultural use, Williamson Act contracts or other changes to the environment resulting in conversion of farmland to non-agricultural use or forestland or timberland to non-forest use, no adverse cumulative impacts would occur.

3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	■
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	■	☐
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	■	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	■	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	■	☐

Air Quality Standards and Attainment

The project site is located in the South Central Coast Air Basin (the Basin) and is under the jurisdiction of the Ventura County Air Pollution Control District (VCAPCD). As the local air quality management agency, the VCAPCD is required to monitor air pollutant levels to ensure that state and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards.

Depending on whether or not the standards are met or exceeded, the air basin is classified as being in "attainment" or "nonattainment." The 2016 Ventura County Air Quality Management Plan, adopted February 2017, identifies the Basin as an area in nonattainment for the federal eight-hour ozone standard. VCAPCD is required to implement strategies to reduce the pollutant levels to recognized acceptable standards.

Ozone is produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_X) and reactive organic gases (ROG). NO_X is formed during the combustion of fuels, while reactive organic gases are formed during combustion and evaporation of organic solvents. Because ozone requires sunlight to form, it mostly occurs in substantial concentrations between the months of April and October. Ozone is a pungent, colorless, toxic gas with direct health effects on humans, including

respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to ozone include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors.

Air Quality Management

Under state law, the VCAPCD is required to prepare a plan for air quality improvement for pollutants for which the District is in non-compliance. In 2017, VCAPCD adopted the 2016 Air Quality Management Plan (AQMP) that provides a strategy for the attainment of state and federal air quality standards. As noted previously, Ventura County is not in attainment for the 2008 federal eight-hour ozone standard. While the 2016 AQMP contains some additional local control measures, most of the emissions reductions that Ventura County needs to attain the federal eight-hour ozone standard and continue progress to the state ozone standard will come from the ARB's 2016 State Implementation Plan (SIP) and 2014 Reasonably Available Control Technology State Implementation Plan (2014 RACT SIP). These SIPs contain comprehensive emission reduction programs that focus on reducing emissions from mobile sources, consumer products, and pesticides to substantially improve air quality.

Air Quality Emissions Thresholds

The most recent VCAPCD comprehensive publication regarding air quality assessment is the Ventura County Air Quality Assessment Guidelines (Guidelines) (2003). The Guidelines recommend significance thresholds for projects proposed in Ventura County. As outlined in the Guidelines, impacts are considered significant if a project would:

- Generate daily emissions exceeding 25 pounds of reactive organic compounds (ROG) or nitrogen oxides (NO_X)
- Be inconsistent with goals and policies of the Ventura County AQMP
- Create a human health hazard by exposing sensitive receptors to toxic air emissions
- Create objectionable odors affecting a substantial number of people
- Cause an exceedance or make a substantial contribution to an exceedance of an ambient air quality standard
- Directly or indirectly cause the existing population to exceed the population forecasts in the most recently adopted AQMP

According to the Guidelines, projects that generate more than 25 pounds per day of ROG and NO_X may jeopardize attainment of the federal and State ozone standard, resulting in a significant impact on air quality. The 25 pounds per day threshold for ROG and NO_X are not intended to be applied to construction emissions since such emissions are temporary.

The VCAPCD has not established quantitative thresholds for particulate matter for either operation or construction. However, the VCAPCD indicates that a project that may generate fugitive dust emissions in such quantities as to cause injury, detriment, nuisance, or annoyance to any considerable number of persons, or which may endanger the comfort, repose, health, or safety of any such person, or which may cause or have a natural tendency to cause injury or damage to business or property would have a significant air quality impact. This threshold is particularly applicable to the generation of fugitive dust during construction grading operations.

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

Vehicle use, energy consumption, and associated air pollutant emissions are directly related to population growth. The population forecasts upon which the Ventura County AQMP is based are used to estimate future emissions and devise appropriate strategies to attain state and federal air quality standards. The VCAPCD adopted an updated AQMP in February 2017. When population growth exceeds the forecasts upon which the AQMP is based, emission inventories could be surpassed, which could affect attainment of standards. However, the proposed project does not include residential or employment generating uses that would increase population beyond the AQMP forecasts. Therefore, the project would not conflict with implementation of the AQMP and no impact would occur.

NO IMPACT

b. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

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

d. Would the project expose sensitive receptors to substantial pollutant concentrations?

Construction Emissions

As discussed above, the VCAPD does not recommend any thresholds of significance for construction emissions; therefore, significance is determined based on a consideration of the control measures to be implemented. The California Emissions Estimator Model (CalEEMod) version 2016.3.1 was used to estimate construction emissions. CalEEMod was developed by SCAQMD and is used by jurisdictions throughout the state to quantify criteria pollutant emissions. Maximum daily pollutant emissions include emissions from worker trips, hauling trips, construction vehicle emissions and fugitive dust. The construction schedule, vehicles, and the number of workers were from client supplied information. VCAPCD Rule 55 was applied to CalEEMod for watering the construction site twice a day.

Construction activities for the project would generate temporary air pollutant emissions and fugitive dust emissions (PM10 and PM2.5) from construction equipment used in activities such as minimal site grading, portable engines, on-site heavy duty construction vehicles, asphalt paving, and motor vehicles transporting construction workers. However, soil is expected to be balanced on site, with no import or export necessary. Exhaust emissions from construction activities would vary daily as construction activity levels change. Construction was assumed to take place between July 2017 and July 2018, in accordance with the client supplied construction schedule. Estimated project emissions and relevant thresholds are shown below in Table 1.

The VCAPCD's 25 pounds per day thresholds for ROG and NOX are not intended to be applied to construction emissions since such emissions are temporary. Nevertheless, for construction impacts, the VCAPCD recommends minimizing fugitive dust through dust control measures. Fugitive Dust control measures are required by VCAPCD Rule 55. Rule 55 includes fugitive dust reduction measures such as securing tarps over truck loads and watering to treat bulk material to minimize fugitive dust. Compliance with Rule 55 would ensure that construction emissions would not be generated in such quantities as to cause injury, detriment, nuisance, or annoyance to any

considerable number of persons or to the public, or which may endanger the comfort, repose, health, or safety of any such person or the public and construction emissions from the project would be less than significant.

Table 1 Construction Emissions

	Emissions (pounds/day)					
	ROG	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**SO_X**
2017 Maximum Daily Emissions	5.4	60.1	26.9	5.2	3.8	<0.1
2018 Maximum Daily Emissions	4.5	35.3	24.9	2.8	2.1	<0.1

See Table 2.1 "Overall Construction-mitigated" of Winter emissions CalEEMod worksheets in Appendix A.

Operational Emissions

CalEEMod was also used to estimate the project's operational emissions. Long-term project emissions are those associated with stationary sources and mobile sources involving any project-related changes. No long-term stationary emissions will result from the battery components of the BESS. The BESS equipment is pre-fabricated; no onsite coating applications are needed for this equipment.

Mobile emissions during long-term operations will be limited to incremental operations vehicle trips. After commissioning and during the operational life of the project maintenance inspections of the BESS would be scheduled in accordance with manufacturer recommendations. For the purpose of this assessment, a more conservative estimate of one inspection event per quarter (four vehicle trips per year) is used. Four vehicle trips per year would have minimal impacts and would be under the VCAPCD threshold of 25 pounds per day for ROG and NO_X. Operational impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

e. Would the project create objectionable odors affecting a substantial number of people?

The project would be subject to Section 16.42.060, Odors, of the Santa Paula Municipal Code, which requires that any process that creates or emits odors to comply with VCAPCD standards. Further, as discussed below in Section 8, *Hazards and Hazardous Materials*, the project would also be required to obtain permits from the VCAPCD including Pre-Construction (Authority to Construct) permits and Post-Construction (Permit to Operate). Adherence to permit conditions would ensure odors related to uses at the site would not affect a substantial number of people. The project would have a less than significant impact related to objectionable odors affecting a substantial number of people.

LESS THAN SIGNIFICANT IMPACT

4 Biological Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	■
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	■
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, Coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	■
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	■
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	■
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	■

Special-status species are those plants and animals: 1) listed, proposed for listing, or candidates for listing as Threatened or Endangered by the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) under the Federal Endangered Species Act; 2) listed or proposed for listing as Rare, Threatened, or Endangered by the California Department of Fish and Wildlife (CDFW) under the California Endangered Species Act; 3) recognized as Species of Special Concern (SSC) by the CDFW; 4) afforded protection under Migratory Bird Treaty Act (MBTA) and/or California Fish and Game Code (CFGC); and 5) occurring on lists 1 and 2 of the CDFW California Rare Plant Rank (CRPR) system.

A search of the California Natural Diversity Database (CNDDB) (CDFW 2017) was conducted on April 17, 2017, for any special-status species for the entire Santa Paula 7.5-minute quadrangle. This quadrangle encompasses an area of approximately 60 square miles, including the entirety of the City of Santa Paula, the majority of nearby agricultural lands, mountainsides, and an expansive section of both the Santa Paula Creek and the Santa Clara River. The CNDDB query revealed records of 36 special-status species within the Santa Paula quadrangle. Table 2 provides a summary of the species with records in the CNDDB for the Santa Paula quadrangle.

Table 2 Special Status Species in the Santa Paula Quadrangle

Type	Common Name	Scientific Name	Regulatory Status	Habitat Description
Plant	Gerry's curly-leaved monardella	Monardella sinuata ssp. Gerryi	CRPR List 1	Sandy openings in coastal scrub vegetation cover type.
Plant	White rabbit-tobacco	Pseudognaphalium leucocephalum	CRPR List 2	Sandy to gravelly soils in chaparral, coastal scrub, and certain woodland types.
Amphibian	Arroyo toad	Anaxyrus californicus	Federally endangered; CDFW SSC	Sandy or cobbly washes with swift currents and associated upland and riparian habitats.
Fish	Santa Ana sucker	Catostomus santaanae	Federally threatened	Perennial streams and rivers.
Fish	Unarmored threespine stickleback	Gasterosteus aculeatus williamsoni	Federally endangered; state endangered; CDFW fully protected	Inland coastal waters.
Fish	Arroyo chub	Gila orcuttii	CDFW SSC	Coastal streams of Southern California.
Fish	Steelhead - Southern California DPS	Oncorhynchus mykiss irideus	Federally endangered	Coastal streams of Southern California.
Reptile	Silvery legless lizard	Anniella pulchra pulchra	CDFW SSC	Sandy or loose loamy soils under sparse vegetation of beaches, chaparral, or pine-oak woodland; or near trees on stream terraces.
Reptile	Western pond turtle	Emys marmorata	CDFW SSC	Ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation with adjacent upland basking areas.

Type	Common Name	Scientific Name	Regulatory Status	Habitat Description
Reptile	Coast horned lizard	Phrynosoma blainvillii	CDFW SSC	Various scrublands, grasslands, coniferous and broadleaf forests, and woodlands with sandy soils.
Reptile	Two-striped gartersnake	Thamnophis hammondii	CDFW SSC	Aquatic areas bordered by riparian vegetation with open spaces for basking.
Reptile	South Coast gartersnake	Thamnophis sirtalis ssp.	CDFW SSC	Aquatic areas bordered by riparian vegetation with open spaces for basking.
Mammal	Pallid bat	Antrozous pallidus	CDFW SSC	Rocky, outcrop areas where they commonly roost in rock crevices, caves, and mine tunnels but they also roost in the attics of houses, under the eaves of barns, behind signs, in hollow trees, and in abandoned adobe buildings.
Mammal	American badger	Taxidea taxus	CDFW SSC	Drier open stages of most shrub, forest, and herbaceous habitats with friable soils.
Bird	Cooper's hawk	Accipiter cooperii	CDFW Watch List	Woodlands, chiefly of the open, interrupted, or marginal types. Nest sites are mainly in riparian growths of deciduous trees, such as in canyon bottoms on river plains; also, in live oaks.
Bird	Southern California rufous-crowned sparrow	Aimophila ruficeps canescens	CDFW Watch List	Open shrubby habitat on rocky, xeric slopes
Bird	Long-eared owl	Asio otus	CDFW SSC	Combination of grassland or other open country for foraging, and dense tall shrubs or trees for nesting and roosting.
Bird	Burrowing owl	Athene cunicularia	CDFW SSC	Found in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. A subterranean nester, dependent upon burrowing mammals.
Bird	Northern harrier	Circus cyaneus	CDFW SSC	Found in coastal salt & fresh-water marsh. Nest & forage in grasslands, from salt grass in desert sink to springs and marshes in mountain areas.
Bird	Western yellow-billed cuckoo	Coccyzus americanus occidentalis	Federally threatened; state endangered	Wooded habitat with dense cover and water nearby; generally a riparian-habitat species.

Type	Common Name	Scientific Name	Regulatory Status	Habitat Description
Bird	White-tailed kite	Elanus leucurus	CDFW fully protected	Found in rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Requires open grasslands, meadows, or marshes for foraging close to the isolated, dense-topped trees for nesting and perching
Bird	Willow flycatcher	Empidonax traillii	State endangered	Moist meadows with perennial streams; lowland riparian woodlands dominated by willows.
Bird	Southwestern willow flycatcher	Empidonax traillii extimus	Federally endangered; state endangered	Relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands including lakes and reservoirs.
Bird	California horned lark	Eremophila alpestris actia	CDFW Watch List	Breed in short grassland, short-stature shrubland, desert, and other open areas of low vegetation. Forage in open areas with or without vegetation cover.
Bird	California condor	Gymnogyps californianus	Federally endangered; state endangered	Rocky, forested regions including canyons, gorges and mountains.
Bird	Yellow-breasted chat	Icteria virens	CDFW SSC	Vegetation thickets and other dense, early-successional vegetation areas.
Bird	Loggerhead shrike	Lanius ludovicianus	CDFW SSC	Typically open country with scattered shrubs and trees, but may also occupy more densely forested areas.
Bird	California gull	Larus californicus	CDFW Watch List	Near water, islands, areas near oceans, beaches, lakes, or bogs.
Bird	California brown pelican	Pelecanus occidentalis californicus	CDFW fully protected	Rocky, sandy or vegetated offshore islands, beaches, open sea, harbors, marinas, estuaries, and breakwaters.
Bird	Double-crested cormorant	Phalacrocorax auritus	CDFW Watch List	Next to water or in shallow water.
Bird	White-faced ibis	Plegadis chihi	CDFW Watch List	Marshes, shallow waterbodies.
Bird	Coastal California gnatcatcher	Polioptila californica californica	Federally threatened	Open sage scrub with California sagebrush.
Bird	Bank swallow	Riparia riparia	State threatened	Low areas along rivers, streams, ocean coasts, or reservoirs.

Type	Common Name	Scientific Name	Regulatory Status	Habitat Description
Bird	Yellow warbler	Setophaga petechial	CDFW SSC	Shrubby thickets and woods, particularly along watercourses and in wetlands
Bird	California least tern	Sternula antillarum browni	Federally endangered; state endangered; CDFW fully protected	Coast and open beaches where vegetation is limited by the tidal scouring.
Bird	Least Bell's vireo	Vireo bellii pusillus	Federally endangered; state endangered	Riparian areas with dense vegetation understory.

Source: CNDDB (CDFW 2017)

The USFWS IPaC database (2017) identified an additional seven federally listed species with the potential to occur within the study area not identified in the CNDDB query. Table 3 provides a summary of these additional species identified in the IPaC database. The USFWS IPaC information is provided in Appendix B.

Table 3 USFWS IPaC Database – Federally Listed Species

Type	Common Name	Scientific Name	Regulatory Status	Habitat Description
Plant	California Orcutt Grass	Orcuttia californica	Federally endangered	Vernal pools.
Plant	Gambel's watercress	Rorippa gambellii	Federally endangered	Freshwater or brackish marshes and swamps.
Plant	Marsh sandwort	Arenaria paludicola	Federally endangered	Freshwater marshes and wetlands.
Plant	Spreading navarretia	Navarretia fossalis	Federally threatened	Vernal pools, playas, marshes and swamps.
Crustacean	Riverside fairy shrimp	Streptocephalus woottoni	Federally endangered	Vernal pools.
Crustacean	Vernal pool fairy shrimp	Branchinecta lynchi	Federally threatened	Vernal pools.
Amphibian	California red-legged frog	Rana draytonii	Federally threatened	Near ponds in humid forests, woodlands, grasslands, coastal scrub, and stream sides with plant cover. Frequently in woods adjacent to streams. Breeding habitat is in permanent or ephemeral water sources; lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps.

Source: IPaC Database (USFWS 2017)

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

Nearly the entire project site has been cleared of vegetation, and the ground surface consists of compacted soils and gravel with limited asphalt paving in some areas. Vegetation cover is limited to ruderal grass and forb species along the southern and northern boundary of the project site. A single willow tree is located near the southwest corner of the project site, but is small, with a diameter of approximately 4 inches. Habitat described above for special status species does not occur on the project site. Thus, there is no potential for special status plant or wildlife species to occur on the project site. The proposed project would not directly impact any special status species or habitat of such species.

The project site is located in the eastern central part of the City and bordered on all sides by urban development. Suitable habitat for special status species does not occur on-site or within adjacent areas to the project.

Additionally, the project site and much of the nearby city blocks are within the FEMA Zone A99, which are "areas subject to inundation by the 1-percent-annual-chance flood event, but which will ultimately be protected upon completion of an under-construction Federal flood protection system. These are areas of special flood hazard where enough progress has been made on the construction of a protection system, such as dikes, dams, and levees, to consider it complete for insurance rating purposes." Thus, the potential of the project site being flooded and potentially carrying sediment downstream into or through habitat for sensitive species is low since the project site is within the city's urban core which has an extensive street drainage network and flood management infrastructure. The nearest riparian vegetation is located along Santa Paula Creek, which is approximately 1,700 feet east of the project site, and separated by several streets and numerous buildings and industrial land uses. Given the distance of the project site from riparian habitats, and the low potential for flooding onsite, the project would have no impact on sensitive aquatic wildlife species or habitat in Santa Paula Creek and the Santa Clara River. The proposed project would have no impact on special status species.

NO IMPACT

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

The entire site has been fully developed and utilized for industrial purposes for many years. Riparian vegetation or other sensitive natural community types do not occur on the project site or within the project vicinity. The nearest riparian vegetation is located along Santa Paula Creek, which is approximately 1,700 feet east of the project site, and separated by several streets and numerous buildings and industrial and residential land uses. There are no sensitive natural communities identified in plans, regulations, or by regulatory agencies within the project site. The proposed project would have no impact to riparian habitat or other sensitive natural communities.

NO IMPACT

c. Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The entire project site has been fully developed and utilized for industrial purposes for decades. There are no wetlands, streams, or other surface water bodies on the project site. The proposed project would have no impact on federally protected wetlands as defined by Section 404 of the Clean Water Act.

NO IMPACT

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

The proposed project site is entirely landlocked within a fully developed urban setting and contains no riparian habitat or other natural features. There is no native vegetation or other natural community that would serve as a migration corridor located on the project site. Additionally, the project site is almost fully enclosed within an approximately 8-foot-high chain link fence that currently prevents medium to large mammals from entering the site. The proposed project would not result in any new restrictions to wildlife movement and migration, and would not affect any habitat, corridors, or streams used for movement or migration. The project would have no impact.

NO IMPACT

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

The City of Santa Paula has an established Tree Preservation Ordinance (Santa Paula Municipal Code, Chapter 156, Section 156.580), which regulates the preservation, cutting and removal of trees on public property, and, the disturbance of native oak, sycamore, heritage or historic trees on private property. The project site contains a single 4-inch-diameter willow tree near the southwest corner of the project site. Removal of this tree is not proposed. Therefore, the proposed project would not conflict with the Tree Preservation Ordinance.

The proposed project includes a landscaping component that would, to the extent possible, use native plant species indigenous to the Santa Clara Valley utilizing accepted planting procedures, consistent with fire safety requirements. Pursuant with Chapter 16.21 of the SPMC, a minimum of two shade trees would be provided. To encourage successful establishment and vigor to all proposed new landscaping trees, a Condition of Approval will be applied stating that tree topping, stubbing, heading back or pollarding is prohibited.

No plant species listed as problematic and/or invasive by the California Native Plant Society (http://www.CNPS.org/), the California Invasive Plant Council (formerly the California Exotic Pest Plant Council) (http://www.cal-ipc.org/), or identified by the State of California would be employed or allowed to naturalize or persist on the site. No plant species listed as a “noxious weed” by the State of California or the U.S. Federal Government would be utilized within the property.

Therefore, the proposed project would have no impact relating to conflicts with policies or ordinances protecting biological resources.

NO IMPACT

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

The project site is not within a Habitat Conservation Plan or Natural Community Conservation Plan area. There would be no impact from the proposed project.

NO IMPACT

Cumulative Impacts

The proposed project would have no direct or indirect impacts on biological resources. As the project would have no impact, there would also be no cumulative impacts to biological resources resulting from the proposed project.

5 Cultural Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5?	☐	☐	☐	■
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5?	☐	■	☐	☐
c. Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	■	☐	☐
d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	■	☐	☐

a. Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

No historic resources have been identified within this area of Santa Paula per the Conservation and Open Space Element of the City's General Plan (1998). As mentioned in Section 9, Environmental Setting and Surrounding Land Uses, the project site is within a fully developed urban part of the City, just east of the downtown area. The site has been actively occupied since 1920 with a variety of industrial uses, and a small office building and warehouse were in continuous use until recently vacated. The warehouse has since been demolished. Given the past and relatively continuous industrial use of the project site, no historic resources are known or would be anticipated at the site. The proposed project would have no impact on historical resources.

NO IMPACT

b. Would the project cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?

c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

d. Would the project disturb any human remains, including those interred outside of formal cemeteries?

The City of Santa Paula is located with the historic territory of the Native American group known as the Chumash. In the Santa Paula region areas of high archaeological sensitivity include the terrace areas abutting the Santa Clara River and lands adjacent to drainage areas. The Chumash Native American village of Mupu was presumptively located near the confluence of Santa Paula Creek and Santa Clara River, but no subsurface deposits indicating such a habitation have yet been discovered in the urbanized portion of the City.

As mentioned above, the proposed project site has been disturbed through decades of development and industrial uses. Given the current conditions of the soil at the existing site and that the project would require minimal grading and excavation, the probability of fossils or human remains within such material is unlikely. If any significant cultural and paleontological resources existed in this area, it is highly likely that these would have been destroyed in previous soil disturbance. In the unlikely event that archaeological or paleontological resources or human remains are discovered during project construction, the mitigation measures listed below would be implemented.

Mitigation Measures

The following preventative mitigation measures are recommended to avoid any potential impacts to cultural and paleontological resources and human remains:

CR-1 **Unanticipated Discovery of Cultural Resources.** If previously unidentified cultural materials are unearthed during construction, work shall be halted in that area until a qualified archaeologist can assess the significance of the find. Evaluation of significance for the find may include the determination of whether or not the find qualifies as an archaeological site. After effects to the find have been appropriately mitigated, work in the area may resume. Mitigation of effects to the find may include a damage assessment of the find, archival research, and/or data recovery to remove any identified archaeological deposits, as determined by a qualified archaeologist.

CR-2 **Unanticipated Discovery of Paleontological Resources.** If fossils are discovered, a qualified paleontologist shall recover them. Typically fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. In this case the paleontologist shall have the authority to temporarily direct, divert or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner.

CR-3 **Unanticipated Discovery of Human Remains.** If human remains are found, the State of 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 Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, all work in the vicinity of the discovery shall cease. The county coroner shall be notified immediately. If the human remains are determined to be prehistoric, the coroner would notify the Native American Heritage Commission, which would determine and notify a most likely descendant. The most likely descendant shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

With mitigation incorporated, project-related impacts to cultural resources, paleontological resources and human remains would be less than significant.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

Cumulative Impacts

With incorporation of the mitigation measures listed above, the proposed project would have less than significant impacts on potential cultural resources, paleontological resources, and human remains. These measures would protect the resources or remains from destruction when

determined necessary by a qualified archaeologist, paleontologist, coroner, Native American Heritage Commission, or most likely descendant. Thus, project-related cultural resource impacts would not be cumulatively considerable.

