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PUBLIC REVIEW DRAFT | OCTOBER 2016

Alamitos Generating Station Battery Energy Storage System Project

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

PREPARED FOR:
City of Long Beach

PREPARED BY:
Michael Baker International

PUBLIC REVIEW DRAFT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Alamitos Generating Station Battery Energy Storage System (BESS) Project

LEAD AGENCY:

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October 2016

JN 153317

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1.0 INTRODUCTION

The proposed Alamitos Generating Station Battery Energy Storage System (BESS) Project (herein referenced as the "project") involves construction of a 300-megawatt battery energy storage facility at the existing AES Southland Energy, LLC (AES) Alamitos Generating Station within the City of Long Beach. Following a preliminary review of the proposed project, the City of Long Beach has determined that it is subject to the guidelines and regulations of the California Environmental Quality Act (CEQA). This Initial Study/Mitigated Negative Declaration addresses the direct, indirect, and cumulative environmental effects of the project, as proposed.

1.1 STATUTORY AUTHORITY AND REQUIREMENTS

In accordance with CEQA (Public Resources Code Sections 21000-21177) and pursuant to Section 15063 of Title 14 of the California Code of Regulations (CCR), the City of Long Beach, acting in the capacity of Lead Agency, is required to undertake the preparation of an Initial Study to determine whether the proposed project would have a significant environmental impact. If the Lead Agency finds that there is no evidence that the project, either as proposed or as modified to include the mitigation measures identified in the Initial Study, may cause a significant effect on the environment, the Lead Agency shall find that the proposed project would not have a significant effect on the environment and shall prepare a Negative Declaration (or Mitigated Negative Declaration) for that project. Such determination can be made only if "there is no substantial evidence in light of the whole record before the Lead Agency" that such impacts may occur (Section 21080, Public Resources Code).

The environmental documentation, which is ultimately approved and/or certified by the City of Long Beach in accordance with CEQA, is intended as an informational document undertaken to provide an environmental basis for subsequent discretionary actions upon the project. The resulting documentation is not, however, a policy document and its approval and/or certification neither presupposes nor mandates any actions on the part of those agencies from whom permits and other discretionary approvals would be required.

1.2 PURPOSE

Section 15063 of the CEQA Guidelines identifies specific disclosure requirements for inclusion in an Initial Study. Pursuant to those requirements, an Initial Study shall include:

- A description of the project, including the location of the project;
- Identification of the environmental setting;
- Identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
- Discussion of ways to mitigate significant effects identified, if any;
- Examination of whether the project is compatible with existing zoning, plans, and other applicable land use controls; and
- The name(s) of the person(s) who prepared or participated in the preparation of the Initial Study.

1.3 CONSULTATION

As soon as the Lead Agency (in this case, the City of Long Beach) has determined that an Initial Study would be required for the project, the Lead Agency is directed to consult informally with all Responsible Agencies and Trustee Agencies that are responsible for resources affected by the project, in order to obtain the recommendations of those agencies on the environmental documentation to be prepared for the project. Following receipt of any written comments from those agencies, the City of Long Beach will consider their recommendations when formulating the preliminary findings. Following completion of this Initial Study, the City of Long Beach will initiate formal consultation with these and other governmental agencies as required under CEQA and its implementing guidelines.

1.4 INCORPORATION BY REFERENCE

The following documents were utilized during preparation of this Initial Study, and are incorporated into this document by reference. The documents are available for review at the City of Long Beach Development Services Department, located at 333 West Ocean Boulevard, Long Beach, California 90802.

- *City of Long Beach General Plan* (Updated October 2013). The purpose of the General Plan is to provide a general, comprehensive, and long-range guide for community decision-making. The *City of Long Beach General Plan* (*General Plan*) consists of the following elements, adopted on various dates: Historic Preservation; Open Space; Housing; Air Quality; Mobility Element; Land Use; Seismic Safety; Local Coastal Program; Noise; Public Safety; Conservation; and Scenic Routes. The individual elements identify goals and policies for existing and future conditions within the City of Long Beach.

- *City of Long Beach Municipal Code (Codified through Ordinance No. ORD-16-0008, enacted May 24, 2016)*. The *City of Long Beach Municipal Code* (*LBMC*) consists of regulatory, penal, and administrative ordinances of the City of Long Beach. It is the method the City uses to implement control of land uses, in accordance with the *General Plan* goals and policies. Volume II (Title 20, *Subdivisions*) and Volume III (Title 21, *Zoning*) of the LBMC identifies land uses permitted and prohibited according to the zoning designation of particular parcels. The purpose of the Zoning Regulations within the *LBMC* is to promote and preserve the public health, safety, comfort, convenience, prosperity, and general welfare of the people of Long Beach.

- *Alamitos Energy Center Application for Certification,* prepared by CH2M Hill (docketed February 2014). The *Alamitos Energy Center Application for Certification* (AFC) describes and evaluates environmental, public health, and safety effects of the Alamitos Energy Center (AEC), which proposes modifications to the existing Alamitos Generating Station to include natural gas-fired, combined-cycle and simply-cycle, air-cooled generators. The project is under review by the California Public Utilities Commission (CPUC). The AFC includes an analysis of environmental impacts of the project, consisting of the following topical sections: Air Quality, Biological Resources, Cultural Resources, Geological Hazards and Resources, Hazardous Materials Handling, Land Use, Noise, Paleontological Resources, Public Health, Socioeconomics, Soils, Traffic and Transportation, Visual Resources, Waste Management, Water Resources, and Worker Health and Safety.

2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

Regionally, the project site is located within the southeastern portion of the City of Long Beach (City), within the County of Los Angeles (County); refer to Exhibit 2-1, *Regional Map*. Locally, the project site is situated at the Alamitos Generating Station site located at 690 North Studebaker Road. The project would affect approximately 71.42 acres of the existing Alamitos Generating Station; refer to Exhibit 2-2, *Site Vicinity Map*. The project site, Assessor's Parcel Number (APN) 7237