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6 Geology and Soils

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	■
2. Strong seismic ground shaking?	☐	☐	■	☐
3. Seismic-related ground failure, including liquefaction?	☐	☐	☐	■
4. Landslides?	☐	☐	☐	■
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	■
d. Be located on expansive soil creating substantial risks to life or property? Expansive soil is defined as soil having an expansive index greater than 20, as determined in accordance with ASTM (American Society of Testing and Materials) D 4829.	☐	☐	☐	■
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	■

a.1. Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

According to the California Geological Survey (1998), the project site is not located within an Alquist-Priolo Earthquake Fault Zone. There are no other known earthquake faults that cross the project site. The proposed project would not expose any people or structures to risk of fault rupture. The project would have no impact.

NO IMPACT

a.2. Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Although there are no earthquake faults within the project site boundary, similar to all of Southern California, active and/or potentially active faults in the region could generate strong ground shaking on the project site. The active Oak Ridge Fault is located approximately 0.5 mile south of the project site. This fault could produce strong ground shaking on the project site, with a maximum magnitude earthquake of 6.9 on the Richter scale, according to Safety Element of the City's General Plan (1998). In addition, the active San Cayetano Fault has been identified approximately six miles northwest of the project site and is capable of producing maximum credible earthquake of 6.8 on the Richter scale. Other regional faults that have potential to generate strong ground motion include the Northridge Blind Thrust, Santa Susana, San Andreas, and Ventura Faults.

The proposed battery storage containers would be engineered to meet all local, state, and federal requirements pertaining to seismicity. The proposed battery storage containers would be placed on existing soils at 95 percent compaction with a 6-inch covering of cleaned crushed rock. The storage containers would be level. Each battery storage container would be fastened to earth screws at all four corners of the container. Within the containers, battery racks would be attached to the floor of the storage container using methods and materials approved by a structural engineer to withstand damage from seismic ground shaking. No permanent occupancy is proposed at the project site, and people would generally not be present except during construction or during scheduled or required maintenance or repairs of the facility operations. With conformance to all applicable building codes and regulations, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

a.4. Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

Liquefaction is a process whereby soil is temporarily transformed to fluid form during intense and prolonged ground shaking or because of a sudden shock or strain. Liquefaction typically occurs in areas where the groundwater is less than 30 feet from the surface and where the soils are composed of poorly consolidated fine to medium sand.

The project site is not located within liquefaction zone or an earthquake-induced landslide zone (California Geological Survey 1998). Landslides are most likely to occur on or near a slope or hillside

area, rather than in generally level areas, such as the project site. The proposed project would have no impact.

NO IMPACT

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

Soil erosion is the removal of soil by water, wind, and gravity. The rate of erosion is determined from four soil properties: texture, organic matter content, soil structure, and permeability data. Other factors that influence erosion potential include the amount of rainfall and wind, the length and steepness of slope, and the amount and type of vegetative cover. As mentioned above, the project does not include any mountains or hills or other prominent geologic features, and is generally flat. Portions of the project site are currently asphalt paved or covered in gravel, which generally prevents erosion of underlying soils in these areas.

Minor rough grading may be necessary for preparation of the PCS and the medium voltage control system pads, depending on site conditions. Construction would also require some temporary excavation of soils to install project components, such as buried cables and conduit. Any disturbance to soils from construction activities would increase the potential for erosion, as soils would be loosened and exposed to precipitation and wind. Project construction would require the development and implementation of a stormwater pollution prevention plan (SWPPP). The SWPPP would include best management practices (BMPs) designed runoff control and to prevent erosion and sedimentation. Given the relatively flat topography of the site, the minimal grading and excavation required for construction, and implementation of the required SWPPP, project impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project site is nearly flat with very little topographic relief. Minor rough grading may be necessary for preparation of the PCS and the medium voltage control system pads, depending on site conditions. Rough grading would not substantially modify the existing topography or soils. All excavations required for underground components of the project would be backfilled and properly compacted. Operation of the proposed project would not require groundwater pumping that could lead to subsidence. Thus, the proposed project would have no impact related to soil stability hazards.

NO IMPACT

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

Expansive soils expand or swell when wetted and contract when dried. A review of the Natural Resources Conservation Service's Web Soil Survey (2016) classifies soil at the project site as "Cortina stony sandy loam" with "2 to 9 percent slopes". This soil profile is consistent for several blocks surrounding the project site. This soil type was produced from alluvium derived from sedimentary rock via eons of geologic erosion throughout the Santa Paula Creek and Santa Clara River watersheds. Depth to water table is more than 80 inches, and this soil is classified as having a "somewhat excessively drained" potential. These soil types have low shrink-swell potential and are

not expansive (United States Department of Agriculture 1970). The proposed project would have no impact.

NO IMPACT

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

The project would generate wastewater from the proposed office use, but would connect to the City's sewer and wastewater disposal system and would not require the use of septic tanks. Therefore, the proposed project would have no impact related to the use of septic tanks or alternative wastewater disposal systems.

NO IMPACT

Cumulative Impacts

With implementation of the required SWPPP, the proposed project would not have a cumulatively considerable impact relating to erosion and loss of topsoil. Any reasonably foreseeable future projects requiring construction over an acre or more would also be required to implement a SWPPP. The project poses no potentially significant project-specific geologic hazard impacts; therefore, project-related geology and soils impacts would not be cumulatively considerable.

7 Greenhouse Gas Emissions

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Generate a net increase in greenhouse gas emissions in excess of applicable thresholds adopted by the Bay Area Air Quality Management District or the California Air Resources Board which may have a significant impact on the environment?	☐	☐	■	☐
b. Conflict with a county-adopted climate action plan or another applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	■	☐

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. Climate change is the result of numerous, cumulative sources of greenhouse gases (GHGs). GHGs contribute to the "greenhouse effect," which is a natural occurrence that helps regulate the temperature of the planet. The majority of radiation from the Sun hits the Earth's surface and warms it. The surface in turn radiates heat back towards the atmosphere, known as infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping back into space and re-radiate it in all directions. This process is essential to supporting life on Earth because it warms the planet by approximately 60 degrees Fahrenheit. Emissions from human activities since the beginning of the industrial revolution (approximately 250 years ago) are adding to the natural greenhouse effect by increasing the gases in the atmosphere that trap heat, thereby contributing to an average increase in the Earth's temperature.

GHGs occur naturally and from human activities. Human activities that produce GHGs are the burning of fossil fuels (coal, oil and natural gas for heating and electricity, gasoline and diesel for transportation); methane from landfill wastes and raising livestock, deforestation activities; and some agricultural practices. GHGs produced by human activities include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6). Since 1750, it is estimated that the concentrations of carbon dioxide, methane, and nitrous oxide in the atmosphere have increased by 36 percent, 148 percent, and 18 percent respectively, primarily due to human activity. Emissions of GHGs affect the atmosphere directly by changing its chemical composition while changes to the land surface indirectly affect the atmosphere by changing the way in which the Earth absorbs gases from the atmosphere. Potential impacts of global climate change in California may include loss of snow pack, sea level rise, more

extreme heat days per year, more high ozone days, more large forest fires, and more drought years (California Energy Commission 2009).

Pursuant to the requirements of SB 97, the Resources Agency adopted amendments to the CEQA Guidelines for the feasible mitigation of GHG emissions and analysis of the effects of GHG emissions. The adopted CEQA Guidelines provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. To date, the Bay Area Air Quality Management District (BAAQMD), the South Coast Air Quality Management District (SCAQMD), and the San Joaquin Air Pollution Control District (SJVAPCD) have adopted significance thresholds for GHGs. The SCAQMD threshold, which was adopted in December 2008, considers emissions of over 10,000 metric tons of carbon dioxide equivalent (CO_2e)/year to be significant. However, the SCAQMD's threshold applies only to stationary sources and is intended to apply only when the SCAQMD is the CEQA lead agency. Although not formally adopted, the SCAQMD has a recommended quantitative threshold for all land use types of 3,000 metric tons of CO_2e/year (SCAQMD 2015). The 3,000 metric ton screening threshold was developed to capture 90 percent of projects in the SCAQMD district and was based on the goals of Assembly Bill 32 (AB 32).

Methodology

The City of Santa Paula has not yet adopted a Climate Action Plan that contains guidelines for GHG emission reductions in the City. Therefore, an applicable bright line threshold was chosen to determine the level of significance for GHG emissions. Given that Ventura County is adjacent to the SCAQMD jurisdiction and is part of the Southern California Association of Governments (SCAG) region, the VCAPCD recommends use of GHG emission thresholds of significance for land use development projects at levels consistent with those set by the SCAQMD (VCAPCD 2011). Because the previously established 2008 SCAQMD threshold of 3,000 MT CO_2e was not developed to meet the targets established by SB 32, it must be adjusted to meet the new, more conservative, emission reduction target. As such, to be consistent with SB 32, the previously established threshold of 3,000 MT CO_2e was reduced by 40 percent to establish a threshold for this project, consistent with the 40 percent reduction required under SB 32. Therefore, the threshold for this project is 1,800 MT of CO_2e per year.

The GHG analysis is based on the methodologies recommended by the California Air Pollution Control Officers Association (CAPCOA) *CEQA and Climate Change* white paper (2008). The analysis focuses on CO_2, N_2O, and CH_4 as these are the GHG emissions that onsite development would generate in the largest quantities. Fluorinated gases, such as HFCs, PFCs, and SF_6, were also considered for the analysis. However, because the project would involve battery storage, the quantity of fluorinated gases would not be substantial since fluorinated gases are primarily associated with industrial processes. Calculations were based on the methodologies discussed in the CAPCOA white paper (2008) and included the use of the California Climate Action Registry General Reporting Protocol (2009). Emissions analyzed are for net new residential uses associated with the new assisted living facility.

Emissions associated with the proposed project as well as the existing uses were estimated using CalEEMod, version 2016.3.1. Complete CalEEMod results and assumptions can be viewed in Appendix A.

a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction activities would contribute GHG emissions primarily from the combustion of fossil-fuel based fuels by construction equipment. As shown in Table 4, construction of the proposed project would generate an estimated 552 MT CO_2e of GHG emissions. When amortized over a 30-year period (the assumed life of the project), construction emissions would be approximately 18 MT CO_2e per year. As discussed in Section 3, *Air Quality*, project maintenance would be scheduled following manufacturer specified recommendations. This analysis conservatively assumes one maintenance trip every quarter for a total of four trips per year. Four trips per year would not have substantial GHG operational impacts. Therefore, the project would not generate emissions exceeding the 1,800 MT per year threshold and impacts would be less than significant.

Table 4 Estimated Construction GHG Emissions

Year	Project Emissions MT/yr CO_2e
2018	370
2019	182
Total Construction Emissions	552
Total Amortized over 30 Years	18

See Appendix A for CalEEMod worksheets.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The project would generate less than significant impacts to regional and local air quality and the project would be subject to a condition of approval to ensure that all project construction and operations shall be conducted in compliance with all VCAPCD Rules and Regulations. Furthermore, the amount of greenhouse gases anticipated from the project would be a small fraction of the levels being considered by the VCAPCD for greenhouse gas significance thresholds and far below those adopted to-date by any air district in the state.

As previously stated and shown in Table 4, GHG emissions associated with the proposed project would be below SCAQMD threshold levels of significance. SB 32 identifies a statewide target to reduce GHG emissions 40 percent below the 1990 level by 2030. The proposed project falls under the adjusted SCAQMD threshold for significance of 1,800 MT CO_2e per year, which was adjusted based on goals developed with AB 32 in mind for a 2020 statewide GHG emissions limit equivalent to 1990 emissions. Therefore, the proposed project would comply with the goals of AB 32 and SB 32.

The California Attorney General's Office has developed Global Warming Measures (2008) and the Governor's Office of Planning & Research's CEQA and Climate Change (California Air Pollution Control Officers Association 2008) document include GHG reduction measures intended to reduce GHG emissions in order to achieve statewide emissions reduction goals. All of these measures aim to curb the GHG emissions through suggestions pertaining to land use, transportation, renewable energy, and energy efficiency. Several of these actions are already required by California regulations, such as AB 1493 (Pavley) requires the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger

vehicles and light duty trucks. In 2004, ARB adopted a measure to limit diesel-fueled commercial motor vehicle idling. The Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989) established a 50 percent waste diversion mandate for California. Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions to and alterations to existing buildings). California's Renewable Portfolio Standard (RPS), established in 2002, requires that all load serving entities achieve a goal of 33 percent of retail electricity sales from renewable energy sources by 2020, within certain cost constraints. The proposed project would comply with applicable regulatory requirements; therefore, the project would not conflict with the State's GHG-related legislation and would not hinder the ability to meet GHG reduction goals. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

8 Hazards and Hazardous Materials

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	■	☐	☐
b. Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	■	☐	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	■	☐
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	■
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	■
f. For a project within the vicinity of a private airstrip, or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	■

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	■
h. Expose people or structures to a significant risk of loss, injury or death involving wild-land fires, including where wild-lands are adjacent to urbanized areas or where residences are intermixed with wild-lands?	☐	☐	☐	■

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

Construction Activities

Construction of the proposed project would require the limited use of heavy machinery and construction equipment, such as graders, backhoes, and front-end loaders. The operation of this equipment and machinery could result in a spill or accidental release of hazardous materials, including fuel, engine oil, engine coolant, and lubricants. Because the proposed project would require over one acre of construction, the project would be required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ) to comply with Clean Water Act National Pollutant Discharge Elimination System (NPDES) requirements. Compliance with these requirements would include preparation of a construction SWPPP, which would specify BMPs to quickly contain and clean up any accidental spills or leaks. Due to the relatively short-term construction period (approximately 5 months per phase) and implementation of a construction SWPPP, the potential for an accidental release of hazardous materials to harm the public or the environment would be low. This potential would be further reduced through compliance with applicable regulations.

Other hazardous wastes that would be used during construction would be typical of most construction projects, including detergents, degreasers, paints, ethylene glycol, and welding materials. During project construction, material safety data sheets for all applicable materials present at the site would be made readily available to onsite personnel.

Small quantities of hazardous wastes would most likely be generated from construction, including waste paint, spent construction solvents, waste cleaners, waste oil, oily rags, waste batteries, and spent welding materials. Workers would be trained to identify and handle hazardous materials properly. Hazardous waste would be either recycled or disposed of at a permitted and licensed treatment and/or disposal facility. All hazardous waste shipped off site for recycling or disposal would be transported by a licensed and permitted hazardous waste hauler. Implementation of the construction SWPPP and proper handling and disposal of hazardous materials and wastes during construction would result in less than significant construction impacts.

Operational Activities

The batteries and other materials for the BESS facilities would be manufactured off site and transported to the project site by truck. If removal of defective batteries from the project site is required during operations, this material would be classified mostly as universal waste under the California Department of Toxic Substances Control (DTSC) regulations and guidance (DTSC 2015). Transportation of lithium ion batteries is subject to 49 Code of Federal Regulations (CFR) 173.185 – Department of Transportation Pipeline and Hazardous Material Administration. These regulations include requirements for prevention of a dangerous evolution of heat; prevention of short circuits; prevention of damage to the terminals; and require that no battery come in contact with other batteries or conductive materials. Adherence to the requirements and regulations, personnel training, safe interim storage, and segregation from other potential waste streams would minimize any public hazard related to transport, use, or disposal of batteries.

The project would be subject to Section 16.42.040, Hazardous Materials, of the SPMC governing the storage of hazardous materials, liquids, and chemicals, including a provision that any storage of hazardous materials would be subject to conditions established by the Fire, Building and Safety, Public Works and Planning Departments. After it becomes operational, the project would be subject to annual inspection by the Santa Paula Fire Department or the Ventura County Fire Department when the city completes the transfer of the fire department operations to the County. It would also be required to comply with Chapter 27 of the 2016 California Fire Code, which sets limits on hazardous materials storage. If at any point hazardous material storage exceeds certain thresholds (based on calculation factoring in the amount of hazardous materials and the size of the control area), it would be required to obtain a conditional use permit according to SPMC Section 16.42.040.A1.

Mitigation Measures

The following preventative mitigation measure is required to prevent any substantial hazards to the public or environment through the routine transport, use, or disposal of hazardous materials:

HM-1 **Hazardous Materials Business Plan.** A Hazardous Materials Business Plan shall be developed and provided to the Ventura County Certified Unified Program Agency which is the CUPA agency for the City of Santa Paula. The Plan shall include a complete list of all materials that would be used on site and information regarding how the materials would be transported and in what form they would be used.

With incorporation of the mitigation measure listed below, construction and operation of the project would not create a significant hazard through the routine transport, use, or disposal of hazardous materials. Impacts would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

Potential upset and accident conditions include fire that results from overheating or other electrical fault conditions within the BESS, or a fire that spreads to the project site from an adjacent property. In most cases, mechanical damage would probably rank as the highest risk factor for initiating a thermal runaway (fire/explosion) event. Improper handling can result in crush or puncture damage

possibly leading to the release of electrolyte material or short-circuiting. These actions could result in thermal runaway and a resulting fire and/or explosion.

Lithium-ion battery fire risks can be managed through proper planning, risk assessment, storage methods, and response protocols. The project would use a fire protection system with the suppression through cooling, isolation, and containment strategy. Each BESS container would include a gaseous fire suppressant agent (e.g., 3M™ Novec™ 1230 Fire Protection Fluid) and an automatic fire extinguishing system with sound and light alarms. The system would be designed in accordance with National Fire Protection Association (NFPA) safety standards including an automatic shut-down system for fans that keep the container sealed when the fire extinguishing system is activated. The fire suppressant agent is released by a releasing panel that uses an aspirating smoke detection system and has a manual release. The aspirating smoke detection system provides for four levels of signaling before release of the fire suppressant agent. A disable switch is provided for maintenance personnel to allow for work on the container without accidental discharge. Novec 1230 Fire Protection Fluid is not regulated as a hazardous material and is identified as safe to use in occupied spaces (3M 2003).

At the system level, a three-tiered battery management system (BMS) would monitor parameters critical to safety, including all cell voltages, all currents, and representative temperatures. A robust system of logic-based isolation interlocks would prevent exposing cells to unsafe voltages, currents, and temperatures by providing both active and passive isolation. In the event that the three-tiered BMS were to fail, each of the Samsung SDI battery cells include several features designed to reduce the potential for short-circuits, excessive pressure, overheating, and other factors that could potentially lead to a thermal runaway and a resulting fire and/or explosion.

Personnel training would be required to help address the unique issues this type of battery technology presents, such as battery fire behavior, emergency response procedures, and fire extinguisher use (lithium-ion battery focus). To ensure compliance with the Occupational Safety and Health Administration's (OSHA) Emergency Action Plan Standard, 29 CFR 1910.38, and to prepare personnel for dealing with emergency situations, an emergency action plan would be developed. This emergency action plan would be developed to effectively address all emergencies that may be reasonably expected to occur at the BESS. Such a plan may include a designated emergency coordinator who would be responsible for notification of emergency personnel, safely evacuating project employees and the proper use of fire extinguishers (if applicable). All personnel working onsite would receive instruction and training on the emergency action plan.

A hazards consequences analysis was performed by RCH Group to identify and characterize the quantities and locations of hazardous chemicals contained within the proposed BESS and to determine the extent to which hazardous emissions would disperse in the event of an accidental release scenario (e.g., fire, explosion). While the proposed BESS would include multiple fire suppression systems described above, if these systems were to fail and emissions from the battery equipment were to be released to the atmosphere, there are four hazardous substances that may be potentially released: 1) hydrogen chloride; 2) hydrogen fluoride; 3) hydrogen cyanide; and, 4) carbon monoxide (RCH Group 2017).

The results of the hazards consequences analysis show that the hazards impacts may extend to a distance of approximately 48 feet from the fire event (RCH Group 2017). The toxic endpoint distance of 48 feet may extend beyond the property line depending on the location of the fire event. The toxic endpoint distance is the distance a toxic vapor cloud will travel before dissipating to the point that serious injuries from short-term exposures will no longer occur. Thus, if a battery storage container close to the property boundary were to ignite or explode, the 48-foot toxic endpoint

distance may require shelter in place and/or evacuation of residences to the south adjacent to the project site and to the east of North 13th Street, and commercial/light industrial uses to the north and southwest of the project site. Without proper protocols established and readily implementable in the event of such a release, impacts would be potentially significant.

The results of the hazards consequences analysis also indicate that during a fire, toxic concentrations of hydrogen chloride and hydrogen fluoride may be present within the interior of the burning storage container (RCH Group 2017). There would be potential for firefighters responding to the fire to be exposed to hazardous materials at potentially dangerous levels unless personal protection equipment and self-contained breathing apparatus are used.

Other potential upset conditions include intentional or unintentional damage, theft, or vandalism, resulting in damage to the BESS or exposure of the battery system components to the environment. Site security would consist of an 8-foot-high chain-link fence with three-strand barbed wire installed around the perimeter of the BESS facility. Additional site security measures may include a monitored camera system designed to cover the entire facility and an intrusion detection system.

With the aforementioned fire suppression systems and site security measures and with implementation of the mitigation measure below there is a very low likelihood of the project creating a significant hazard to onsite or offsite receptors.

Mitigation Measures

The following preventative mitigation measure is required to prevent any significant hazards to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials:

HM-2 **Emergency Contingency Plan.** In coordination with the City of Santa Paula, the applicant shall develop an emergency contingency plan, which may also function as the OSHA Emergency Action Plan. The emergency contingency plan shall, at a minimum, indicate and describe in detail the backup fire suppression equipment that will be available to City and subsequent County Fire Department responders that can be used in the event of a battery storage container fire. A map or plan identifying the locations of nearby existing fire hydrants shall be included. Any specialized fire response manuals or technical guidelines applicable to the project shall be included in the plan. The emergency contingency plan shall effectively address all emergencies that may be reasonably expected to occur at the BESS project site. The plan shall include protocol for notifying adjacent land uses in the event that shelter in place and/or evacuation is necessary.

With incorporation of the mitigation measure listed above, as well as mitigation measure **HM-1 Hazardous Materials Business Plan**, project impacts would be reduced to levels of less than significant.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

The Barber Webster Elementary School is located approximately 890 feet (0.17 mile) northwest of the project site. As described above, in the event of a potential upset and accident conditions, including fire that results from overheating or other electrical fault conditions, potential hazard emissions could affect areas up to 48 feet beyond the project site. The elementary school is beyond

this distance. Adherence to all requirements and regulations, personnel training, safe interim storage, and segregation from other potential waste streams would minimize any hazard related to transport, use, or disposal of batteries within proximity to schools. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project be located on a site included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 (Cortese List) and, as a result, would it create a significant hazard to the public or the environment?

The following databases were queried on April 19, 2017, for known hazardous materials contamination at the project site:

- Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database (United States Environmental Protection Agency);
- United States Environmental Protection Agency EnviroMapper database;
- California State Water Quality Control Board GeoTracker database; and
- California Department of Toxic Substances Control EnviroStor database.

The project site does not appear on any of the above lists. The project site is not identified on the Hazardous Waste and Substance Site List database compiled pursuant to Government Code Section 65962.5 (the "Cortese" list).

The State Water Resources Control Board's GeoTracker database identified 23 leaking underground storage tanks were identified within the 2,000 feet of the project site. Twenty-two of the leaking underground storage tanks cases have been closed. The active case is located approximate 280 feet south of the project site at the intersection of North 13th Street and East Main Street. The GeoTracker database also identified a completed Cleanup Project site directly adjacent to the project site, at 134 North 13th Street. The Cleanup Project was associated with minor paint spill in 2002 and was considered non-hazardous. A second Cleanup Program Site was identified at 1395 East Harvard Boulevard, approximately 780 feet southeast of the project site. This site was associated with diesel fuel and soluble lead contamination of soils. This case was listed as closed in 2009.

According to the United States Environmental Protection Agency (2017), there are eight sites within 2,000 feet of the project site that report under the RCRA. Five of these sites are identified as small generators of hazards waste, one as a large generator of hazardous waste, and two as transporters of hazardous wastes. All of these sites are more than 500 feet away from the project site. Because the project site is not listed on the Cortese List, and there are no known hazardous sites near enough to have affected the site, no impact would occur.

NO IMPACT

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

f. For a project near a private airstrip, would it result in a safety hazard for people residing or working in the project area?

The project is located approximately 0.5 mile northeast of the Santa Paula Airport. According to the Ventura County Airport Land Use Commission (2000), the project site is not located within any airport safety zones or height restriction zones of the airport. The solar array would be of a design

that would not create glare that interferes with aviation operations at the Santa Paula Airport. There are no private airstrips nearby. Therefore, the project would have no impact.

NO IMPACT

g. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The proposed project would not impair implementation of or physically interfere with implementation of an adopted emergency response plan or emergency evacuation plan. No impact would occur.

NO IMPACT

h. Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

According to the Santa Paula General Plan Update EIR (Rincon Consultants, Inc. 1998), the project is located in a "low fire hazard" zone. The project site is largely bare ground with no vegetation cover and a small building that is currently vacant. The project site is surrounded by other industrial and residential uses and is adjacent to North 13th Street. There are no wildlands or areas of substantial vegetation vulnerable to wildland fire near the project site. The proposed project would have no impact.

NO IMPACT

Cumulative Impacts

Any reasonably foreseeable future projects requiring the transport, use, or disposal of hazardous materials would be required to comply with applicable federal, state, and local regulations pertaining to hazardous materials. Based on a review of the proposed project location, past and present site conditions, and the multiple fire suppression features of the project, and with implementation of the mitigation measures listed above, project-related hazards and hazardous materials impacts would not be cumulatively considerable.

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9 Hydrology and Water Quality

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements?	☐	☐	■	☐
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	■	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	■	☐
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	■	☐
e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	■	☐
f. Otherwise substantially degrade water quality?	☐	☐	■	☐
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	■

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	■
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	■	☐
j. Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	■

a. Would the project violate any water quality standards or waste discharge requirements?

The project would be required to obtain coverage under a Construction General Permit to comply with Clean Water Act NPDES requirements. Compliance with the permit would require the development and implementation of a SWPPP and associated BMPs. The BMPs would include measures that would be implemented to prevent discharge of eroded soils from the construction site and sedimentation of surface waters offsite. The BMPs would also include measures to quickly contain and clean up any minor spills or leaks of fluids from construction equipment. Given the relatively flat topography of the site, distance from surface waters, the minimal grading and excavation required for construction, and implementation of the required SWPPP, construction of the proposed project would not violate any water quality standards or waste discharge requirements.

During operations of the project, wastewater discharge would be expected to be minimal amounts of stormwater runoff generated during precipitation events. Given the nearly flat topography of the site, and the minor amounts of impervious surfaces that the proposed project would create, precipitation would be expected to infiltrate or evaporate onsite more so than sheet flow over land and discharge offsite at substantial rates or volumes. Any runoff leaving the project site during operations would be captured by an existing storm drain on North 13th Street and conveyed and discharged through the existing separate storm sewer system. The project would be subject to the requirements of a Ventura County Municipal Separate Storm Sewer Systems (MS4) permit. Site-specific BMPs would be designed by the contractor in compliance with all applicable regulations and conditions of the MS4 permit. Lithium-ion batteries would be fully contained within the storage container, and battery fluids or substances would not be susceptible to spills or release as runoff. Operation of the proposed project would not be expected to violate any water quality standards or waste discharge requirements. The proposed project would have less than significant impacts on water quality standards and discharge requirements.

LESS THAN SIGNIFICANT IMPACT

b. Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering or the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

During project construction, water would be required for dust suppression, to support project soil compaction, and sanitary use. Water necessary for project construction would be delivered to the project site via truck. The project applicant has conservatively estimated that 4 acre-feet of water would be necessary for construction. Given the relatively small amount of water required for construction of the project, and that construction would temporary and occur only once, project construction would not substantially deplete groundwater supplies.

The office building would include a connection to the municipal water supply system to provide potable water to the building. However, the building, until recently, has continuously be occupied and connected to the water supply system. Thus, conversion to an office building would not be a new source or demand substantially depleting groundwater supplies. Additionally, personnel would typically be located offsite and work remotely during project operation, which would reduce the frequency at which water is used in the office building. Project operations would not substantially deplete groundwater supplies.

The proposed project would create impervious ground cover, such as the battery storage containers and the PCS and the medium voltage control system pads. Any new impervious surfaces would reduce the area where precipitation could infiltrate, which could adversely affect groundwater recharge rates. However, much of the project site would remain pervious and allow infiltration of precipitation. The project site has very little topographic relief and is nearly flat. Any runoff from impervious surfaces would be anticipated to move slowly across the project site, and largely infiltrate or evaporate. In the context of the whole groundwater basin, the incremental amount of impervious surface that would be introduced by the proposed project would be small and would not substantially interfere with groundwater recharge. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project substantially alter the existing drainage pattern of the site or area, including by altering the course of a stream or river, in a manner that would result in substantial erosion or siltation on or offsite?

d. Would the project substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or offsite?

There are no streams or rivers located on or adjacent to the project site. The proposed project would not alter the course of a stream or river.

Project construction would be required to obtain coverage under a Construction General Permit to comply with Clean Water Act NPDES requirements. Compliance with the permit would require the development and implementation of a SWPPP and associated BMPs. The BMPs would include measures that would be implemented to prevent discharge of eroded soils from the construction site and sedimentation of surface waters offsite. The BMPs would also include measures to quickly contain and clean up any minor spills or leaks of fluids from construction equipment. Given the relatively flat topography of the site, distance from surface waters, the minimal grading and

excavation required for construction, and implementation of the required SWPPP, construction of the proposed project would not result in substantial erosion or siltation on or offsite.

The project site has very little topographic relief and is nearly flat. Any runoff from impervious surfaces would be anticipated to flow over impervious surfaces until reaching soils, gravels, or other pervious surfaces within the project site, and then would either infiltrate or evaporate to continue to flow and discharge offsite. Any stormwater runoff leaving the project site during operations would be captured by existing storm drains and conveyed and discharged through the existing separate storm sewer system. The project would be subject to the requirements of a Ventura County Municipal Separate Storm Sewer Systems (MS4) permit. Site-specific BMPs would be designed by the contractor in compliance with all applicable regulations and conditions of the MS4 permit. Project-related impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

e. Would the project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

f. Would the project otherwise substantially degrade water quality?

Project construction would be required to obtain coverage under a Construction General Permit to comply with Clean Water Act NPDES requirements. Compliance with the permit would require the development and implementation of a SWPPP and associated BMPs. The BMPs would include measures that would be implemented to prevent discharge of eroded soils from the construction site and sedimentation of surface waters offsite. Examples of possible BMPs would include silt fences, sand bag barriers, fiber rolls, and storm drain inlet protection. The SWPPP would also include spill prevention and control BMPs to be implemented in the event of any minor spills or fluid leaks from construction equipment. Implementation of the required SWPPP and associated BMPs would prevent substantial sources of polluted runoff from entering the stormwater water drainage system as during project construction. Project construction would not substantially degrade quality.

The proposed project would create additional impervious surfaces, such as the battery storage containers and the PCS and the medium voltage control system pads.

Runoff from the impervious areas would be directed towards the southeast corner of the project site, where pervious soils would be located. At this location some runoff would either infiltrate or evaporate. Any runoff that does not infiltrate or evaporate onsite would be contained by a berm that would be constructed along western and southern project site boundaries. The berm would direct stormwater runoff to the southeastern corner of the project site where it would enter a storm drain inlet on North 13th Street and discharge to the separate storm sewer system. The project would be subject to the requirements of a Ventura County Municipal Separate Storm Sewer Systems (MS4) permit. Site-specific BMPs would be designed by the contractor in compliance with all applicable regulations and conditions of the MS4 permit. Lithium-ion batteries would be fully contained in battery storage containers, and in the event of a rupture or otherwise defective battery, no battery fluids would discharge from within the containers. Given that much of the project site would be pervious and nearly flat, and that compliance with the conditions of the MS4 permit would be mandatory, operation of the project would not substantially degrade water quality or exceed the capacity of the stormwater drainage system. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

g. Would the project place housing in a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map, or other flood hazard delineation map?

h. Would the project be placed in a 100-year flood hazard area structures that would impede or redirect flood flows?

The project site and much of the surrounding vicinity are within an area mapped by the Federal Emergency Management Agency (FEMA) as Zone 99A Special Flood Hazard Area (FEMA 2010). Zone 99A Special Flood Hazard Areas are "areas subject to inundation by the 1-percent-annual-chance flood event, but which will ultimately be protected upon completion of an under-construction Federal flood protection system. These are areas of special flood hazard where enough progress has been made on the construction of a protection system, such as dikes, dams, and levees, to consider it complete for insurance rating purposes." Thus, although the project would locate battery storage containers and other aboveground infrastructure in a Special Flood Hazard Area, project components would not be expected to redirect or impede flood flows, as flooding on the project site would be unlikely due to construction of flood protection measures in the area. The project does not include any housing. The proposed project would have no impact.

NO IMPACT

i. Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding including that occurs as a result of the failure of a levee or dam?

According to the Safety Element of the City of Santa Paula General Plan (1998), "At least four dams northeast of the Santa Paula area have the hypothetical potential to result in dam inundation to the City or surrounding environs: Lake Pyramid Dam, Lake Castaic Dam, Bouquet Canyon Dam, and Santa Felicia Dam (Lake Piru)." While potential failure of any of these dams could cause inundation in parts of the City, including the project site, the Safety Element concluded that this possibility is remote. The Safety Plan indicates that the dams in question have been engineered to withstand reasonably expected seismic shaking, which would be the most likely cause of such failure.

Typical and routine operations of the project would not require personnel to be located on the project site. Operations would generally be performed remotely from offsite locations. Maintenance personnel would be present on site only intermittently and for short periods of time. Construction of the project would also be short term and temporary, and not locate people on the project site for extended and lengthy durations. Because people would be on the project site only briefly and intermittently, the proposed project would not expose people to a significant risk of flooding from a dam failure. Battery storage containers would be anchored to compacted soils with earth screws, which would help reduce potential flooding damage. Impacts of the project would be less than significant.

LESS THAN SIGNIFICANT IMPACT

j. Would the project result in inundation by seiche, tsunami, or mudflow?

Seiches are seismically induced waves that occur in large bodies of water, such as lakes and reservoirs. The project site is not in proximity to a large body of water, and seiches are a not risk to the project.

A tsunami is a tidal wave produced by off-shore seismic activity. The project site is not located within a tsunami inundation area as shown on the California Emergency Management Agency's Tsunami Inundation Map (2009), and would not be subject to inundation by tsunami.

The project site is not located within an earthquake-induced landslide zone (California Geological Survey 1998). Landslides and mud flows are most likely to occur on or near a slope or hillside area, rather than in generally level areas, such as the project site. Mud flows would not be a risk to the project.

The proposed project would have no impact.

NO IMPACT

Cumulative Impacts

Compliance with the Construction General Permit and conditions of the MS4 permit, including implementation of the required SWPPP would prevent the proposed project from having cumulatively considerable impacts on water quality or violations of water quality standards. Any reasonably foreseeable future projects requiring construction over an acre or more would also be required to implement a SWPPP, and obtain an MS4 or treat runoff by some other means rather than discharge to the separate storm sewer system. Therefore, project impacts on hydrology and water quality would not be cumulatively considerable.

10 Land Use and Planning

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	■
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	■
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	■

a. Would the project physically divide an established community?

The proposed project would not result in the physical division of any established community or neighborhood nor would it include changes to the existing circulation network. The proposed project represents a type of industrial use on a parcel that has been used for other various industrial uses for decades. Therefore, there would be no impact related to dividing an established community.

NO IMPACT

b. Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The City of Santa Paula General Plan (1998) land use designation for the subject parcel is Commercial/Light Industrial (C/LI). The General Plan does not describe the C/LI designation as a discrete land use, and, instead, as a mix Commercial and Light Industrial land use classifications. The current zoning designation for the subject property is Commercial – Light Industrial (C/LI). The proposed project is a conditionally permitted use in this land use designation and zone.

The *CEQA Guidelines* require consideration of whether a proposed project may conflict with any applicable land use plan, policy, or regulation that was adopted for the purpose of avoiding or mitigating an environmental impact. This environmental determination differs from the larger policy determination of whether a proposed project is consistent with a jurisdiction's general plan. The former determination that is intended for consideration in a CEQA document is based on, and

limited to, a review and analysis of environmental effects. Policy conflicts are considered environmental impacts only when they would result in direct environmental effects.

The potential environmental impacts of the proposed project are disclosed and analyzed in this Initial Study/Mitigated Negative Declaration. As described in this document, the project would not have any potentially significant and unavoidable environmental impacts. With the incorporation of the mitigation measures identified in this document, all impacts would be less than significant. There would be no conflicts with any applicable land use plan, policy, or regulation of an agency adopted for the purpose of avoiding or mitigating an environmental effect. The proposed project would have no impact.

NO IMPACT

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

The project site is not within a habitat conservation plan or natural community conservation plan area. The proposed project would have no impact.

NO IMPACT

Cumulative Impacts

The proposed project would have no direct or indirect impacts on land use planning. As the project would have no impact, no cumulative impacts would occur.

11 Mineral Resources

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

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

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

The project site does not contain or lie immediately adjacent to a known mineral resource that would be of value to the region or the state. According to the United States Geological Survey Mineral Resources On-Line Spatial Data map, the nearest site holding a mineral resource of importance is the Southern Pacific Quarry, which is located more than 3,000 feet southeast of the project site. As the project would not result in the loss of availability of a known mineral resource of value or the Southern Pacific Quarry, no impact would occur.

NO IMPACT

Cumulative Impacts

The proposed project would have no direct or indirect impacts on mineral resources. As the project would have no impact, no cumulative impacts would occur.

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12 Noise

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	■	☐
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	■	☐
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	■	☐
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■

Noise Fundamentals

Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound power levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz). Ambient noise levels usually change continuously during the day. The equivalent sound level (Leq) is normally used to describe ambient noise. The Leq is the equivalent steady-state A-weighted sound level that would contain the same acoustical energy as the time-varying A-weighted sound level during the

same time interval. For intermittent noise sources, the maximum noise level (Lmax) is normally used to represent the maximum noise level measured.

The actual time period in which noise occurs is also important since noise that occurs at night tends to be more disturbing than that which occurs during the daytime. Two commonly used noise metrics – the Day-Night average level (Ldn) and the Community Noise Equivalent Level (CNEL) - recognize this fact by weighting hourly Leqs over a 24-hour period. The Ldn is a 24-hour average noise level that adds 10 dBA to actual nighttime (10:00 p.m. to 7:00 a.m.) noise levels to account for the greater sensitivity to noise during that time period. The CNEL is identical to the Ldn, except it also adds a 5 dBA penalty for noise occurring during the evening (7:00 p.m. to 10:00 p.m.). Noise levels described by Ldn and CNEL usually do not differ by more than 1 dB.

Because of the logarithmic scale of the decibel unit, sound levels cannot be added or subtracted arithmetically. If a sound's physical intensity is doubled, the sound level increases by about 3 dB, regardless of the initial sound level. In general, a 3 dBA change in community noise levels is noticeable, while 1 to 2 dBA changes generally are not perceived.

Noise that is experienced at any receptor can be attenuated by distance or the presence of noise barriers or intervening terrain. Sound from a single point source radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates (or drops off) at a rate of 6 dBA for each doubling of distance from the source. Sound from a source traveling in a line (e.g., a motor vehicle) attenuates at a rate of 3 dBA for each doubling of distance. For acoustically absorptive, or soft, sites (i.e., sites with an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dBA per doubling of distance is normally assumed. A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by this shielding depends on the size of the object, proximity to the noise source and receiver, surface weight, solidity, and the frequency content of the noise source. Natural terrain features (such as hills and dense woods) and human-made features (such as buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. According to the United States Federal Highway Administration (FHWA) (2016), a barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction.

Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Noise-sensitive land uses typically include residences, hospitals, schools, guest lodging, libraries, churches and certain types of recreational uses. Industrial uses on properties surrounding the project site are not considered sensitive receptors. The residences in Peppertree Trailer Park east of the project site and the four single family residences south of the project site are the nearest sensitive receptors. The closest residence in the Peppertree Trailer Park to the project site is approximately 55 feet from the eastern project site boundary. The nearest single family residence to the south is located approximately 25 feet from the project site boundary.

Regulatory Setting

The City of Santa Paula General Plan (1998) includes goals and policies related to noise and establishes noise compatibility guidelines for different land uses. Noise compatibility guidelines for land uses applicable to the project site and surrounding properties are provided in Table 5. Industrial uses are normally acceptable in areas with ambient noise levels less than 75 dBA Ldn and conditionally acceptable in areas with ambient noise levels between 70 and 80 dBA Ldn.

Commercial, industrial and warehousing land uses such as the proposed project and adjacent industrial uses need only conform to applicable state and federal workplace safety standards for interior noise levels (Cal/OSHA Title 8 regulations).

Table 5 City of Santa Paula Noise Compatibility Guidelines

Land Use Category	Noise Compatibility Guidelines (Ldn, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential – Low Density Single Family, Duplex, Mobile Homes	<60	55-70	70-75	>75
Office Buildings, Business Commercial and Professional	<70	67.5-77.5	>75	--
Industrial, Manufacturing, Utilities, Agriculture	<75	70-80	>80	--

*Subject to provisions of Policy CC-39

Source: City of Santa Paula General Plan (1998)

The SPMC also regulates noise, primarily through the Noise Ordinance, which comprises Chapter 93 of the Code. The SPMC sets forth the maximum exterior noise levels for specific land uses (Table 6), which cannot be exceeded at receiving land uses unless specially exempted by the SPMC or permitted by the City. For industrial zones, the exterior noise level standard is 75 dBA Ldn. For residential uses, the exterior noise level standard is 65 dBA during daytime hours and 60 during nighttime hours. Construction activities on Monday through Friday, between 8:00 a.m. and 6:00 p.m. are not subject to the noise level standards established in the City Noise Ordinance (SPMC Section 93.23).

Table 6 Santa Paula Municipal Code Exterior Noise Level Standards

Land Use	Time	Maximum Permissible Noise Level (dBA LEQ)*
Residential	7 AM to 10 PM 10 PM to 7 AM	65 60
Neighborhood Commercial	Anytime	65
Commercial and Office	Anytime	70
Industrial	Anytime	75
Schools, Libraries, Hospitals, Community Care Facilities, and Assembly Halls	Anytime	65

* Maximum noise levels for noises of steady audible tones, such as whines, screeches, beating, pulsating, throbbing, or hum shall be reduced by 5 dBA

Source: SPMC Chapter 93

Existing Noise Setting

Roadway noise from traffic on North 13th Street is the predominant source of ambient noise at the project site and neighboring properties. North 13th Street is not a through street, and traffic trips would be expected to be primarily from persons working or living, or visiting any of the businesses and residences located on the street. According to the Noise Element of the General Plan, the project site is located outside of the 65 and 60 dBA CNEL noise contours associated with more heavily travelled roads in the City, such as State Route 126 and State Route 150. Using the most recent 9th edition of the traffic generation rates published by the Institute of Transportation Engineers, the existing residential and industrial uses on North 13th Street would generate approximately 399 daily vehicles trips on average, including 143 medium truck trips. Residences are located approximately 28 feet from the travel lanes of the street. Using this distance and these traffic rates, the United States Department of Housing and Urban Development (HUD) Day-Night Noise Level Calculator (2014), estimates that traffic on North 13th Street would create ambient noise levels at residences closes to the road of 51.4 dBA Ldn. For purposes of this analysis, ambient noise level at the project site and adjacent properties located on North 13th Street was rounded to 52 dBA, the next highest decibel. This value is consistent with the project site's location outside of the 60 dBA CNEL contour in the General Plan. It is also consistent with the Caltrans noise estimate of approximately 50 dBA for quiet urban areas (Caltrans n.d.).

Impact Analysis

a. *Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

To estimate proposed project operational noise levels, noise modeling completed for a separate, larger BESS project in El Centro, California, was utilized (Appendix C). The El Centro BESS Project consists of an array of rechargeable batteries, with a total capacity of 30 MW, housed inside of a building. The building is of a metal frame construction and insulated and air conditioned. Although the proposed Santa Paula BESS project would not utilize a building to house all of the battery cells, and instead 20 separate battery storage containers, each container would be of metal frame construction, insulated, and air conditioned. Thus, the container materials and construction would be anticipated to be equivalent to the El Centro BESS Project in terms of noise attenuation.

Operation of the air conditioning equipment used to cool the batteries would be the dominant source of noise during operation of the proposed project. The El Centro BESS Project utilizes 12 air conditioning units to provide air conditioning to the building. The proposed project would utilize a separate air conditioning unit for each of the 20 battery storage containers. However, the proposed project would locate the air conditioning units within the interior of the storage containers. The air conditioning units at the El Centro BESS Project are located on the exterior of structures.

With the air conditioning units in operation, the El Centro BESS Project was determined to produce noise of 80.8 dBA Leq at a distance of approximately 10 feet from BESS building (approximately 5 feet from an air conditioning unit). At a distance of approximately 100 feet from the building, but within direct line-of-sight of air conditioning units, noise was determined to be 61.6 dBA Leq. Thus, attenuation of noise at the El Centro BESS Project site was approximately 6 dBA per distance doubled, as described above.

During summer, when ambient air temperatures are exceedingly high, there would be potential for the air conditioning unit in each of the 20 battery storage containers to operate concurrently. Based on the noise produced by the air conditioning units at the El Centro BESS Project, 20 air conditioning units operating concurrently would be anticipated to produce a noise level of approximately 83 dBA Leq at a distance of approximately 10 feet when located in an exterior location with no barriers.

As described above, a barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction. The proposed project would locate air conditioning units within the fully enclosed battery containers, thereby creating barrier that breaks the line of sight between the air conditioning units and receptors. Each battery container would be insulated, which would further attenuate any noise emitted from within the container. Insulation absorbs sound waves, and adding insulation to metal construction can reduce noise by an additional 5 to 6 dB (North American Insulation Manufacturers Association 2015). Thus, when all 20 air conditionings units operate concurrently within the insulated battery storage containers, noise would levels would be approximately 73 dBA Leq at a distance of 10 feet from the containers. Using the doubling of distance attenuation rate of 6 dBA, project noises levels would attenuate to 59 dBA Leq at the eastern project site boundary and 63 dBA Leq at the southern project site boundary.

As Table 7 shows, full buildout of the proposed project, under maximum operation conditions when air conditioning units within all 20 battery storage containers are operating concurrently, noise levels in the General Plan and City Noise Ordinance would not be exceeded for residential or industrial land uses. Construction of the proposed project would be exempt from the Noise Ordinance per SPMC Section 92.23 because it would occur between the hours of 8:00 a.m. and 6:00 p.m. on weekdays. Thus, the project would not expose persons to noise levels in excess of City standards and impacts would be less than significant.

Table 7 Project Operational Noise at Adjacent Land Uses

Adjacent Land Use	Project Noise (dBA)	Ambient Noise Level with Project (dBA Leq)
Nearest Peppertree Trailer Park residence	52	55
Nearest single-family residence	52	55
Industrial use to the north	58	59
Nearest industrial use to the south	63	63

b. Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Vibrating objects in contact with the ground radiate energy through that medium; if a vibrating object is massive enough and/or close enough to the observer, its vibrations are perceptible. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. The ground motion caused by vibration is measured in vibration decibels (VdB). Table 8 shows typical peak vibration levels associated with various types of heavy construction equipment (Federal Railroad Administration 2012). Peak vibration levels associated with the use of individual pieces of heavy equipment can range from about 52 to 87 VdB at 50 feet from the source, depending upon the types of equipment in operation at any given time and phase of construction (FHWA 2006).

Table 8 Typical Vibration Levels for Construction Equipment

	Approximate VdB			
Equipment	**25 Feet**	**50 Feet**	**75 Feet**	**100 Feet**
Large Bulldozer	87	81	77	75
Caisson Drilling	87	81	77	75
Loaded Truck	86	80	76	74
Jackhammer	79	73	69	67
Small Bulldozer	58	52	48	46

Source: Federal Railroad Administration 2012

The vibration levels at 50, 75, and 100 feet were calculated based on FRA referenced levels at 25 feet using FRA procedure.

The vibration velocity level threshold of perception for humans is approximately 65 VdB. Vibration impacts would be significant if they exceed the following Federal Railroad Administration (FRA) thresholds:

- 65 VdB where low ambient vibration is essential for interior operations, such as hospitals and recording studios
- 72 VdB for residences and buildings where people normally sleep, including hotels
- 75 VdB for institutional land uses with primary daytime use, such as churches and schools
- 95 VdB for physical damage to extremely fragile historic buildings
- 100 VdB for physical damage to buildings

In addition to the groundborne vibration thresholds outlined above, the Federal Transit Administration assessed human response to different levels of groundborne vibration and determined that vibrations of 85 VdB or higher are acceptable only if there are an infrequent number of events per day.

The project would involve standard construction activities that are anticipated to result in some vibration that could be felt on properties in the immediate vicinity of the project site. The residence adjacent to the southern project boundary is located approximately 25 feet from the project site boundary, and the nearest residence in the Peppertree Trailer Park is located approximately 55 feet from the project site boundary. As shown in Table 8, vibration levels due to construction activities could reach as high as about 87 VdB within 25 feet of the project site and 81 VdB within 50 feet of the site. Vibration from construction activities would be intermittent and limited to daytime hours. Additionally, only minor rough grading would be anticipated for project construction, and the majority of the project construction would occur in the northwest corner of the project site, furthest from residences. Thus, vibrations of 85 VdB or higher at adjacent residential receptors would be infrequent and short-term for the duration of project construction. Therefore, vibrational impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project result in a substantial permanent increase in ambient noise levels above levels existing without the project?

As shown in Table 7, project operations would generate noise of 52 dBA Leq at the nearest sensitive residential receptors in the Peppertree Trailer Park and adjacent to the south of the project site.

Assuming a worst-case scenario in which all 20 air conditioning units ran concurrent with each other during each hour of a 24-hour day, the ambient noise levels at these residential receptors would increase to 59 dBA Ldn. This would be approximately 7 dBA above the existing ambient noise levels at these receptors. As described above, increases of 3 dBA or more are generally discernible to the human ear. Thus, the increased noise at the receptors would be noticeable. The 7 dBA increase would only occur when all 20 air conditioning units are operating concurrently, such as very hot summer days. When fewer than 20 air conditioning units run concurrently, project operational noise would be less at the receptors. Regardless, the hourly noise level equivalent at the nearest residential receptors during full operation of the project would be 55 dBA Leq, which does not exceed the City Noise Ordinance for residential uses. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

As described above, during summer months when ambient air temperature is warmest, there would be potential for the air conditioning unit in each of the 20 battery storage containers to run concurrently. This would be a periodic event, as air conditioners would continue to engage and disengage as temperatures in the storage containers fluctuate. However, this could occur throughout the operational life of the project, and would therefore not be considered a temporary increase. Thus, this impact is discussed above, under "c", relating to permanent impacts.

The proposed project would involve short-term noise impacts due to the construction of the BESS facility, renovation of the office building, and improvements to the sidewalk and section of North 13th Street fronting the project site. Normally, construction activities are carried out in stages and each stage has its own characteristics based on the mix of equipment in use. The construction schedule and phase assumptions are available for reference in Appendix A, *CalEEMod Results*. Project construction would be required to comply with the SPMC, which prohibits construction between the hours of 6:00 p.m. and 7:00 a.m. Construction occurring on weekdays outside of these hours is exempt from the City Noise Ordinance.

The nearest residence to the project site is adjacent to the south, approximately 25 feet from the southern project site boundary. The nearest residence in the Peppertree Trailer Park is located approximately 55 feet from the eastern project boundary, and 35 feet from the proposed improvements to North 13th Street. The nearest industrial building is located approximately 45 feet from the project site boundary, to the north. Table 9 includes typical maximum noise levels (Lmax) generated by construction equipment at a reference distance of 50 feet and 100 feet.

Table 9 Typical Noise Levels Generated by Construction Equipment

Equipment	Typical Lmax (dBA) 50 feet from the Source	Typical Lmax (dBA) 100 feet from the Source
Air Compressor	81	75
Backhoe	80	74
Compactor (ground)	83	77
Concrete Mixer	85	79
Dump Truck	76	70
Excavator	81	75
Flat Bed Truck	74	68
Front End Loader	79	73
Generator	81	75
Paver	89	83
Pickup Truck	75	69
Pneumatic Tools	85	79
Roller	80	74
Saw	70	64
Warning Horn	83	77
Welder/Torch	74	68

Source: Federal Transit Administration 2006

As shown in the table, noise at all the adjacent uses may exceed 80 dBA temporarily during construction of the project, depending on the type of equipment used. This would be an increase above existing noise levels at all of the adjacent uses. Project construction would occur during daytime hours, between 8:00 a.m. and 6:00 p.m., in accordance with the SPMC. Given the relatively short-term construction period of five months, and that construction occurring between 8:00 a.m. and 6:00 p.m. is exempt from the City Noise Ordinance, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

e-f. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The project is located approximately 0.5 mile northeast of the Santa Paula Airport. According to the Ventura County Airport Land Use Commission (2000), the project site is located outside of the 60 dBA CNEL noise contour of the airport. The City's noise compatibility guidelines for industrial land uses of 75 Ldn for industrial land uses. As previously mentioned, CNEL and Ldn are within 1 dBA of each other. Thus, the project would not expose people working in the project area to excessive noise levels. Additionally, operation of the project would typically not require personnel to work at the project site. There are no private airstrips in the vicinity. No impacts would occur.

NO IMPACT

Cumulative Impacts

The existing ambient noise level at the project site and vicinity on North 13th Street is the result of other past and present projects, including traffic and residential and light industrial development on North 13th Street. As stated above, existing ambient noise levels in the area are estimated at approximately 52 dBA Ldn. The proposed project would increase ambient noise levels temporarily during construction, and periodically during operation when multiple air conditioning units operate concurrent with one another. However, the increase would not exceed the City's Noise Ordinance. There are no other reasonably foreseeable future projects in the immediate vicinity that would be expected to increase ambient noise levels on North 13th Street. The project's contribution to cumulative noise impacts would not be cumulatively considerable.

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13 Population and Housing

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

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

The proposed project would not directly induce population growth in Santa Paula or Ventura County because no new housing or substantial numbers of jobs are proposed. Long-term operation of the project would only require approximately three employees, and these employees would typically work remotely from another location. Construction employment would be short-term and temporary. Project construction is expected to draw primarily from a local work force and would not require additional housing to accommodate construction workers or their families. As such, the facility would not induce substantial population growth and no impact would occur.

NO IMPACT

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

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

Construction and operation of the proposed project would not displace any existing housing or people. The project site is vacant and zoned for light industrial uses and development. Therefore, no impact would occur as a result of the proposed project.

NO IMPACT

Cumulative Impacts

The proposed project would have no direct or indirect impacts on population and housing. Thus, no cumulative impacts would occur.

14 Public Service

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
1 Fire protection?	☐	☐	☐	■
2 Police protection?	☐	☐	☐	■
3 Schools?	☐	☐	☐	■
4 Parks?	☐	☐	☐	■
5 Other public facilities?	☐	☐	☐	■

a.1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection?

a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered Police facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?

a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools?

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered park or recreational facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks?

a.5. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered [other] governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for other public facilities?

The project site would be served by the Santa Paula Fire Department or the Ventura County Fire Department when the City completes the transfer of the fire department operations to the County, although the project site would remain within City jurisdiction. The project site would be served by the Santa Paula Police Department. The site is currently within the service area for emergency responders and proposed project activities are not anticipated to result in significant calls for service volume or create the need for new or expanded service. Impact mitigation fees would be paid as required. The proposed project's absence of a residential component avoids any increases or increased demand for schools, parks, or other public facilities. Therefore, the proposed project would have no impact.

NO IMPACT

Cumulative Impacts

The proposed project would have no direct or indirect impacts on public services. As the project would have no impact, no cumulative impacts to public services would occur.

15 Recreation

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	■
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	■

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The proposed project does not include new housing and would not generate substantial population growth and therefore would not result in increased demand for parks or recreational services. The project does not include recreational facilities. There are no existing recreational uses of the project site. Accordingly, the proposed project would have no impact on recreation resources.

NO IMPACT

Cumulative Impacts

The proposed project would have no direct or indirect impacts on recreation. As the project would have no impact, no cumulative impacts to recreational facilities would occur.

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16 Transportation/Traffic

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	■	☐
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	■	☐
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	■
d. Substantially increase hazards due to a design feature, (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	■	☐
e. Result in inadequate emergency access?	☐	☐	☐	■
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	■

a. Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

b. Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Construction equipment and materials would be delivered to the project site and stored onsite for the duration of construction. Construction delivery trips would be infrequent and short-term for the anticipated 5-month construction period. The project construction workforce would likely commute to the project site in personal vehicles. Up to 50 people would comprise the construction workforce. The additional daily vehicle trips generated from 50 people (i.e., vehicles) would have localized impacts on North 13th Street. According to the General Plan (1998), 4,400 average daily vehicle trips occur on East Main Street in the area of North 13th Street. Thus, in context with this amount of trips, the additional trips of the construction workforce would be incremental and not considerable on East Main Street. All additional trips generated from the construction workforce would be temporary and short term.

An estimated two or three workers would be required for operation, maintenance, and security of the site. Operation and security would be conducted from an offsite location, and maintenance crews would be dispatched to the site as needed during operation. Thus, operation and maintenance of the proposed project would not generate any substantial or potentially significant traffic volumes. Two to three workers travelling to the site for periodic maintenance and infrequent intervals would not generate enough traffic to change level of service standards or other travel demand measures for any roadways. The project would not impact any mass transit services or facilities or pedestrian or bicycle paths. Project-related impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The proposed project would not result in a change in air traffic patterns including either an increase in traffic levels or a change in location that results in a substantial safety risk. The proposed project represents an infill project on a parcel that has been used for various industrial uses for decades. According to the Ventura County Airport Land Use Commission (2000), generalized approach and departure flight tracts at the Santa Paula Airport are located south of the East Main Street. The project is located north of East Main Street. No changes to air traffic patterns or locations would result from the proposed project. Therefore, no project airport related impacts would result.

NO IMPACT

d. Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?

The proposed project does not include the construction of any new roads, other than the access drive aisle that would be entirely onsite and used only by project workers and emergency responders in the event of an emergency. Turning radius on the facility road would accommodate

maneuverability on the site of large trucks and vehicles, including fire trucks. The project facility road would have a single driveway entrance from North 13th Street. This entrance would be design and constructed to City standards and include a driveway apron.

During construction of the project, construction equipment and project materials would be delivered via trucks. Large flatbed trucks, dump trucks, and water trucks would travel on North 13th Street, East Main Street, and other roads in the area while delivering supplies and equipment. Certain maintenance activities during operation may also require large trucks. Streets used to access the project site are public streets designed for use by large trucks. Project-related impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

e. Would the project result in inadequate emergency access?

The proposed project would not generate traffic volumes that would impede emergency access. Turning radius on the internal project facility road would accommodate maneuverability on the site of large emergency vehicles, including fire trucks and ambulances. The proposed project would have no impact.

NO IMPACT

f. Conflict with adopted policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities?

The proposed project would not impact public transit or bikeways. The proposed project would construct new sidewalk along the west side of North 13 Street, improving pedestrian facilities. The proposed project would have no impact.

NO IMPACT

Cumulative Impacts

At full buildout of the General Plan, several intersections in the City would operate at unacceptable level of service standards, including the intersection of East Main Street and Harvard Boulevard, located approximately 1,200 feet east of North 13th Street. At full buildout of the General Plan this intersection would operate at level of service standard F, which is the most unacceptable level of service standard. However, as described above, operation and periodic maintenance of the project would require a workforce of two to three people. During operation, these people would generally work remotely from an offsite location, and would not commute to the project site. The additional traffic from two to three people travelling to the project site during periodic maintenance activities would not be cumulatively considerable.

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17 Utilities and Service Systems

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	■	☐
b. Require or result in the construction of a new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	■	☐
c. Require or result in the construction of a new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	■	☐
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	■	☐
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	■	☐
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	■	☐
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	■	☐

a. Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

b. Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

d. Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

e. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The Los Angeles Regional Water Quality Control Board in connection with the implementation of the NPDES program imposes requirements on the treatment of wastewater and its discharge into local water bodies. Wastewater produced by the project would meet these requirements through treatment at the Santa Paula Water Recycling Facility, which is owned by the City of Santa Paula and currently operated by Santa Paula Water LLC. Effluent from the facility is discharged to percolation basins adjacent to the plant to be returned to the Santa Clara River Basin.

Wastewater generated during project construction would consist primarily of sanitary waste, which would be managed through the use of portable toilets. Portable toilets would be removed from the project site once construction is completed. Wastewater collected in portable toilets would be transported to the Santa Paula Water Recycling Facility for treatment.

Wastewater generated from project operations would be associated with the bathroom and sink facilities in the office structure. The proposed project would renovate the building, including updating plumbing and fixtures. As described in Section 9, Environmental Setting and Surrounding Land Uses, the office structure has been in continuous use until only recently. Thus, the proposed project would not be a new demand or service for water supply, the sanitary sewer system, or the Santa Paula Water Recycling Facility. Instead, it would be a continuation of the demand that has been associated with the office structure until only recently. Additionally, personnel would rarely be onsite at the office during project operations, which would reduce the amount of wastewater generated. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The proposed project would create additional impervious surfaces, such as the battery storage containers and the PCS and the medium voltage control system pads. An earthen drainage swale lined with gravel would be constructed along the north edge of the battery storage containers to capture runoff from the impervious containers. This swale would discharge to a nearly flat area in the southeastern part of the project site. This area is pervious, and stormwater would be expected to largely infiltrate or evaporate. Any runoff that does not infiltrate or evaporate onsite would be contained by a berm that would be constructed along western and southern project site boundaries. The berm would direct stormwater runoff to the southeastern corner of the project site where it would enter a storm drain inlet on North 13th Street and discharge to the separate storm sewer system. The project would be subject to the requirements of a Ventura County Municipal Separate Storm Sewer Systems (MS4) permit. Site-specific BMPs would be designed by the contractor in compliance with all applicable regulations and conditions of the MS4 permit. Lithium-ion batteries would be fully contained in battery storage containers, and in the event of a rupture or otherwise defective battery, no battery fluids would discharge from within the containers. Given that much of the project site would be pervious and nearly flat, and that compliance with the conditions of the MS4 permit would be mandatory, operation of the project would not substantially

degrade water quality or exceed the capacity of the stormwater drainage system. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

f. Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

g. Would the project comply with federal, state, and local statutes and regulations related to solid waste?

Trash collection and disposal is performed by the City through private contractor Recology Los Angeles, Inc., which disposes of refuse collected in the City at the privately owned Chiquita Canyon Sanitary Landfill. As of April 2016, the total remaining capacity of the Chiquita Canyon Landfill was approximately 8.6 million cubic yards (CalRecycle 2017) and the facility is permitted to accept up to 6,000 tons of solid waste per day and 560 tons of "green waste" for composting (CalRecycle 2016a). The average daily tonnage of waste received during 2016 was approximately 40 percent of the total 6,000 tons permitted per day (CalRecycle 2016b).

Solid waste generated from project construction activities, such as paper, wood, and plastic packing material would be segregated, where practical, for recycling. Non-recyclable wastes would be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at the Chiquita Canyon Sanitary Landfill. Vegetation wastes generated by site clearing and grubbing would be chipped/mulched and spread on site or hauled off site for composting at the Chiquita Canyon Sanitary Landfill.

Wastes from project operations would be managed through the use of 64-gallon (or equivalent) toter service consisting of one each, refuse, recycling, and green waste cart per the City of Santa Paula's commercial solid waste and recycling services. Refuse and recycling carts will be serviced by Recology Ventura once a week on a regular schedule. The project would comply with all federal, state, and local statutes and regulations related to solid waste.

The waste generation rates provided by CalRecyle were used to calculate the approximate waste generated by the project operations. Operation of the BESS and electrical components of the project would generally not produce solid waste. Solid wastes generated from project operations would generally be from activities within the office building on the project site. Thus, a waste generation rate for office uses of 6 pounds per 1,000 square feet per day was used as opposed to a generation rate for industrial uses. Assuming no recycling of refuse, the project would generate an estimated 0.003 tons of solid waste per day during the operational phase of the project. This is approximately 0.00005 percent of the daily capacity (6,000 tons) permitted at the Chiquita Canyon Sanitary Landfill. This is a conservative estimate, as recycling would occur where possible, and because personnel would rarely be present at the site. Considering that the average daily tonnage of waste received during 2016 was approximately 40 percent of the total tons permitted, the addition of 0.00005 percent from the project operations would be insignificant. Solid waste generated by the project would have a less than significant impact on the permitted remaining capacity of the landfill.

LESS THAN SIGNIFICANT IMPACT

Cumulative Impacts

Water and sanitary sewer services for the project would be limited to the office building. As described above, the office building has been continuously occupied until recently. Renovating and subsequent use of the building as a project office would therefore not increase the demand on water supplies or sewage treatment facilities. The proposed project would create minimal new areas or impervious surface, and stormwater runoff from the project site would be expected to be similar to existing runoff rates at the site. Thus, the proposed project would not have cumulatively considerable impacts on the City's water supply, sanitary sewer system, storm drain system, or the Santa Paula Water Recycling Facility. The incremental addition of 0.003 tons of solid waste per day generated from construction would not have a cumulatively considerable impact on the capacity of the Chiquita Canyon Sanitary Landfill.

18 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	■	☐	☐
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	■	☐	☐
c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	■	☐	☐

a. Does the project have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self- sustaining levels, eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

The proposed project would have no impact on nesting migratory birds or special status species. The project site has been cleared of vegetation except for spare ruderal grass and forb species along the perimeter, and a single small willow tree at the western boundary. Habitat for special status species does not occur on the project site. Implementation of the construction SWPPP and compliance with MS4 permit conditions would prevent potential offsite impacts to aquatic habitat or riparian zones.

Through the incorporation of the mitigation measures described in this Initial Study/Mitigated Negative Declaration, the project would not eliminate major cultural resources. In addition, identified mitigation measures would address potential impacts related to important examples of

the major periods of California history or prehistory. Mitigation measures relevant to cultural resources that would reduce impacts to less than significant levels are listed below for reference.

- CR-1 Unanticipated Discovery of Cultural Resources.
- CR-2 Unanticipated Discovery of Paleontological Resources.
- CR-3 Unanticipated Discovery of Human Remains.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

The proposed project was determined to have no impact in comparison to existing conditions for Agriculture and Forest Resources, Biological Resources, Land Use/ Planning, Mineral Resources, Population and Housing, Public Service, and Recreation issue areas. Therefore, as there would be no direct or indirect impacts, the proposed project would not contribute to cumulative impacts to these issue areas.

For all other issues areas, the proposed project would have either direct or indirect impacts that have been determined to be less than significant or not cumulatively considerable, with or without mitigation incorporated. As stated above, cumulatively considerable means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. A discussion of the project's cumulative impacts is provided in the earlier sections of this Initial Study/Mitigated Negative Declaration for each issue area.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

In general, adverse impacts to human beings are associated with air quality, hazards, and hazardous materials, greenhouse gas emissions, and noise impacts. As detailed in the preceding responses, the construction and operation of the proposed project would not result, either directly or indirectly, in significant adverse effects related to air quality, greenhouse gas emissions, hazards and hazardous materials or noise. As discussed, air quality and greenhouse gas emissions associated with the construction and operation of the maintenance facility would be below threshold levels and construction emissions would be temporary. Operational noise levels would also fall below significance thresholds and noise levels exceeding SPMC guidelines due to construction activities that would be temporary and infrequent. No significant impacts would occur related to hazards or hazardous materials with mitigation incorporated. A list relevant mitigation measures is provided for reference below.

- HM-1 Hazardous Materials Business Plan
- HM-2 Emergency Contingency Plan

Overall, with the inclusion of the recommended mitigation measures, the proposed project would not result in adverse environmental impacts or cause substantial adverse effects on human beings, and impacts would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

References

Bibliography

3M. 2003. *3M Novec 1230 Fire Protection Fluid: Storage and Handling Information*. Retrieved on April 18, 2017, from http://multimedia.3m.com/mws/media/234296O/3mtm-novectm-1230-fire-protection-fluid-storage-handling.pdf?fn=prodinfo_nvc1230storage.pdf

Association of Environmental Professionals. (2015). *Beyond 2020: The Challenges of Greenhouse Gas Reduction Planning by Local Governments in California*. Available at: http://www.vacavillegeneralplan.org/wp-content/uploads/2015/08/Exhibit-8-AEP-White-Paper-%E2%80%93-Beyond-2020-The-Challenge-of-Greenhouse.pdf

California Air Pollution Control Officers Association (CAPCOA). (2008). CEQA and Climate Change white paper.

California Climate Action Registry. (2009). California Climate Action Registry General Reporting Protocol. Accessed https://sfenvironment.org/sites/default/files/fliers/files/ccar_grp_3-1_january2009_sfe-web.pdf

California Department of Fish and Wildlife (CDFW). 2017. California Natural Diversity Database (CNDDB) RareFind 5. Accessed April 19, 2017. Available at: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data

California Department of Resources Recycling and Recovery (CalRecycle). 2016a. *Estimated Solid Waste Generation Rates.* Retrieved on April 20, 2017, from https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates

------. 2016b. *Facility/Site Inspection Details: Chiquita Canyon Sanitary Landfill: March 2016.* Retrieved on April 20, 2017, from http://www.calrecycle.ca.gov/SWFacilities/Directory/19-AA-0052/Inspection/404134/

------. 2017. *Facility/Site Summary Details: Chiquita Canyon Sanitary Landfill (19-AA-0052).* Retrieved on April 20, 2017, from http://www.calrecycle.ca.gov/SWFacilities/Directory/19-AA-0052/Detail/

California Department of Toxic Substances Control (DTSC). 2015. *Universal Waste Information*. Available online at: http://www.dtsc.ca.gov/HazardousWaste/UniversalWaste/index.cfm

California Department of Transportation (Caltrans). No date. *Loudness Comparison Chart (dBA)*. Accessed on April 21, 2017, from http://www.dot.ca.gov/dist2/projects/sixer/loud.pdf

California Emergency Management Agency. 2009. *Tsunami Inundation Map for Emergency Planning – State of California, County of Ventura – Santa Paula Quadrangle*. Produced by California Emergency Management Agency, California Geological Survey, and University of Southern California – Tsunami Research Center.

California Energy Commission. 2009. *Environmental Health and Equity Impacts from Climate Change and Mitigation Policies in California: A Review of the Literature*. March 2009

California Geological Survey. 1998. *Earthquake Zones of Required Investigation: Santa Paula Quadrangle* [map]. California Geological Survey: Sacramento, California.

City of Santa Paula. 1998. *City of Santa Paula General Plan*. Adopted April 1998.

Federal Emergency Management Agency (FEMA). 2010. *Flood Insurance Rate Map, Ventura County, California, and Incorporated Areas: Map Number 06111C0781E* [map]. January 20, 2010.

Federal Highway Administration (FHWA). 2006. *Construction Noise Handbook*. Accessed at https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/

Federal Railroad Administration. 2012. *High-Speed Ground Transportation Noise and Vibration Impact Assessment*. September 2012.

Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment*. Available at: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf

Natural Resources Conservation Service. 2016. *Web Soil Survey*. Retrieved on April 18, 2017, from https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

North American Insulation Manufacturers Association. 2015. *The Facts about the Acoustical Performance of Metal Building Insulation*. Retrieved on April 24, 2017, from http://insulationinstitute.org/wp-content/uploads/2015/12/MB315.pdf

RCH Group. 2017. *Santa Paula Battery Energy Storage System Hazards Consequences Analysis*. RCH Group: Rancho Cordova, California.

Rincon Consultants, Inc. 1998. *Final Environmental Impact Report for City of Santa Paula General Plan Update*. Rincon Consultants, Inc.: Ventura, California.

South Coast Air Quality Management District (SCAQMD). 2015. SCAQMD Air Quality Significance Thresholds. Available at http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2

United States Department of Agriculture. 1970. *Soil Survey, Ventura Area, California*. United States Department of Agriculture, Soil Conservation Service. April 1970.

United States Department of Housing and Urban Development (HUD). 2014. *DNL Calculator*. Accessed April 21, 2017. Available at: https://www.hudexchange.info/environmental-review/dnl-calculator/

Unite States Department of Transportation Federal Highway Administration (FHWA). 2016. *Noise Barrier Design Handbook*. Available online at: http://www.fhwa.dot.gov/environment/noise/noise_barriers/design_construction/design/design03.cfm#sec3.5.3

United States Environmental Protection Agency. 2017. *RCRAInfo Database*. Retrieved on April 18, 2017, from https://www3.epa.gov/enviro/facts/rcrainfo/search.html

United States Fish and Wildlife Service (USFWS). 2017. Information for Planning and Conservation (IPaC). Accessed April 19, 2017. Available at: https://ecos.fws.gov/ipac/

Ventura County Airport Land Commission. 2000. *Airport Comprehensive Land Use Plan Update for Ventura County*. Adopted July 7, 2000.

Ventura County Air Pollution Control Board (VCAPCB). *Final Ventura County 2016 Air Quality Management Plan*. May 13, 2008. Available at: http://www.vcapcd.org/AQMP-2016.htm

Ventura County Air Pollution Control District (VCAPCD). 2003. *Ventura County Air Quality Assessment Guidelines*. October 2003. Available at: http://www.vcapcd.org/pubs/Planning/VCAQGuidelines.pdf

------. 2011. Greenhouse Gas Thresholds of Significance Options for Land Use Development Projects in Ventura County, November 8, 2011. Available online at http://www.vcapcd.org/pubs/Planning/GHGThresholdReportRevised.pdf

List of Preparers

Rincon Consultants, Inc. prepared this Initial Study/Mitigated Negative Declaration under contract to the City of Santa Paula. Persons involved in data gathering, analysis, project management, and quality control include the following.

CITY OF SANTA PAULA

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Appendix A

Air Quality Monitoring Results

City of Santa Paula BESS

Ventura County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	6.00	1000sqft	1.57	6,000.00	0
Other Non-Asphalt Surfaces	12.67	1000sqft	0.00	12,670.00	0
Other Non-Asphalt Surfaces	6.00	1000sqft	0.00	6,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

City of Santa Paula BESS - Ventura County, Winter

Project Characteristics - Start of construction per project description

Land Use - 600 x 20 foot access road = 12,000 sf and half paved in asphalt half not, 12,672 sf pad (227.5x55.7). lot acerage 1.57 acres.

Construction Phase - Schedule per client supplied information

Off-road Equipment - Equipment per client supplied information. Water truck modeled as off-highway truck and gradall modeled as tractor

Off-road Equipment - Equipment per client supplied information

Off-road Equipment - Equipment per client supplied information

Off-road Equipment - Equipment per client supplied information

Off-road Equipment - Equipment per client supplied information.

Trips and VMT - Average number of workers provided by client

Area Coating - No architectural coating as part of project

Energy Use -

Construction Off-road Equipment Mitigation - Water exposed area per VCAPCD Rule 55

Grading - Most likely no grading site

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	0
tblAreaCoating	Area_EF_Nonresidential_Interior	250	0
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_EF_Residential_Exterior	100	0
tblAreaCoating	Area_EF_Residential_Interior	75	0
tblAreaCoating	Area_Parking	1480	0
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	55	61
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	55	61
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	200.00	30.00
tblConstructionPhase	NumDays	200.00	135.00
tblConstructionPhase	NumDays	200.00	15.00

tblConstructionPhase	NumDays	2.00	75.00
tblGrading	AcresOfGrading	65.63	0.10
tblLandUse	LotAcreage	0.14	1.57
tblLandUse	LotAcreage	0.29	0.00
tblLandUse	LotAcreage	0.14	0.00
tblOffRoadEquipment	HorsePower	89.00	84.00
tblOffRoadEquipment	HorsePower	187.00	247.00
tblOffRoadEquipment	HorsePower	97.00	231.00
tblOffRoadEquipment	HorsePower	158.00	46.00
tblOffRoadEquipment	HorsePower	187.00	231.00
tblOffRoadEquipment	HorsePower	402.00	89.00
tblOffRoadEquipment	HorsePower	402.00	46.00
tblOffRoadEquipment	HorsePower	402.00	9.00
tblOffRoadEquipment	HorsePower	8.00	97.00
tblOffRoadEquipment	LoadFactor	0.20	0.74
tblOffRoadEquipment	LoadFactor	0.41	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.29
tblOffRoadEquipment	LoadFactor	0.38	0.45
tblOffRoadEquipment	LoadFactor	0.41	0.29
tblOffRoadEquipment	LoadFactor	0.38	0.20
tblOffRoadEquipment	LoadFactor	0.38	0.45
tblOffRoadEquipment	LoadFactor	0.38	0.56
tblOffRoadEquipment	LoadFactor	0.43	0.37
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	UsageHours	6.00	8.00

tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	VendorTripNumber	4.00	0.00
tblTripsAndVMT	VendorTripNumber	4.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00
tblTripsAndVMT	WorkerTripNumber	35.00	20.00
tblTripsAndVMT	WorkerTripNumber	10.00	50.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	5.00

2.0 Emissions Summary

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					
2017	5.3972	60.1230	26.8968	0.0625	6.1878	2.6622	8.8500	3.3540	2.4521	5.8061	0.0000	6,353.9350	6,353.9350	1.8781	0.0000	6,400.8868
2018	4.5341	35.3129	24.9166	0.0472	0.8141	1.9804	2.7945	0.2091	1.8704	2.0794	0.0000	4,568.0101	4,568.0101	1.0631	0.0000	4,594.5867
Maximum	**5.3972**	**60.1230**	**26.8968**	**0.0625**	**6.1878**	**2.6622**	**8.8500**	**3.3540**	**2.4521**	**5.8061**	**0.0000**	**6,353.9350**	**6,353.9350**	**1.8781**	**0.0000**	**6,400.8868**

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					
2017	5.3972	60.1230	26.8968	0.0625	2.5135	2.6622	5.1756	1.3346	2.4521	3.7868	0.0000	6,353.9350	6,353.9350	1.8781	0.0000	6,400.8868
2018	4.5341	35.3129	24.9166	0.0472	0.8141	1.9804	2.7945	0.2091	1.8704	2.0794	0.0000	4,568.0100	4,568.0100	1.0631	0.0000	4,594.5866
Maximum	**5.3972**	**60.1230**	**26.8968**	**0.0625**	**2.5135**	**2.6622**	**5.1756**	**1.3346**	**2.4521**	**3.7868**	**0.0000**	**6,353.9350**	**6,353.9350**	**1.8781**	**0.0000**	**6,400.8868**

	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**	**52.48**	**0.00**	**31.55**	**56.67**	**0.00**	**25.61**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

	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	Closeout/Restoration	Building Construction	5/12/2017	6/22/2017	5	30	
2	Site Preparation	Site Preparation	7/3/2017	10/13/2017	5	75	
3	Mechanical and Electrical Work	Building Construction	10/14/2017	4/20/2018	5	135	
4	Comissioning	Building Construction	4/21/2018	5/11/2018	5	15	

Acres of Grading (Site Preparation Phase): 0.1

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.57

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
Closeout/Restoration	Graders	1	6.00	231	0.29
Closeout/Restoration	Off-Highway Trucks	1	6.00	89	0.20
Site Preparation	Dumpers/Tenders	2	8.00	16	0.38
Site Preparation	Graders	2	7.00	247	0.40
Site Preparation	Off-Highway Trucks	2	8.00	402	0.38
Site Preparation	Plate Compactors	4	8.00	97	0.37

Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Mechanical and Electrical Work	Excavators	1	8.00	46	0.45
Mechanical and Electrical Work	Forklifts	1	8.00	84	0.74
Mechanical and Electrical Work	Off-Highway Trucks	1	8.00	46	0.45
Mechanical and Electrical Work	Tractors/Loaders/Backhoes	3	6.00	231	0.29
Mechanical and Electrical Work	Trenchers	1	8.00	78	0.50
Comissioning	Off-Highway Trucks	1	6.00	9	0.56
Closeout/Restoration	Cranes	1	6.00	231	0.29
Mechanical and Electrical Work	Cranes	1	6.00	231	0.29
Comissioning	Cranes	1	6.00	231	0.29
Closeout/Restoration	Forklifts	1	6.00	89	0.20
Comissioning	Forklifts	1	6.00	89	0.20
Closeout/Restoration	Generator Sets	1	8.00	84	0.74
Mechanical and Electrical Work	Generator Sets	1	8.00	84	0.74
Comissioning	Generator Sets	1	8.00	84	0.74
Closeout/Restoration	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Comissioning	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Closeout/Restoration	Welders	3	8.00	46	0.45
Mechanical and Electrical Work	Welders	3	8.00	46	0.45
Comissioning	Welders	3	8.00	46	0.45

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
Closeout/Restoration	9	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	14	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Mechanical and Electrical Work	12	50.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Mechanical and Electrical Work	12	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Comissioning	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Comissioning	8	5.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Closeout/Restoration - 2017

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	3.3163	24.1322	15.6408	0.0264		1.3910	1.3910		1.3344	1.3344		2,490.2964	2,490.2964	0.5666		2,504.4604
Total	**3.3163**	**24.1322**	**15.6408**	**0.0264**		**1.3910**	**1.3910**		**1.3344**	**1.3344**		**2,490.2964**	**2,490.2964**	**0.5666**		**2,504.4604**

3.2 Closeout/Restoration - 2017

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
Vendor	0.0217	0.5443	0.1661	1.0300e-003	0.0270	5.7900e-003	0.0328	7.7800e-003	5.5400e-003	0.0133		109.5539	109.5539	0.0109		109.8261
Worker	0.0431	0.0298	0.3002	6.6000e-004	0.0657	4.9000e-004	0.0662	0.0174	4.5000e-004	0.0179		66.0068	66.0068	2.3400e-003		66.0652
Total	**0.0648**	**0.5741**	**0.4662**	**1.6900e-003**	**0.0928**	**6.2800e-003**	**0.0990**	**0.0252**	**5.9900e-003**	**0.0312**		**175.5606**	**175.5606**	**0.0132**		**175.8913**

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	3.3163	24.1322	15.6408	0.0264		1.3910	1.3910		1.3344	1.3344	0.0000	2,490.2964	2,490.2964	0.5666		2,504.4604
Total	**3.3163**	**24.1322**	**15.6408**	**0.0264**		**1.3910**	**1.3910**		**1.3344**	**1.3344**	**0.0000**	**2,490.2964**	**2,490.2964**	**0.5666**		**2,504.4604**

3.2 Closeout/Restoration - 2017

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
Vendor	0.0217	0.5443	0.1661	1.0300e-003	0.0270	5.7900e-003	0.0328	7.7800e-003	5.5400e-003	0.0133		109.5539	109.5539	0.0109		109.8261
Worker	0.0431	0.0298	0.3002	6.6000e-004	0.0657	4.9000e-004	0.0662	0.0174	4.5000e-004	0.0179		66.0068	66.0068	2.3400e-003		66.0652
Total	**0.0648**	**0.5741**	**0.4662**	**1.6900e-003**	**0.0928**	**6.2800e-003**	**0.0990**	**0.0252**	**5.9900e-003**	**0.0312**		**175.5606**	**175.5606**	**0.0132**		**175.8913**

3.3 Site Preparation - 2017

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					6.0235	0.0000	6.0235	3.3104	0.0000	3.3104			0.0000			0.0000
Off-Road	5.2895	60.0486	26.1464	0.0608		2.6609	2.6609		2.4510	2.4510		6,188.9181	6,188.9181	1.8722		6,235.7237
Total	**5.2895**	**60.0486**	**26.1464**	**0.0608**	**6.0235**	**2.6609**	**8.6844**	**3.3104**	**2.4510**	**5.7614**		**6,188.9181**	**6,188.9181**	**1.8722**		**6,235.7237**

3.3 Site Preparation - 2017

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
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
Worker	0.1077	0.0744	0.7504	1.6600e-003	0.1643	1.2200e-003	0.1655	0.0436	1.1300e-003	0.0447		165.0169	165.0169	5.8400e-003		165.1631
Total	**0.1077**	**0.0744**	**0.7504**	**1.6600e-003**	**0.1643**	**1.2200e-003**	**0.1655**	**0.0436**	**1.1300e-003**	**0.0447**		**165.0169**	**165.0169**	**5.8400e-003**		**165.1631**

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					2.3492	0.0000	2.3492	1.2911	0.0000	1.2911			0.0000			0.0000
Off-Road	5.2895	60.0486	26.1464	0.0608		2.6609	2.6609		2.4510	2.4510	0.0000	6,188.9181	6,188.9181	1.8722		6,235.7237
Total	**5.2895**	**60.0486**	**26.1464**	**0.0608**	**2.3492**	**2.6609**	**5.0101**	**1.2911**	**2.4510**	**3.7421**	**0.0000**	**6,188.9181**	**6,188.9181**	**1.8722**		**6,235.7237**

3.3 Site Preparation - 2017

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
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
Worker	0.1077	0.0744	0.7504	1.6600e-003	0.1643	1.2200e-003	0.1655	0.0436	1.1300e-003	0.0447		165.0169	165.0169	5.8400e-003		165.1631
Total	**0.1077**	**0.0744**	**0.7504**	**1.6600e-003**	**0.1643**	**1.2200e-003**	**0.1655**	**0.0436**	**1.1300e-003**	**0.0447**		**165.0169**	**165.0169**	**5.8400e-003**		**165.1631**

3.4 Mechanical and Electrical Work - 2017

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	4.8857	39.0052	23.9667	0.0422		2.3044	2.3044		2.1747	2.1747		4,102.3192	4,102.3192	1.0605		4,128.8313
Total	**4.8857**	**39.0052**	**23.9667**	**0.0422**		**2.3044**	**2.3044**		**2.1747**	**2.1747**		**4,102.3192**	**4,102.3192**	**1.0605**		**4,128.8313**

3.4 Mechanical and Electrical Work - 2017

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
Vendor	0.0217	0.5443	0.1661	1.0300e-003	0.0463	5.7900e-003	0.0521	0.0125	5.5400e-003	0.0181		109.5539	109.5539	0.0109		109.8261
Worker	0.2692	0.1860	1.8760	4.1500e-003	0.7677	3.0600e-003	0.7708	0.1966	2.8200e-003	0.1994		412.5423	412.5423	0.0146		412.9076
Total	**0.2909**	**0.7303**	**2.0420**	**5.1800e-003**	**0.8140**	**8.8500e-003**	**0.8229**	**0.2091**	**8.3600e-003**	**0.2175**		**522.0962**	**522.0962**	**0.0255**		**522.7337**

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	4.8857	39.0052	23.9667	0.0422		2.3044	2.3044		2.1747	2.1747	0.0000	4,102.3192	4,102.3192	1.0605		4,128.8313
Total	**4.8857**	**39.0052**	**23.9667**	**0.0422**		**2.3044**	**2.3044**		**2.1747**	**2.1747**	**0.0000**	**4,102.3192**	**4,102.3192**	**1.0605**		**4,128.8313**

3.4 Mechanical and Electrical Work - 2017

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
Vendor	0.0217	0.5443	0.1661	1.0300e-003	0.0463	5.7900e-003	0.0521	0.0125	5.5400e-003	0.0181		109.5539	109.5539	0.0109		109.8261
Worker	0.2692	0.1860	1.8760	4.1500e-003	0.7677	3.0600e-003	0.7708	0.1966	2.8200e-003	0.1994		412.5423	412.5423	0.0146		412.9076
Total	**0.2909**	**0.7303**	**2.0420**	**5.1800e-003**	**0.8140**	**8.8500e-003**	**0.8229**	**0.2091**	**8.3600e-003**	**0.2175**		**522.0962**	**522.0962**	**0.0255**		**522.7337**

3.4 Mechanical and Electrical Work - 2018

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	4.2726	34.6436	23.1146	0.0422		1.9729	1.9729		1.8632	1.8632		4,057.8189	4,057.8189	1.0399		4,083.8153
Total	**4.2726**	**34.6436**	**23.1146**	**0.0422**		**1.9729**	**1.9729**		**1.8632**	**1.8632**		**4,057.8189**	**4,057.8189**	**1.0399**		**4,083.8153**

3.4 Mechanical and Electrical Work - 2018

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
Vendor	0.0188	0.5064	0.1490	1.0200e-003	0.0463	4.5800e-003	0.0509	0.0125	4.3800e-003	0.0169		109.3202	109.3202	0.0104		109.5794
Worker	0.2426	0.1629	1.6530	4.0300e-003	0.7677	2.9800e-003	0.7707	0.1966	2.7500e-003	0.1993		400.8709	400.8709	0.0128		401.1920
Total	**0.2615**	**0.6693**	**1.8021**	**5.0500e-003**	**0.8141**	**7.5600e-003**	**0.8216**	**0.2091**	**7.1300e-003**	**0.2162**		**510.1911**	**510.1911**	**0.0232**		**510.7713**

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	4.2726	34.6436	23.1146	0.0422		1.9729	1.9729		1.8632	1.8632	0.0000	4,057.8189	4,057.8189	1.0399		4,083.8153
Total	**4.2726**	**34.6436**	**23.1146**	**0.0422**		**1.9729**	**1.9729**		**1.8632**	**1.8632**	**0.0000**	**4,057.8189**	**4,057.8189**	**1.0399**		**4,083.8153**

3.4 Mechanical and Electrical Work - 2018

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
Vendor	0.0188	0.5064	0.1490	1.0200e-003	0.0463	4.5800e-003	0.0509	0.0125	4.3800e-003	0.0169		109.3202	109.3202	0.0104		109.5794
Worker	0.2426	0.1629	1.6530	4.0300e-003	0.7677	2.9800e-003	0.7707	0.1966	2.7500e-003	0.1993		400.8709	400.8709	0.0128		401.1920
Total	**0.2615**	**0.6693**	**1.8021**	**5.0500e-003**	**0.8141**	**7.5600e-003**	**0.8216**	**0.2091**	**7.1300e-003**	**0.2162**		**510.1911**	**510.1911**	**0.0232**		**510.7713**

3.5 Comissioning - 2018

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	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216		2,030.8389	2,030.8389	0.4088		2,041.0596
Total	**2.5919**	**17.4280**	**13.8766**	**0.0220**		**1.0580**	**1.0580**		**1.0216**	**1.0216**		**2,030.8389**	**2,030.8389**	**0.4088**		**2,041.0596**

3.5 Comissioning - 2018

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
Vendor	0.0188	0.5064	0.1490	1.0200e-003	0.0463	4.5800e-003	0.0509	0.0125	4.3800e-003	0.0169		109.3202	109.3202	0.0104		109.5794
Worker	0.0243	0.0163	0.1653	4.0000e-004	0.0768	3.0000e-004	0.0771	0.0197	2.7000e-004	0.0199		40.0871	40.0871	1.2800e-003		40.1192
Total	**0.0431**	**0.5227**	**0.3143**	**1.4200e-003**	**0.1231**	**4.8800e-003**	**0.1280**	**0.0322**	**4.6500e-003**	**0.0368**		**149.4073**	**149.4073**	**0.0116**		**149.6986**

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	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216	0.0000	2,030.8389	2,030.8389	0.4088		2,041.0596
Total	**2.5919**	**17.4280**	**13.8766**	**0.0220**		**1.0580**	**1.0580**		**1.0216**	**1.0216**	**0.0000**	**2,030.8389**	**2,030.8389**	**0.4088**		**2,041.0596**

3.5 Comissioning - 2018

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
Vendor	0.0188	0.5064	0.1490	1.0200e-003	0.0463	4.5800e-003	0.0509	0.0125	4.3800e-003	0.0169		109.3202	109.3202	0.0104		109.5794
Worker	0.0243	0.0163	0.1653	4.0000e-004	0.0768	3.0000e-004	0.0771	0.0197	2.7000e-004	0.0199		40.0871	40.0871	1.2800e-003		40.1192
Total	**0.0431**	**0.5227**	**0.3143**	**1.4200e-003**	**0.1231**	**4.8800e-003**	**0.1280**	**0.0322**	**4.6500e-003**	**0.0368**		**149.4073**	**149.4073**	**0.0116**		**149.6986**

City of Santa Paula BESS

Ventura County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	6.00	1000sqft	1.57	6,000.00	0
Other Non-Asphalt Surfaces	12.67	1000sqft	0.00	12,670.00	0
Other Non-Asphalt Surfaces	6.00	1000sqft	0.00	6,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

City of Santa Paula BESS - Ventura County, Summer

Project Characteristics - Start of construction per project description

Land Use - 600 x 20 foot access road = 12,000 sf and half paved in asphalt half not, 12,672 sf pad (227.5x55.7). lot acerage 1.57 acres.

Construction Phase - Schedule per client supplied information

Off-road Equipment - Equipment per client supplied information. Water truck modeled as off-highway truck and gradall modeled as tractor

Off-road Equipment - Equipment per client supplied information

Off-road Equipment - Equipment per client supplied information

Off-road Equipment - Equipment per client supplied information

Off-road Equipment - Equipment per client supplied information.

Trips and VMT - Average number of workers provided by client

Area Coating - No architectural coating as part of project

Energy Use -

Construction Off-road Equipment Mitigation - Water exposed area per VCAPCD Rule 55

Grading - Most likely no grading site

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	0
tblAreaCoating	Area_EF_Nonresidential_Interior	250	0
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_EF_Residential_Exterior	100	0
tblAreaCoating	Area_EF_Residential_Interior	75	0
tblAreaCoating	Area_Parking	1480	0
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	55	61
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	55	61
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	200.00	30.00
tblConstructionPhase	NumDays	200.00	135.00
tblConstructionPhase	NumDays	200.00	15.00

tblConstructionPhase	NumDays	2.00	75.00
tblGrading	AcresOfGrading	65.63	0.10
tblLandUse	LotAcreage	0.14	1.57
tblLandUse	LotAcreage	0.29	0.00
tblLandUse	LotAcreage	0.14	0.00
tblOffRoadEquipment	HorsePower	89.00	84.00
tblOffRoadEquipment	HorsePower	187.00	247.00
tblOffRoadEquipment	HorsePower	97.00	231.00
tblOffRoadEquipment	HorsePower	158.00	46.00
tblOffRoadEquipment	HorsePower	187.00	231.00
tblOffRoadEquipment	HorsePower	402.00	89.00
tblOffRoadEquipment	HorsePower	402.00	46.00
tblOffRoadEquipment	HorsePower	402.00	9.00
tblOffRoadEquipment	HorsePower	8.00	97.00
tblOffRoadEquipment	LoadFactor	0.20	0.74
tblOffRoadEquipment	LoadFactor	0.41	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.29
tblOffRoadEquipment	LoadFactor	0.38	0.45
tblOffRoadEquipment	LoadFactor	0.41	0.29
tblOffRoadEquipment	LoadFactor	0.38	0.20
tblOffRoadEquipment	LoadFactor	0.38	0.45
tblOffRoadEquipment	LoadFactor	0.38	0.56
tblOffRoadEquipment	LoadFactor	0.43	0.37
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	UsageHours	6.00	8.00

tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	VendorTripNumber	4.00	0.00
tblTripsAndVMT	VendorTripNumber	4.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00
tblTripsAndVMT	WorkerTripNumber	35.00	20.00
tblTripsAndVMT	WorkerTripNumber	10.00	50.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	5.00

2.0 Emissions Summary

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					
2017	5.3845	60.1121	26.9055	0.0626	6.1878	2.6622	8.8500	3.3540	2.4521	5.8061	0.0000	6,362.3069	6,362.3069	1.8782	0.0000	6,409.2623
2018	4.5046	35.2869	24.9284	0.0475	0.8141	1.9803	2.7944	0.2091	1.8703	2.0793	0.0000	4,591.0192	4,591.0192	1.0628	0.0000	4,617.5883
Maximum	**5.3845**	**60.1121**	**26.9055**	**0.0626**	**6.1878**	**2.6622**	**8.8500**	**3.3540**	**2.4521**	**5.8061**	**0.0000**	**6,362.3069**	**6,362.3069**	**1.8782**	**0.0000**	**6,409.2623**

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					
2017	5.3845	60.1121	26.9055	0.0626	2.5135	2.6622	5.1756	1.3346	2.4521	3.7868	0.0000	6,362.3069	6,362.3069	1.8782	0.0000	6,409.2623
2018	4.5046	35.2869	24.9284	0.0475	0.8141	1.9803	2.7944	0.2091	1.8703	2.0793	0.0000	4,591.0192	4,591.0192	1.0628	0.0000	4,617.5883
Maximum	**5.3845**	**60.1121**	**26.9055**	**0.0626**	**2.5135**	**2.6622**	**5.1756**	**1.3346**	**2.4521**	**3.7868**	**0.0000**	**6,362.3069**	**6,362.3069**	**1.8782**	**0.0000**	**6,409.2623**

	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**	**52.48**	**0.00**	**31.55**	**56.67**	**0.00**	**25.61**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

	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	Closeout/Restoration	Building Construction	5/12/2017	6/22/2017	5	30	
2	Site Preparation	Site Preparation	7/3/2017	10/13/2017	5	75	
3	Mechanical and Electrical Work	Building Construction	10/14/2017	4/20/2018	5	135	
4	Comissioning	Building Construction	4/21/2018	5/11/2018	5	15	

Acres of Grading (Site Preparation Phase): 0.1

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.57

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
Closeout/Restoration	Graders	1	6.00	231	0.29
Closeout/Restoration	Off-Highway Trucks	1	6.00	89	0.20
Site Preparation	Dumpers/Tenders	2	8.00	16	0.38
Site Preparation	Graders	2	7.00	247	0.40
Site Preparation	Off-Highway Trucks	2	8.00	402	0.38
Site Preparation	Plate Compactors	4	8.00	97	0.37

Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Mechanical and Electrical Work	Excavators	1	8.00	46	0.45
Mechanical and Electrical Work	Forklifts	1	8.00	84	0.74
Mechanical and Electrical Work	Off-Highway Trucks	1	8.00	46	0.45
Mechanical and Electrical Work	Tractors/Loaders/Backhoes	3	6.00	231	0.29
Mechanical and Electrical Work	Trenchers	1	8.00	78	0.50
Comissioning	Off-Highway Trucks	1	6.00	9	0.56
Closeout/Restoration	Cranes	1	6.00	231	0.29
Mechanical and Electrical Work	Cranes	1	6.00	231	0.29
Comissioning	Cranes	1	6.00	231	0.29
Closeout/Restoration	Forklifts	1	6.00	89	0.20
Comissioning	Forklifts	1	6.00	89	0.20
Closeout/Restoration	Generator Sets	1	8.00	84	0.74
Mechanical and Electrical Work	Generator Sets	1	8.00	84	0.74
Comissioning	Generator Sets	1	8.00	84	0.74
Closeout/Restoration	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Comissioning	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Closeout/Restoration	Welders	3	8.00	46	0.45
Mechanical and Electrical Work	Welders	3	8.00	46	0.45
Comissioning	Welders	3	8.00	46	0.45

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
Closeout/Restoration	9	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	14	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Mechanical and Electrical Work	12	50.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Mechanical and Electrical Work	12	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Comissioning	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Comissioning	8	5.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Closeout/Restoration - 2017

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	3.3163	24.1322	15.6408	0.0264		1.3910	1.3910		1.3344	1.3344		2,490.2964	2,490.2964	0.5666		2,504.4604
Total	**3.3163**	**24.1322**	**15.6408**	**0.0264**		**1.3910**	**1.3910**		**1.3344**	**1.3344**		**2,490.2964**	**2,490.2964**	**0.5666**		**2,504.4604**

3.2 Closeout/Restoration - 2017

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
Vendor	0.0206	0.5410	0.1478	1.0500e-003	0.0270	5.6700e-003	0.0327	7.7800e-003	5.4300e-003	0.0132		112.0848	112.0848	0.0102		112.3392
Worker	0.0380	0.0254	0.3036	7.0000e-004	0.0657	4.9000e-004	0.0662	0.0174	4.5000e-004	0.0179		69.3555	69.3555	2.4000e-003		69.4154
Total	**0.0586**	**0.5664**	**0.4514**	**1.7500e-003**	**0.0928**	**6.1600e-003**	**0.0989**	**0.0252**	**5.8800e-003**	**0.0311**		**181.4403**	**181.4403**	**0.0126**		**181.7546**

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	3.3163	24.1322	15.6408	0.0264		1.3910	1.3910		1.3344	1.3344	0.0000	2,490.2964	2,490.2964	0.5666		2,504.4604
Total	**3.3163**	**24.1322**	**15.6408**	**0.0264**		**1.3910**	**1.3910**		**1.3344**	**1.3344**	**0.0000**	**2,490.2964**	**2,490.2964**	**0.5666**		**2,504.4604**

3.2 Closeout/Restoration - 2017

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
Vendor	0.0206	0.5410	0.1478	1.0500e-003	0.0270	5.6700e-003	0.0327	7.7800e-003	5.4300e-003	0.0132		112.0848	112.0848	0.0102		112.3392
Worker	0.0380	0.0254	0.3036	7.0000e-004	0.0657	4.9000e-004	0.0662	0.0174	4.5000e-004	0.0179		69.3555	69.3555	2.4000e-003		69.4154
Total	**0.0586**	**0.5664**	**0.4514**	**1.7500e-003**	**0.0928**	**6.1600e-003**	**0.0989**	**0.0252**	**5.8800e-003**	**0.0311**		**181.4403**	**181.4403**	**0.0126**		**181.7546**

3.3 Site Preparation - 2017

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					6.0235	0.0000	6.0235	3.3104	0.0000	3.3104			0.0000			0.0000
Off-Road	5.2895	60.0486	26.1464	0.0608		2.6609	2.6609		2.4510	2.4510		6,188.9181	6,188.9181	1.8722		6,235.7237
Total	**5.2895**	**60.0486**	**26.1464**	**0.0608**	**6.0235**	**2.6609**	**8.6844**	**3.3104**	**2.4510**	**5.7614**		**6,188.9181**	**6,188.9181**	**1.8722**		**6,235.7237**

3.3 Site Preparation - 2017

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
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
Worker	0.0950	0.0635	0.7591	1.7400e-003	0.1643	1.2200e-003	0.1655	0.0436	1.1300e-003	0.0447		173.3888	173.3888	5.9900e-003		173.5385
Total	**0.0950**	**0.0635**	**0.7591**	**1.7400e-003**	**0.1643**	**1.2200e-003**	**0.1655**	**0.0436**	**1.1300e-003**	**0.0447**		**173.3888**	**173.3888**	**5.9900e-003**		**173.5385**

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					2.3492	0.0000	2.3492	1.2911	0.0000	1.2911			0.0000			0.0000
Off-Road	5.2895	60.0486	26.1464	0.0608		2.6609	2.6609		2.4510	2.4510	0.0000	6,188.9181	6,188.9181	1.8722		6,235.7237
Total	**5.2895**	**60.0486**	**26.1464**	**0.0608**	**2.3492**	**2.6609**	**5.0101**	**1.2911**	**2.4510**	**3.7421**	**0.0000**	**6,188.9181**	**6,188.9181**	**1.8722**		**6,235.7237**

3.3 Site Preparation - 2017

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
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
Worker	0.0950	0.0635	0.7591	1.7400e-003	0.1643	1.2200e-003	0.1655	0.0436	1.1300e-003	0.0447		173.3888	173.3888	5.9900e-003		173.5385
Total	**0.0950**	**0.0635**	**0.7591**	**1.7400e-003**	**0.1643**	**1.2200e-003**	**0.1655**	**0.0436**	**1.1300e-003**	**0.0447**		**173.3888**	**173.3888**	**5.9900e-003**		**173.5385**

3.4 Mechanical and Electrical Work - 2017

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	4.8857	39.0052	23.9667	0.0422		2.3044	2.3044		2.1747	2.1747		4,102.3192	4,102.3192	1.0605		4,128.8313
Total	**4.8857**	**39.0052**	**23.9667**	**0.0422**		**2.3044**	**2.3044**		**2.1747**	**2.1747**		**4,102.3192**	**4,102.3192**	**1.0605**		**4,128.8313**

3.4 Mechanical and Electrical Work - 2017

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
Vendor	0.0206	0.5410	0.1478	1.0500e-003	0.0463	5.6700e-003	0.0520	0.0125	5.4300e-003	0.0179		112.0848	112.0848	0.0102		112.3392
Worker	0.2374	0.1587	1.8977	4.3600e-003	0.7677	3.0600e-003	0.7708	0.1966	2.8200e-003	0.1994		433.4720	433.4720	0.0150		433.8464
Total	**0.2580**	**0.6998**	**2.0455**	**5.4100e-003**	**0.8140**	**8.7300e-003**	**0.8228**	**0.2091**	**8.2500e-003**	**0.2173**		**545.5568**	**545.5568**	**0.0252**		**546.1855**

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	4.8857	39.0052	23.9667	0.0422		2.3044	2.3044		2.1747	2.1747	0.0000	4,102.3192	4,102.3192	1.0605		4,128.8313
Total	**4.8857**	**39.0052**	**23.9667**	**0.0422**		**2.3044**	**2.3044**		**2.1747**	**2.1747**	**0.0000**	**4,102.3192**	**4,102.3192**	**1.0605**		**4,128.8313**

3.4 Mechanical and Electrical Work - 2017

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
Vendor	0.0206	0.5410	0.1478	1.0500e-003	0.0463	5.6700e-003	0.0520	0.0125	5.4300e-003	0.0179		112.0848	112.0848	0.0102		112.3392
Worker	0.2374	0.1587	1.8977	4.3600e-003	0.7677	3.0600e-003	0.7708	0.1966	2.8200e-003	0.1994		433.4720	433.4720	0.0150		433.8464
Total	**0.2580**	**0.6998**	**2.0455**	**5.4100e-003**	**0.8140**	**8.7300e-003**	**0.8228**	**0.2091**	**8.2500e-003**	**0.2173**		**545.5568**	**545.5568**	**0.0252**		**546.1855**

3.4 Mechanical and Electrical Work - 2018

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	4.2726	34.6436	23.1146	0.0422		1.9729	1.9729		1.8632	1.8632		4,057.8189	4,057.8189	1.0399		4,083.8153
Total	**4.2726**	**34.6436**	**23.1146**	**0.0422**		**1.9729**	**1.9729**		**1.8632**	**1.8632**		**4,057.8189**	**4,057.8189**	**1.0399**		**4,083.8153**

3.4 Mechanical and Electrical Work - 2018

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
Vendor	0.0179	0.5043	0.1322	1.0500e-003	0.0463	4.4700e-003	0.0508	0.0125	4.2800e-003	0.0168		111.9543	111.9543	9.6900e-003		112.1966
Worker	0.2142	0.1389	1.6816	4.2300e-003	0.7677	2.9800e-003	0.7707	0.1966	2.7500e-003	0.1993		421.2460	421.2460	0.0132		421.5764
Total	**0.2321**	**0.6433**	**1.8139**	**5.2800e-003**	**0.8141**	**7.4500e-003**	**0.8215**	**0.2091**	**7.0300e-003**	**0.2161**		**533.2002**	**533.2002**	**0.0229**		**533.7730**

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	4.2726	34.6436	23.1146	0.0422		1.9729	1.9729		1.8632	1.8632	0.0000	4,057.8189	4,057.8189	1.0399		4,083.8153
Total	**4.2726**	**34.6436**	**23.1146**	**0.0422**		**1.9729**	**1.9729**		**1.8632**	**1.8632**	**0.0000**	**4,057.8189**	**4,057.8189**	**1.0399**		**4,083.8153**

3.4 Mechanical and Electrical Work - 2018

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
Vendor	0.0179	0.5043	0.1322	1.0500e-003	0.0463	4.4700e-003	0.0508	0.0125	4.2800e-003	0.0168		111.9543	111.9543	9.6900e-003		112.1966
Worker	0.2142	0.1389	1.6816	4.2300e-003	0.7677	2.9800e-003	0.7707	0.1966	2.7500e-003	0.1993		421.2460	421.2460	0.0132		421.5764
Total	**0.2321**	**0.6433**	**1.8139**	**5.2800e-003**	**0.8141**	**7.4500e-003**	**0.8215**	**0.2091**	**7.0300e-003**	**0.2161**		**533.2002**	**533.2002**	**0.0229**		**533.7730**

3.5 Comissioning - 2018

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	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216		2,030.8389	2,030.8389	0.4088		2,041.0596
Total	**2.5919**	**17.4280**	**13.8766**	**0.0220**		**1.0580**	**1.0580**		**1.0216**	**1.0216**		**2,030.8389**	**2,030.8389**	**0.4088**		**2,041.0596**

3.5 Comissioning - 2018

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
Vendor	0.0179	0.5043	0.1322	1.0500e-003	0.0463	4.4700e-003	0.0508	0.0125	4.2800e-003	0.0168		111.9543	111.9543	9.6900e-003		112.1966
Worker	0.0214	0.0139	0.1682	4.2000e-004	0.0768	3.0000e-004	0.0771	0.0197	2.7000e-004	0.0199		42.1246	42.1246	1.3200e-003		42.1576
Total	**0.0393**	**0.5182**	**0.3004**	**1.4700e-003**	**0.1231**	**4.7700e-003**	**0.1279**	**0.0322**	**4.5500e-003**	**0.0367**		**154.0789**	**154.0789**	**0.0110**		**154.3543**

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	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216	0.0000	2,030.8389	2,030.8389	0.4088		2,041.0596
Total	**2.5919**	**17.4280**	**13.8766**	**0.0220**		**1.0580**	**1.0580**		**1.0216**	**1.0216**	**0.0000**	**2,030.8389**	**2,030.8389**	**0.4088**		**2,041.0596**

3.5 Comissioning - 2018

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
Vendor	0.0179	0.5043	0.1322	1.0500e-003	0.0463	4.4700e-003	0.0508	0.0125	4.2800e-003	0.0168		111.9543	111.9543	9.6900e-003		112.1966
Worker	0.0214	0.0139	0.1682	4.2000e-004	0.0768	3.0000e-004	0.0771	0.0197	2.7000e-004	0.0199		42.1246	42.1246	1.3200e-003		42.1576
Total	**0.0393**	**0.5182**	**0.3004**	**1.4700e-003**	**0.1231**	**4.7700e-003**	**0.1279**	**0.0322**	**4.5500e-003**	**0.0367**		**154.0789**	**154.0789**	**0.0110**		**154.3543**

City of Santa Paula BESS

Ventura County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	6.00	1000sqft	1.57	6,000.00	0
Other Non-Asphalt Surfaces	12.67	1000sqft	0.00	12,670.00	0
Other Non-Asphalt Surfaces	6.00	1000sqft	0.00	6,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

City of Santa Paula BESS - Ventura County, Annual

Project Characteristics - Start of construction per project description

Land Use - 600 x 20 foot access road = 12,000 sf and half paved in asphalt half not, 12,672 sf pad (227.5x55.7). lot acerage 1.57 acres.

Construction Phase - Schedule per client supplied information

Off-road Equipment - Equipment per client supplied information. Water truck modeled as off-highway truck and gradall modeled as tractor

Off-road Equipment - Equipment per client supplied information

Off-road Equipment - Equipment per client supplied information

Off-road Equipment - Equipment per client supplied information

Off-road Equipment - Equipment per client supplied information.

Trips and VMT - Average number of workers provided by client

Area Coating - No architectural coating as part of project

Energy Use -

Construction Off-road Equipment Mitigation - Water exposed area per VCAPCD Rule 55

Grading - Most likely no grading site

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	0
tblAreaCoating	Area_EF_Nonresidential_Interior	250	0
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_EF_Residential_Exterior	100	0
tblAreaCoating	Area_EF_Residential_Interior	75	0
tblAreaCoating	Area_Parking	1480	0
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	55	61
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	55	61
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	200.00	30.00
tblConstructionPhase	NumDays	200.00	135.00
tblConstructionPhase	NumDays	200.00	15.00

tblConstructionPhase	NumDays	2.00	75.00
tblGrading	AcresOfGrading	65.63	0.10
tblLandUse	LotAcreage	0.14	1.57
tblLandUse	LotAcreage	0.29	0.00
tblLandUse	LotAcreage	0.14	0.00
tblOffRoadEquipment	HorsePower	89.00	84.00
tblOffRoadEquipment	HorsePower	187.00	247.00
tblOffRoadEquipment	HorsePower	97.00	231.00
tblOffRoadEquipment	HorsePower	158.00	46.00
tblOffRoadEquipment	HorsePower	187.00	231.00
tblOffRoadEquipment	HorsePower	402.00	89.00
tblOffRoadEquipment	HorsePower	402.00	46.00
tblOffRoadEquipment	HorsePower	402.00	9.00
tblOffRoadEquipment	HorsePower	8.00	97.00
tblOffRoadEquipment	LoadFactor	0.20	0.74
tblOffRoadEquipment	LoadFactor	0.41	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.29
tblOffRoadEquipment	LoadFactor	0.38	0.45
tblOffRoadEquipment	LoadFactor	0.41	0.29
tblOffRoadEquipment	LoadFactor	0.38	0.20
tblOffRoadEquipment	LoadFactor	0.38	0.45
tblOffRoadEquipment	LoadFactor	0.38	0.56
tblOffRoadEquipment	LoadFactor	0.43	0.37
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	UsageHours	6.00	8.00

tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	VendorTripNumber	4.00	0.00
tblTripsAndVMT	VendorTripNumber	4.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00
tblTripsAndVMT	WorkerTripNumber	35.00	20.00
tblTripsAndVMT	WorkerTripNumber	10.00	50.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	5.00

2.0 Emissions Summary

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					
2017	0.3941	3.7179	1.9638	4.0700e-003	0.2552	0.1844	0.4396	0.1318	0.1721	0.3039	0.0000	367.9940	367.9940	0.0989	0.0000	370.4655
2018	0.2000	1.5472	1.1018	2.0700e-003	0.0328	0.0872	0.1200	8.4400e-003	0.0825	0.0910	0.0000	180.7812	180.7812	0.0414	0.0000	181.8167
Maximum	**0.3941**	**3.7179**	**1.9638**	**4.0700e-003**	**0.2552**	**0.1844**	**0.4396**	**0.1318**	**0.1721**	**0.3039**	**0.0000**	**367.9940**	**367.9940**	**0.0989**	**0.0000**	**370.4655**

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					
2017	0.3941	3.7179	1.9638	4.0700e-003	0.1175	0.1844	0.3019	0.0560	0.1721	0.2281	0.0000	367.9936	367.9936	0.0989	0.0000	370.4650
2018	0.2000	1.5472	1.1018	2.0700e-003	0.0328	0.0872	0.1200	8.4400e-003	0.0825	0.0910	0.0000	180.7810	180.7810	0.0414	0.0000	181.8165
Maximum	**0.3941**	**3.7179**	**1.9638**	**4.0700e-003**	**0.1175**	**0.1844**	**0.3019**	**0.0560**	**0.1721**	**0.2281**	**0.0000**	**367.9936**	**367.9936**	**0.0989**	**0.0000**	**370.4650**

	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**	**47.83**	**0.00**	**24.62**	**54.02**	**0.00**	**19.18**	**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	Closeout/Restoration	Building Construction	5/12/2017	6/22/2017	5	30	
2	Site Preparation	Site Preparation	7/3/2017	10/13/2017	5	75	
3	Mechanical and Electrical Work	Building Construction	10/14/2017	4/20/2018	5	135	
4	Comissioning	Building Construction	4/21/2018	5/11/2018	5	15	

Acres of Grading (Site Preparation Phase): 0.1

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.57

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
Closeout/Restoration	Graders	1	6.00	231	0.29
Closeout/Restoration	Off-Highway Trucks	1	6.00	89	0.20
Site Preparation	Dumpers/Tenders	2	8.00	16	0.38
Site Preparation	Graders	2	7.00	247	0.40
Site Preparation	Off-Highway Trucks	2	8.00	402	0.38
Site Preparation	Plate Compactors	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Mechanical and Electrical Work	Excavators	1	8.00	46	0.45
Mechanical and Electrical Work	Forklifts	1	8.00	84	0.74
Mechanical and Electrical Work	Off-Highway Trucks	1	8.00	46	0.45
Mechanical and Electrical Work	Tractors/Loaders/Backhoes	3	6.00	231	0.29

Mechanical and Electrical Work	Trenchers	1	8.00	78	0.50
Comissioning	Off-Highway Trucks	1	6.00	9	0.56
Closeout/Restoration	Cranes	1	6.00	231	0.29
Mechanical and Electrical Work	Cranes	1	6.00	231	0.29
Comissioning	Cranes	1	6.00	231	0.29
Closeout/Restoration	Forklifts	1	6.00	89	0.20
Comissioning	Forklifts	1	6.00	89	0.20
Closeout/Restoration	Generator Sets	1	8.00	84	0.74
Mechanical and Electrical Work	Generator Sets	1	8.00	84	0.74
Comissioning	Generator Sets	1	8.00	84	0.74
Closeout/Restoration	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Comissioning	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Closeout/Restoration	Welders	3	8.00	46	0.45
Mechanical and Electrical Work	Welders	3	8.00	46	0.45
Comissioning	Welders	3	8.00	46	0.45

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
Closeout/Restoration	9	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	14	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Mechanical and Electrical Work	12	50.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Mechanical and Electrical Work	12	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Comissioning	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Comissioning	8	5.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Closeout/Restoration - 2017

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	0.0497	0.3620	0.2346	4.0000e-004		0.0209	0.0209		0.0200	0.0200	0.0000	33.8874	33.8874	7.7100e-003	0.0000	34.0801
Total	**0.0497**	**0.3620**	**0.2346**	**4.0000e-004**		**0.0209**	**0.0209**		**0.0200**	**0.0200**	**0.0000**	**33.8874**	**33.8874**	**7.7100e-003**	**0.0000**	**34.0801**

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	3.2000e-004	8.2600e-003	2.3500e-003	2.0000e-005	4.0000e-004	9.0000e-005	4.9000e-004	1.2000e-004	8.0000e-005	2.0000e-004	0.0000	1.5108	1.5108	1.4000e-004	0.0000	1.5143
Worker	5.8000e-004	4.3000e-004	4.4400e-003	1.0000e-005	9.7000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.9055	0.9055	3.0000e-005	0.0000	0.9063
Total	**9.0000e-004**	**8.6900e-003**	**6.7900e-003**	**3.0000e-005**	**1.3700e-003**	**1.0000e-004**	**1.4600e-003**	**3.8000e-004**	**9.0000e-005**	**4.6000e-004**	**0.0000**	**2.4162**	**2.4162**	**1.7000e-004**	**0.0000**	**2.4206**

3.2 Closeout/Restoration - 2017

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	0.0497	0.3620	0.2346	4.0000e-004		0.0209	0.0209		0.0200	0.0200	0.0000	33.8873	33.8873	7.7100e-003	0.0000	34.0801
Total	**0.0497**	**0.3620**	**0.2346**	**4.0000e-004**		**0.0209**	**0.0209**		**0.0200**	**0.0200**	**0.0000**	**33.8873**	**33.8873**	**7.7100e-003**	**0.0000**	**34.0801**

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	3.2000e-004	8.2600e-003	2.3500e-003	2.0000e-005	4.0000e-004	9.0000e-005	4.9000e-004	1.2000e-004	8.0000e-005	2.0000e-004	0.0000	1.5108	1.5108	1.4000e-004	0.0000	1.5143
Worker	5.8000e-004	4.3000e-004	4.4400e-003	1.0000e-005	9.7000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.9055	0.9055	3.0000e-005	0.0000	0.9063
Total	**9.0000e-004**	**8.6900e-003**	**6.7900e-003**	**3.0000e-005**	**1.3700e-003**	**1.0000e-004**	**1.4600e-003**	**3.8000e-004**	**9.0000e-005**	**4.6000e-004**	**0.0000**	**2.4162**	**2.4162**	**1.7000e-004**	**0.0000**	**2.4206**

3.3 Site Preparation - 2017

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					0.2259	0.0000	0.2259	0.1241	0.0000	0.1241	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1984	2.2518	0.9805	2.2800e-003		0.0998	0.0998		0.0919	0.0919	0.0000	210.5435	210.5435	0.0637	0.0000	212.1358
Total	**0.1984**	**2.2518**	**0.9805**	**2.2800e-003**	**0.2259**	**0.0998**	**0.3257**	**0.1241**	**0.0919**	**0.2161**	**0.0000**	**210.5435**	**210.5435**	**0.0637**	**0.0000**	**212.1358**

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	3.6000e-003	2.7000e-003	0.0277	6.0000e-005	6.0500e-003	5.0000e-005	6.0900e-003	1.6100e-003	4.0000e-005	1.6500e-003	0.0000	5.6592	5.6592	2.0000e-004	0.0000	5.6641
Total	**3.6000e-003**	**2.7000e-003**	**0.0277**	**6.0000e-005**	**6.0500e-003**	**5.0000e-005**	**6.0900e-003**	**1.6100e-003**	**4.0000e-005**	**1.6500e-003**	**0.0000**	**5.6592**	**5.6592**	**2.0000e-004**	**0.0000**	**5.6641**

3.3 Site Preparation - 2017

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					0.0881	0.0000	0.0881	0.0484	0.0000	0.0484	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1984	2.2518	0.9805	2.2800e-003		0.0998	0.0998		0.0919	0.0919	0.0000	210.5432	210.5432	0.0637	0.0000	212.1355
Total	**0.1984**	**2.2518**	**0.9805**	**2.2800e-003**	**0.0881**	**0.0998**	**0.1879**	**0.0484**	**0.0919**	**0.1403**	**0.0000**	**210.5432**	**210.5432**	**0.0637**	**0.0000**	**212.1355**

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	3.6000e-003	2.7000e-003	0.0277	6.0000e-005	6.0500e-003	5.0000e-005	6.0900e-003	1.6100e-003	4.0000e-005	1.6500e-003	0.0000	5.6592	5.6592	2.0000e-004	0.0000	5.6641
Total	**3.6000e-003**	**2.7000e-003**	**0.0277**	**6.0000e-005**	**6.0500e-003**	**5.0000e-005**	**6.0900e-003**	**1.6100e-003**	**4.0000e-005**	**1.6500e-003**	**0.0000**	**5.6592**	**5.6592**	**2.0000e-004**	**0.0000**	**5.6641**

3.4 Mechanical and Electrical Work - 2017

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	0.1344	1.0726	0.6591	1.1600e-003		0.0634	0.0634		0.0598	0.0598	0.0000	102.3429	102.3429	0.0265	0.0000	103.0044
Total	**0.1344**	**1.0726**	**0.6591**	**1.1600e-003**		**0.0634**	**0.0634**		**0.0598**	**0.0598**	**0.0000**	**102.3429**	**102.3429**	**0.0265**	**0.0000**	**103.0044**

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	5.8000e-004	0.0152	4.3000e-003	3.0000e-005	1.2500e-003	1.6000e-004	1.4100e-003	3.4000e-004	1.5000e-004	4.9000e-004	0.0000	2.7697	2.7697	2.6000e-004	0.0000	2.7763
Worker	6.6100e-003	4.9400e-003	0.0508	1.1000e-004	0.0207	8.0000e-005	0.0208	5.3000e-003	8.0000e-005	5.3800e-003	0.0000	10.3751	10.3751	3.6000e-004	0.0000	10.3842
Total	**7.1900e-003**	**0.0201**	**0.0551**	**1.4000e-004**	**0.0220**	**2.4000e-004**	**0.0222**	**5.6400e-003**	**2.3000e-004**	**5.8700e-003**	**0.0000**	**13.1449**	**13.1449**	**6.2000e-004**	**0.0000**	**13.1605**

3.4 Mechanical and Electrical Work - 2017

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	0.1344	1.0726	0.6591	1.1600e-003		0.0634	0.0634		0.0598	0.0598	0.0000	102.3428	102.3428	0.0265	0.0000	103.0042
Total	**0.1344**	**1.0726**	**0.6591**	**1.1600e-003**		**0.0634**	**0.0634**		**0.0598**	**0.0598**	**0.0000**	**102.3428**	**102.3428**	**0.0265**	**0.0000**	**103.0042**

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	5.8000e-004	0.0152	4.3000e-003	3.0000e-005	1.2500e-003	1.6000e-004	1.4100e-003	3.4000e-004	1.5000e-004	4.9000e-004	0.0000	2.7697	2.7697	2.6000e-004	0.0000	2.7763
Worker	6.6100e-003	4.9400e-003	0.0508	1.1000e-004	0.0207	8.0000e-005	0.0208	5.3000e-003	8.0000e-005	5.3800e-003	0.0000	10.3751	10.3751	3.6000e-004	0.0000	10.3842
Total	**7.1900e-003**	**0.0201**	**0.0551**	**1.4000e-004**	**0.0220**	**2.4000e-004**	**0.0222**	**5.6400e-003**	**2.3000e-004**	**5.8700e-003**	**0.0000**	**13.1449**	**13.1449**	**6.2000e-004**	**0.0000**	**13.1605**

3.4 Mechanical and Electrical Work - 2018

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	0.1709	1.3857	0.9246	1.6900e-003		0.0789	0.0789		0.0745	0.0745	0.0000	147.2477	147.2477	0.0377	0.0000	148.1910
Total	**0.1709**	**1.3857**	**0.9246**	**1.6900e-003**		**0.0789**	**0.0789**		**0.0745**	**0.0745**	**0.0000**	**147.2477**	**147.2477**	**0.0377**	**0.0000**	**148.1910**

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	7.3000e-004	0.0205	5.6100e-003	4.0000e-005	1.8200e-003	1.8000e-004	2.0000e-003	4.9000e-004	1.7000e-004	6.7000e-004	0.0000	4.0224	4.0224	3.6000e-004	0.0000	4.0315
Worker	8.6600e-003	6.2900e-003	0.0653	1.6000e-004	0.0301	1.2000e-004	0.0302	7.7100e-003	1.1000e-004	7.8200e-003	0.0000	14.6644	14.6644	4.7000e-004	0.0000	14.6760
Total	**9.3900e-003**	**0.0268**	**0.0709**	**2.0000e-004**	**0.0319**	**3.0000e-004**	**0.0322**	**8.2000e-003**	**2.8000e-004**	**8.4900e-003**	**0.0000**	**18.6868**	**18.6868**	**8.3000e-004**	**0.0000**	**18.7075**

3.4 Mechanical and Electrical Work - 2018

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	0.1709	1.3857	0.9246	1.6900e-003		0.0789	0.0789		0.0745	0.0745	0.0000	147.2475	147.2475	0.0377	0.0000	148.1908
Total	**0.1709**	**1.3857**	**0.9246**	**1.6900e-003**		**0.0789**	**0.0789**		**0.0745**	**0.0745**	**0.0000**	**147.2475**	**147.2475**	**0.0377**	**0.0000**	**148.1908**

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	7.3000e-004	0.0205	5.6100e-003	4.0000e-005	1.8200e-003	1.8000e-004	2.0000e-003	4.9000e-004	1.7000e-004	6.7000e-004	0.0000	4.0224	4.0224	3.6000e-004	0.0000	4.0315
Worker	8.6600e-003	6.2900e-003	0.0653	1.6000e-004	0.0301	1.2000e-004	0.0302	7.7100e-003	1.1000e-004	7.8200e-003	0.0000	14.6644	14.6644	4.7000e-004	0.0000	14.6760
Total	**9.3900e-003**	**0.0268**	**0.0709**	**2.0000e-004**	**0.0319**	**3.0000e-004**	**0.0322**	**8.2000e-003**	**2.8000e-004**	**8.4900e-003**	**0.0000**	**18.6868**	**18.6868**	**8.3000e-004**	**0.0000**	**18.7075**

3.5 Comissioning - 2018

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	0.0194	0.1307	0.1041	1.7000e-004		7.9400e-003	7.9400e-003		7.6600e-003	7.6600e-003	0.0000	13.8176	13.8176	2.7800e-003	0.0000	13.8871
Total	**0.0194**	**0.1307**	**0.1041**	**1.7000e-004**		**7.9400e-003**	**7.9400e-003**		**7.6600e-003**	**7.6600e-003**	**0.0000**	**13.8176**	**13.8176**	**2.7800e-003**	**0.0000**	**13.8871**

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	1.4000e-004	3.8500e-003	1.0500e-003	1.0000e-005	3.4000e-004	3.0000e-005	3.8000e-004	9.0000e-005	3.0000e-005	1.2000e-004	0.0000	0.7542	0.7542	7.0000e-005	0.0000	0.7559
Worker	1.6000e-004	1.2000e-004	1.2200e-003	0.0000	5.6000e-004	0.0000	5.7000e-004	1.4000e-004	0.0000	1.5000e-004	0.0000	0.2750	0.2750	1.0000e-005	0.0000	0.2752
Total	**3.0000e-004**	**3.9700e-003**	**2.2700e-003**	**1.0000e-005**	**9.0000e-004**	**3.0000e-005**	**9.5000e-004**	**2.3000e-004**	**3.0000e-005**	**2.7000e-004**	**0.0000**	**1.0292**	**1.0292**	**8.0000e-005**	**0.0000**	**1.0311**

3.5 Comissioning - 2018

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	0.0194	0.1307	0.1041	1.7000e-004		7.9400e-003	7.9400e-003		7.6600e-003	7.6600e-003	0.0000	13.8176	13.8176	2.7800e-003	0.0000	13.8871
Total	**0.0194**	**0.1307**	**0.1041**	**1.7000e-004**		**7.9400e-003**	**7.9400e-003**		**7.6600e-003**	**7.6600e-003**	**0.0000**	**13.8176**	**13.8176**	**2.7800e-003**	**0.0000**	**13.8871**

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	1.4000e-004	3.8500e-003	1.0500e-003	1.0000e-005	3.4000e-004	3.0000e-005	3.8000e-004	9.0000e-005	3.0000e-005	1.2000e-004	0.0000	0.7542	0.7542	7.0000e-005	0.0000	0.7559
Worker	1.6000e-004	1.2000e-004	1.2200e-003	0.0000	5.6000e-004	0.0000	5.7000e-004	1.4000e-004	0.0000	1.5000e-004	0.0000	0.2750	0.2750	1.0000e-005	0.0000	0.2752
Total	**3.0000e-004**	**3.9700e-003**	**2.2700e-003**	**1.0000e-005**	**9.0000e-004**	**3.0000e-005**	**9.5000e-004**	**2.3000e-004**	**3.0000e-005**	**2.7000e-004**	**0.0000**	**1.0292**	**1.0292**	**8.0000e-005**	**0.0000**	**1.0311**

Appendix B

United States Fish and Wildlife Service Species List

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Ventura County, California

Local office

Ventura Fish And Wildlife Office

(805) 644-1766
(805) 644-3958

2493 Portola Road, Suite B
Ventura, CA 93003-7726

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species

[1] are managed by the Endangered Species Program of the U.S. Fish and Wildlife Service.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.

The following species are potentially affected by activities in this location:

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened

Birds

NAME	STATUS
California Condor Gymnogyps californianus There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. https://ecos.fws.gov/ecp/species/8193	Endangered
Coastal California Gnatcatcher Polioptila californica californica There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo Vireo bellii pusillus There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. https://ecos.fws.gov/ecp/species/5945	Endangered

Southwestern Willow Flycatcher Empidonax traillii extimus — Endangered

There is a **final** critical habitat designated for this species.
Your location is outside the designated critical habitat.
https://ecos.fws.gov/ecp/species/6749

Crustaceans

NAME	STATUS

Riverside Fairy Shrimp Streptocephalus woottoni — Endangered

There is a **final** critical habitat designated for this species.
Your location is outside the designated critical habitat.
https://ecos.fws.gov/ecp/species/8148

Vernal Pool Fairy Shrimp Branchinecta lynchi — Threatened

There is a **final** critical habitat designated for this species.
Your location is outside the designated critical habitat.
https://ecos.fws.gov/ecp/species/498

Flowering Plants

NAME	STATUS

California Orcutt Grass Orcuttia californica — Endangered

No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4923

Gambel's Watercress Rorippa gambellii — Endangered

No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4201

Marsh Sandwort Arenaria paludicola — Endangered

No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/2229

Spreading Navarretia Navarretia fossalis — Threatened

There is a **final** critical habitat designated for this species.
Your location is outside the designated critical habitat.
https://ecos.fws.gov/ecp/species/1334

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

[1] and the Bald and Golden Eagle Protection Act[2].

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service

[3]. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data http://www.birdscanada.org/birdmon/default/datasummaries.jsp

The migratory birds species listed below are species of particular conservation concern (e.g. Birds of Conservation Concern) that may be potentially affected by activities in this location. It is not a list of every bird species you may find in this location, nor a guarantee that all of the bird species on this list will be found on or near this location. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To view available data on other bird species that may occur in your project area, please visit the AKN Histogram Tools and Other Bird Data Resources. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

NAME	SEASON(S)
Allen's Hummingbird Selasphorus sasin https://ecos.fws.gov/ecp/species/9637	Migrating
Bald Eagle Haliaeetus leucocephalus https://ecos.fws.gov/ecp/species/1626	Wintering
Bell's Vireo Vireo bellii https://ecos.fws.gov/ecp/species/9507	Breeding
Brewer's Sparrow Spizella breweri https://ecos.fws.gov/ecp/species/9291	Year-round
Burrowing Owl Athene cunicularia https://ecos.fws.gov/ecp/species/9737	Year-round
Cactus Wren Campylorhynchus brunneicapillus https://ecos.fws.gov/ecp/species/8834	Year-round
California Spotted Owl Strix occidentalis occidentalis https://ecos.fws.gov/ecp/species/7266	Year-round
Calliope Hummingbird Stellula calliope https://ecos.fws.gov/ecp/species/9526	Migrating
Costa's Hummingbird Calypte costae https://ecos.fws.gov/ecp/species/9470	Year-round

Fox Sparrow Passerella iliaca	Wintering
Least Bittern Ixobrychus exilis https://ecos.fws.gov/ecp/species/6175	Year-round
Lesser Yellowlegs Tringa flavipes https://ecos.fws.gov/ecp/species/9679	Wintering
Lewis's Woodpecker Melanerpes lewis https://ecos.fws.gov/ecp/species/9408	Wintering
Long-billed Curlew Numenius americanus https://ecos.fws.gov/ecp/species/5511	Wintering
Marbled Godwit Limosa fedoa https://ecos.fws.gov/ecp/species/9481	Wintering
Nuttall's Woodpecker Picoides nuttallii https://ecos.fws.gov/ecp/species/9410	Year-round
Oak Titmouse Baeolophus inornatus https://ecos.fws.gov/ecp/species/9656	Year-round
Olive-sided Flycatcher Contopus cooperi https://ecos.fws.gov/ecp/species/3914	Breeding
Peregrine Falcon Falco peregrinus https://ecos.fws.gov/ecp/species/8831	Year-round
Red Knot Calidris canutus ssp. roselaari https://ecos.fws.gov/ecp/species/8880	Wintering
Rufous Hummingbird selasphorus rufus https://ecos.fws.gov/ecp/species/8002	Migrating

Rufous-crowned Sparrow Aimophila ruficeps https://ecos.fws.gov/ecp/species/9718	Year-round
Short-billed Dowitcher Limnodromus griseus https://ecos.fws.gov/ecp/species/9480	Wintering
Short-eared Owl Asio flammeus https://ecos.fws.gov/ecp/species/9295	Wintering
Snowy Plover Charadrius alexandrinus	Breeding
Tricolored Blackbird Agelaius tricolor https://ecos.fws.gov/ecp/species/3910	Year-round
Western Grebe aechmophorus occidentalis https://ecos.fws.gov/ecp/species/6743	Wintering
Whimbrel Numenius phaeopus https://ecos.fws.gov/ecp/species/9483	Wintering
Yellow Warbler dendroica petechia ssp. brewsteri https://ecos.fws.gov/ecp/species/3230	Breeding

What does IPaC use to generate the list of migratory bird species potentially occurring in my specified location?

Landbirds:

Migratory birds that are displayed on the IPaC species list are based on ranges in the latest edition of the National Geographic Guide, Birds of North America (6th Edition, 2011 by Jon L. Dunn, and Jonathan Alderfer). Although these ranges are coarse in nature, a number of U.S. Fish and Wildlife Service migratory bird biologists agree that these maps are some of the best range maps to date. These ranges were clipped to a specific Bird Conservation Region (BCR) or USFWS Region/Regions, if it was indicated in the 2008 list of Birds of Conservation Concern (BCC) that a species was a BCC species only in a particular Region/Regions. Additional modifications have been made to some ranges based on more local or refined range information and/or information provided by U.S. Fish and Wildlife Service biologists with species expertise. All migratory birds that show in areas on land in IPaC are those that appear in the 2008 Birds of Conservation Concern report.

Atlantic Seabirds:

Ranges in IPaC for birds off the Atlantic coast are derived from species distribution models developed by the National Oceanic and Atmospheric Association (NOAA) National Centers for Coastal Ocean Science (NCCOS) using the best available seabird survey data for the offshore Atlantic Coastal region to date. NOAANCCOS assisted USFWS in developing seasonal species ranges from their models for specific use in IPaC. Some of these birds are not BCC species but were of interest for inclusion because they may occur in high abundance off the coast at different times throughout the year, which potentially makes them more susceptible to certain types of development and activities taking place in that area. For more refined details about the abundance and richness of bird species within your project area off the Atlantic Coast, see the Northeast Ocean Data Portal. The Portal also offers data and information about other types of taxa that may be helpful in your project review.

About the NOAANCCOS models: the models were developed as part of the NOAANCCOS project: Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf. The models resulting from this project are being used in a number of decision-support/mapping products in order to help guide decision-making on activities off the Atlantic Coast with the goal of reducing impacts to migratory birds. One such product is the Northeast Ocean Data Portal, which can be used to explore details about the relative occurrence and abundance of bird species in a particular area off the Atlantic Coast.

All migratory bird range maps within IPaC are continuously being updated as new and better information becomes available.

Can I get additional information about the levels of occurrence in my project area of specific birds or groups of birds listed in IPaC?

Landbirds:

The Avian Knowledge Network (AKN) provides a tool currently called the "Histogram Tool", which draws from the data within the AKN (latest,survey, point count, citizen science datasets) to create a view of relative abundance of species within a particular location over the course of the year. The results of the tool depict the frequency of detection of a species in survey events, averaged between multiple datasets within AKN in a particular week of the year. You may access the histogram tools through the Migratory Bird Programs AKN Histogram Tools webpage.

The tool is currently available for 4 regions (California, Northeast U.S., Southeast U.S. and Midwest), which encompasses the following 32 states: Alabama, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North, Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia, and Wisconsin.

In the near future, there are plans to expand this tool nationwide within the AKN, and allow the graphs produced to appear with the list of trust resources generated by IPaC, providing you with an additional level of detail about the level of occurrence of the species of particular concern potentially occurring in your project area throughout the course of the year.

Atlantic Seabirds:

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAANCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Facilities

Wildlife refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGES AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix C

El Centro BESS Project Noise Measurements Report

EILAR ASSOCIATES, INC.

Acoustical and Environmental Consulting

210 South Juniper Street, Suite 100, Escondido, CA 92025
Phone: 760-738-5570 or 800-439-8205 • Fax: 760-738-5227
www.eilarassociates.com • info@eilarassociates.com

September 15, 2016

Job #B60902N1

Tri-Technic, Inc.
Attention: Dennis Ledbetter
185 South Fairview Lane
Sonora, California 95370

Subject: Post-Installation Noise Measurements for IID El Centro BESS Project

Eilar Associates has conducted post-installation noise measurements of the noise-generating equipment at the recently constructed Imperial Irrigation District (IID) Battery Energy Storage System (BESS) in El Centro. Post-installation noise measurements aim to determine compliance with project noise requirements as well as noise requirements contained within the City of El Centro Municipal Code.

Project Description & Noise Sources

The subject property is located at 485 East Villa Avenue in the City of El Centro, California. Please refer to Figures 1 through 3 for a Vicinity Map, Satellite Aerial Photograph, and Topographic Map of the site, respectively. The project site is zoned LU (Limited Use). The property to the west is zoned ML (Light Manufacturing), and the property to the South is zoned MG (General Manufacturing). Properties to the north and east are located within the County of Imperial, and are zoned A2U (General Agricultural).

The project included the construction of a new building to house an array of batteries, with a total capacity of 30 MW. A total of 32 transformers and 30 inverters associated with the battery system were also installed on post-tensioned concrete slabs at the exterior of the building, as well as air conditioning equipment serving the building. For additional project details and equipment positioning, please refer to the project plans, provided in Appendix A.

Noise and Sound Level Descriptors

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A-weighting, abbreviated "dBA," to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol "L_{EQ}." Unless a different time period is specified, "L_{EQ}" is implied to mean a period of one hour.

Methodology

Decibel Addition

To determine the combined logarithmic noise level of two known noise source levels, the values are converted to the base values, added together, and then converted back to the final logarithmic value, using the following formula:

$$L_C = 10\log(10^{L1/10} + 10^{L2/10} + 10^{LN/10})$$

where L_C = the combined noise level (dB), and
L_N = the individual noise sources (dB).

Cadna Noise Modeling Software

Modeling of the outdoor noise environment is accomplished using Cadna Version 4.6, which is a model-based computer program developed by DataKustik for predicting noise impacts in a wide variety of conditions. Cadna (Computer Aided Noise Abatement) assists in the calculation, presentation, assessment, and alleviation of noise exposure. It allows for the input of project information such as noise source data, barriers, structures, and topography to create a detailed model and uses the most up-to-date calculation standards to predict outdoor noise impacts.

Applicable Noise Standards

According to the engineering, procurement, and construction requirements document for this project, the maximum sound level generated by the BESS systems and associated equipment should not exceed a noise level of 60 dBA at a distance of 50 feet from the substation fence or building exterior, or as required by local ordinances. As there are no sensitive receivers located within 50 feet of the building exterior, the noise limits have been evaluated at the closest fence lines to the facility, at the north and west property lines of the project site. The noise regulations applicable to this project are contained within the City of El Centro and County of Imperial Municipal Codes which specify noise limits based on the zoning of the property in question.

According to Section 17.1.4 of the City of El Centro Municipal Code, the noise limit for properties zoned LU is an hourly average of 60 dBA L_{EQ} between the hours of 7 a.m. and 10 p.m., and 55 dBA L_{EQ} between the hours of 10 p.m. and 7 a.m. The noise limit for properties zoned for manufacturing is an hourly average of 75 dBA L_{EQ} between the hours of 7 a.m. and 10 p.m., and 70 dBA L_{EQ} between the hours of 10 p.m. and 7 a.m. Additionally, according to the municipal code, the noise limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts. As the BESS facility may operate during any hour on any given day, the more restrictive nighttime noise limits would apply. Therefore, the nighttime noise limit of 62.5 dBA L_{EQ} would apply at the west and south property lines.

According to Title 9, Division 7, Chapter 2 (Sound Level Limits) of the County of Imperial Municipal Code, the noise limit for properties zoned for agricultural use is an hourly average of 70 dBA L_{EQ} at any time.

Measurement Equipment

The following equipment was used at the site to measure noise levels:

- Larson Davis Model LxT Type 1 Integrating Sound Level Meter, Serial #4084
- Larson Davis Model CA250 Type 1 Calibrator, Serial #2625
- Tripods, microphones with windscreens
- Distance measurement wheel and tape measure

The sound level meter was field-calibrated immediately prior to all noise level measurements and checked afterwards, to ensure accuracy. All sound level measurements conducted and presented in this report were made with sound level meters that conform to the American National Standards Institute specifications for sound level meters (ANSI S1.4). All instruments are maintained with National Bureau of Standards traceable calibration, per the manufacturers' standards.

On-Site Noise Level Measurements

A site visit was conducted on the morning of Monday, September 12, 2016 to perform noise level measurements with and without the BESS facility in operation, and to determine ambient noise levels in the vicinity of the project. During all noise measurements, the microphone position was placed approximately five feet above grade.

Noise from BESS Air Conditioning Equipment and Gas Turbine Facility Equipment

Upon arrival to the site, the BESS equipment was not in operation; however, the air conditioning equipment serving the BESS facility was in operation. In addition to noise from the operational air conditioning equipment serving the BESS facility, noise from the adjacent gas turbine facility was audible at the site and was the primary source of ambient noise. In order to determine the ambient noise environment without the influence of equipment operation at the BESS facility, measurements were conducted at several locations around the BESS facility. Close-range noise measurements were then conducted of the air conditioning equipment to incorporate into a Cadna noise model for verification of results, and to estimate the noise contribution of the adjacent gas turbine facility. Using the methodology described above, the modeled/calculated noise level was subtracted from the measured noise level at each receiver location to estimate the ambient noise level at each receiver.

Please refer to Table 1 for results of these measurements and calculations. For a graphical representation of the noise measurement locations and equipment noise contours, please refer to Figure 4.

Table 1. Noise Measurements and Estimated Ambient Noise Levels				
Location	**Dominant Noise Source(s)**	**Noise Level (dBA)**		
		Measured Noise Level (Ambient + HVAC)	**Calculated Noise Level (HVAC Only)**	**Calculated Ambient Noise Level**
Cal 1	HVAC	79.8	79.8	< 60
Cal 2	HVAC	78.8	78.7	< 60
Cal 3	HVAC, Gas Turbine Equipment	63.8	59.7	61.7
Cal 4	Gas Turbine Equipment, HVAC	59.5	53.5	58.2
Cal 5	Gas Turbine Equipment	59.5	49.5	59.5
Cal 6	Gas Turbine Equipment, HVAC	54.9	47.4	54.0
Cal 7	HVAC, Gas Turbine Equipment	61.1	57.4	58.7
Cal 8	Gas Turbine Equipment, HVAC	59.8	55.1	58.0
Cal 9	HVAC	N/A	70.8	< 60

Noise from BESS Air Conditioning Equipment and Gas Turbine Facility Equipment

After establishing the HVAC and ambient noise levels surrounding the facility, noise level measurements were then conducted with the BESS facility equipment in operation at full discharge. In order to determine the noise impacts from equipment associated with the BESS facility, the calculated ambient noise levels were subtracted from the measured noise levels. Please refer to Table 2 for results of these measurements and calculations.

Table 2. Noise Measurements and Estimated BESS Noise Levels				
Location	**Dominant Noise Source(s)**	**Noise Level (dBA)**		
		Measured Noise Level (Ambient + BESS)	**Calculated Ambient Noise Level**	**Adjusted Measured Noise Level (BESS Only)**
Cal 3	BESS Equipment, Gas Turbine Equipment	67.9	61.7	66.7
Cal 4	BESS Equipment , Gas Turbine Equipment	62.0	58.2	59.7
Cal 5	Gas Turbine Equipment	N/A	59.5	N/A
Cal 6	Gas Turbine Equipment, BESS Equipment	55.8	54.0	51.1
Cal 7	BESS Equipment, Gas Turbine Equipment	68.7	58.7	68.2

Table 2. Noise Measurements and Estimated BESS Noise Levels				
Location	**Dominant Noise Source(s)**	**Noise Level (dBA)**		
		Measured Noise Level (Ambient + BESS)	**Calculated Ambient Noise Level**	**Adjusted Measured Noise Level (BESS Only)**
Cal 8	Gas Turbine Equipment, BESS Equipment	60.7	58.0	57.4
Cal 9	BESS Equipment	78.1	< 60	78.1

In order to determine the accuracy of the noise model, the adjusted measured noise levels were compared to the calculated noise levels at the same receiver locations. Typically, a noise model is considered to be calibrated if the results of the noise model fall within three decibels of measurement results at the same locations. Please refer to Table 3 for a comparison of calculated and measured noise levels of equipment associated with the BESS facility. For a graphical representation of BESS equipment noise contours, and receiver locations, please refer to Figure 5.

Table 3. Calculated BESS Noise Levels and Model Verification				
Location	**Dominant Noise Source(s)**	**Noise Level (dBA)**		
		Adjusted Measured Noise Level (BESS Only)	**Calculated Noise Level (BESS Only)**	**Difference**
Cal 1	HVAC	N/A	80.8	N/A
Cal 2	HVAC	N/A	79.2	N/A
Cal 3	BESS Equipment, Gas Turbine Equipment	66.7	67.9	1.2
Cal 4	BESS Equipment, Gas Turbine Equipment	59.7	61.3	1.6
Cal 5	Gas Turbine Equipment	N/A	57.1	N/A
Cal 6	Gas Turbine Equipment, BESS Equipment	51.1	55.3	4.2
Cal 7	BESS Equipment, Gas Turbine Equipment	68.2	68.2	0.0
Cal 8	Gas Turbine Equipment, BESS Equipment	57.4	58.3	0.9
Cal 9	BESS Equipment	78.1	76.9	1.2
North Fence	N/A	N/A	54.3	N/A
West Fence	N/A	N/A	48.0	N/A

With the exception of the Cal 6 receiver, all calculated results were found to be within two decibels of the measured noise levels of the BESS facility, once the measured results were adjusted to account for the noise produced by the adjacent gas turbine facility. It should be noted that, as the calculated result at the CAL 6 receiver exceeded the adjusted measurement result at the same

receiver, the model can be considered to be a worst-case representation of anticipated noise levels from the facility. As the measured and calculated results differ by less than three decibels for the majority of the receiver locations, results of the Cadna noise model can be considered to be representative of the anticipated noise impacts from the BESS facility.

As shown above in Table 3, according to the Cadna noise model, anticipated noise levels at the north and west fence lines are expected to be 54.3 dBA and 48.0 dBA, respectively. As these noise levels are below the project criteria of 60 dBA and are also below the applicable nighttime noise limits for the City of El Centro and County of Imperial, the project can be considered to be in compliance as currently constructed. Based on the noise measurements and calculations documented herein, no mitigation is deemed necessary for attenuating exterior noise levels from the BESS facility

Conclusion

As installed, noise levels generated by the BESS facility were determined to be in compliance with project requirements as well as the applicable City of El Centro and County of Imperial noise limits. Based on the noise measurements and calculations documented herein, no mitigation is deemed necessary for attenuating exterior noise levels from the BESS facility.

This report is based on project information received and measured noise levels, and represents a true and factual analysis of the acoustical impact issues associated with the IID BESS facility in the City of El Centro, California. This report was prepared by Jonathan Brothers, Dan Gershun, and Amy Hool.

EILAR ASSOCIATES, INC.

Jonathan Brothers, Principal Acoustical Consultant

Daniel Gershun, Acoustical Consultant

Figures

1. Vicinity Map
2. Satellite Aerial Photograph
3. Topographic Map
4. Satellite Aerial Photograph Showing HVAC Noise Contours and Receiver Locations
5. Satellite Aerial Photograph Showing BESS Equipment Noise Contours and Receiver Locations

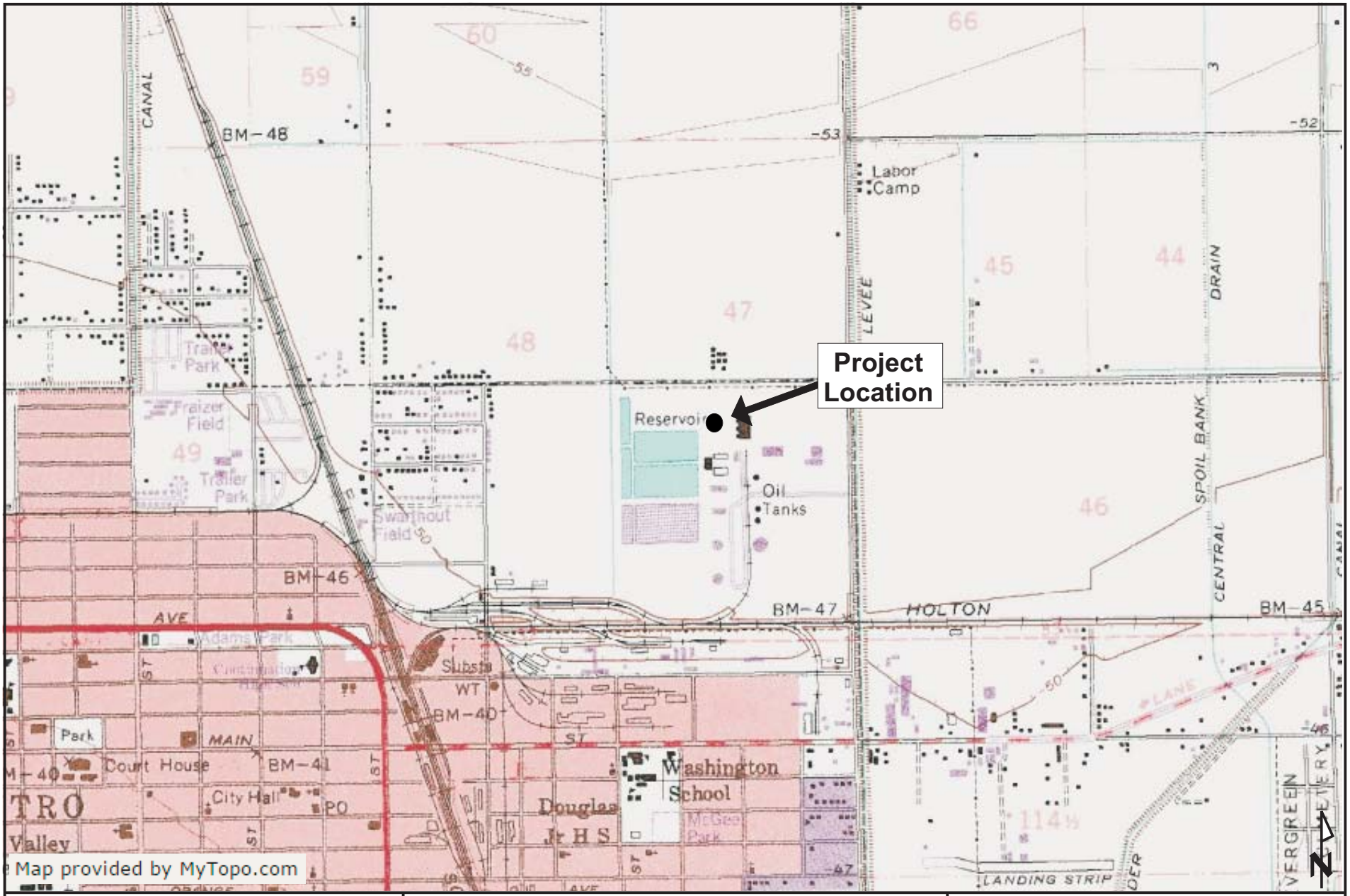
Appendix

A. Project Plans

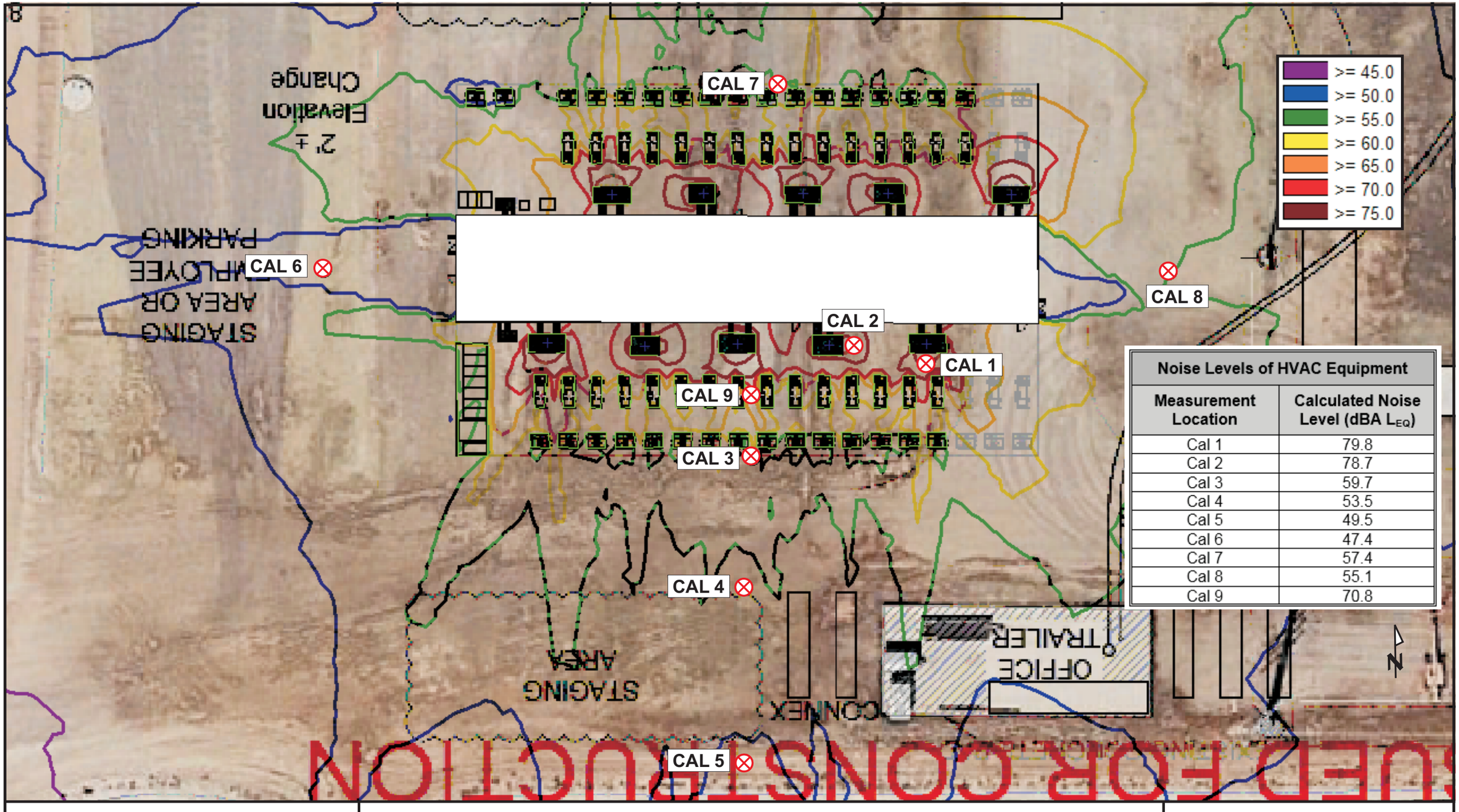
FIGURES

Eilar Associates, Inc. **210 South Juniper Street, Suite 100** **Escondido, California 92025** **760-738-5570**	**Vicinity Map** **Job #B60902N1**	**Figure 1**

Eilar Associates, Inc. **210 South Juniper Street, Suite 100** **Escondido, California 92025** **760-738-5570**	**Satellite Aerial Photograph** **Job # B60902N1**	**Figure 2**



Eilar Associates, Inc. **210 South Juniper Street, Suite 100** **Escondido, California 92025** **760-738-5570**	**Topographic Map** **Job # B60902N1**	**Figure 3**

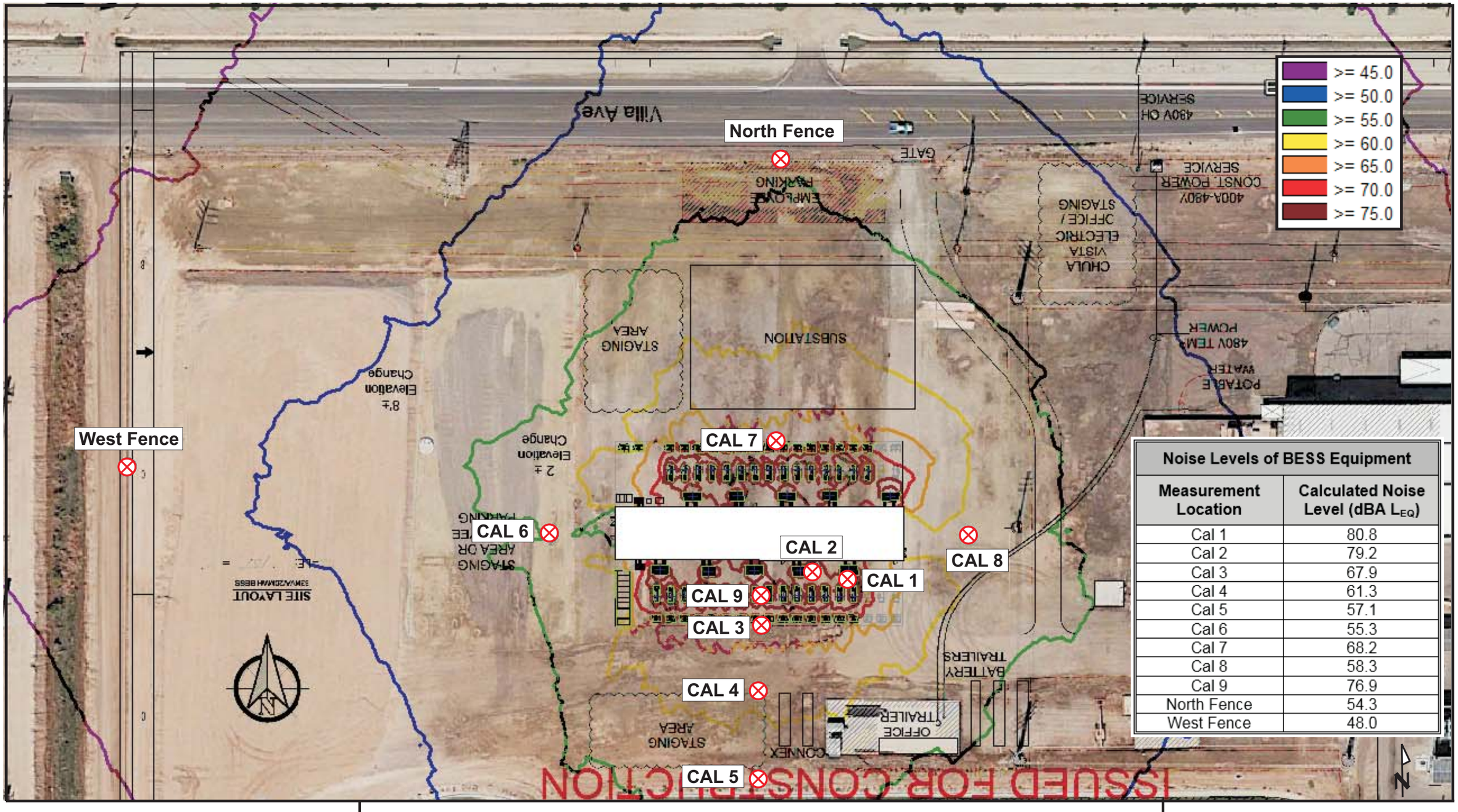


Noise Levels of HVAC Equipment	
Measurement Location	Calculated Noise Level (dBA L_{EQ})
Cal 1	79.8
Cal 2	78.7
Cal 3	59.7
Cal 4	53.5
Cal 5	49.5
Cal 6	47.4
Cal 7	57.4
Cal 8	55.1
Cal 9	70.8

Eilar Associates, Inc.
210 South Juniper Street, Suite 100
Escondido, California 92025
760-738-5570

Satellite Aerial Photograph Showing HVAC Noise Contours and Receiver Locations
Job # B60902N1

Figure 4



Noise Levels of BESS Equipment	
Measurement Location	Calculated Noise Level (dBA L_{EQ})
Cal 1	80.8
Cal 2	79.2
Cal 3	67.9
Cal 4	61.3
Cal 5	57.1
Cal 6	55.3
Cal 7	68.2
Cal 8	58.3
Cal 9	76.9
North Fence	54.3
West Fence	48.0

Eilar Associates, Inc.
210 South Juniper Street, Suite 100
Escondido, California 92025
760-738-5570

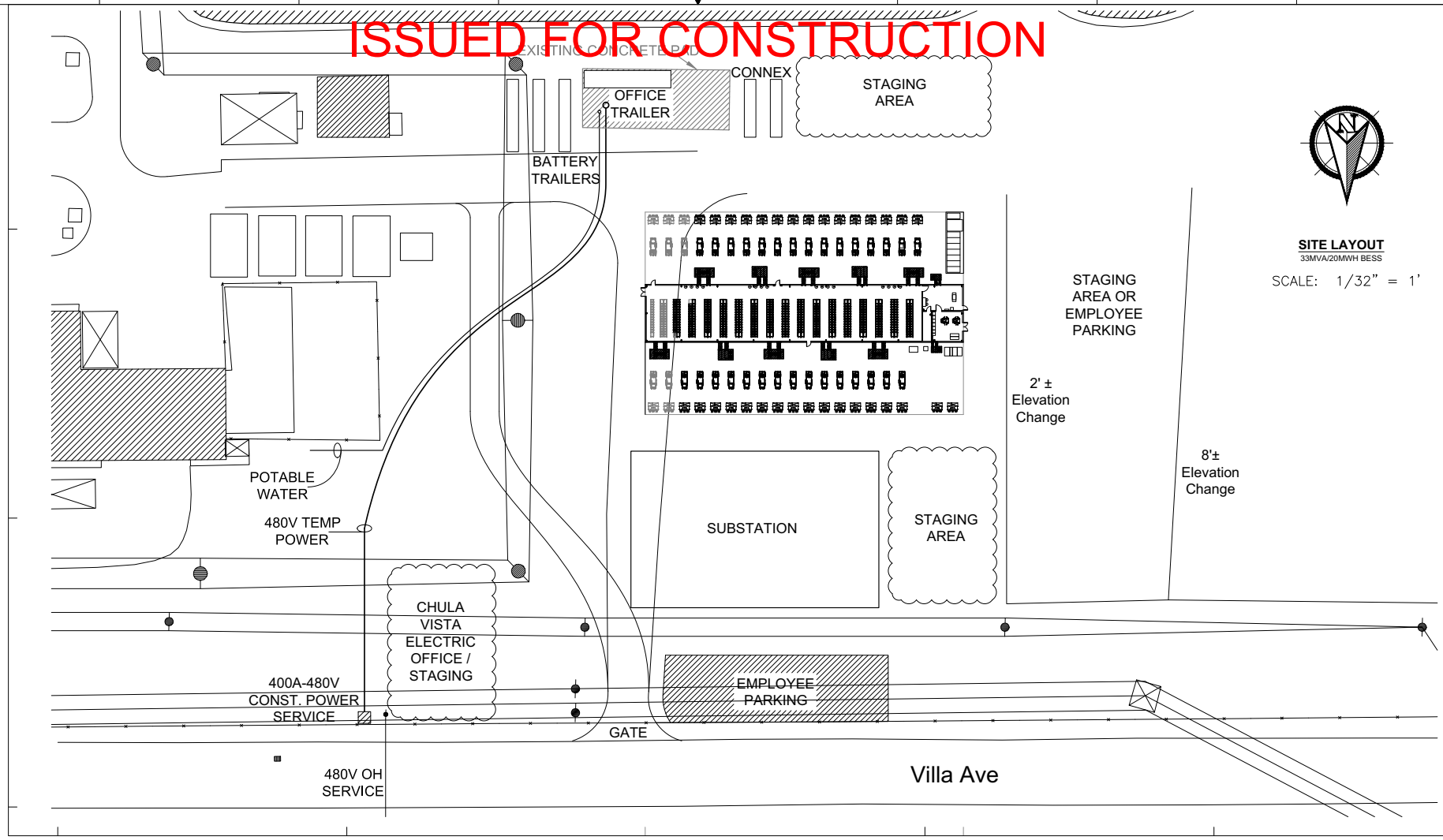
Satellite Aerial Photograph Showing BESS Equipment Noise Contours and Receiver Locations
Job # B60902N1

Figure 5

APPENDIX A

Project Plans

ISSUED FOR CONSTRUCTION



SITE LAYOUT
33MVA/20MWH BESS

SCALE: 1/32" = 1'

Tri-Technic, Inc.
Corporate Office: 185 S. Fairview Ln, Sonora, CA 95370
Construction Office: 441 Doak Blvd., Ripon, Ca. 95366
209-599-6000 www.tri-technic.com
TRI-TECHNIC
CONSTRUCTORS - ENGINEERS - CONSULTANTS

GE ENERGY STORAGE

ENGINEER'S STAMP 08/25/15

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No.	DATE	DRAWN	DESIGN	APV'D	RVS'D	REVISION
0	4/15/15	...	...			ISSUED FOR CONSTRUCTION
REV-A	05/13/15	...	...			ROTATION _ UPDATED EQUIPMENT _ POSITION
REV-01	05/15/15	...	...			TITTLE _ DOC _ EQUIPMENT
REV-00	05/06/15	...	...			INITIAL ISSUE

COACHELLA ENERGY STORAGE PARTNERS

I. I. D. ENERGY
A Division of
IMPERIAL IRRIGATION DISTRICT

SITE LAYOUT
33MVA/20MWH_BESS

DRAWN BY: V.L.(TTI)	APPROVED BY: D.P.(GE)		SEC
DESIGNED BY: D.L.(TTI)	REVISED BY:		
SCALE: 1"=1'	DWG. No.	BESS-102	REVB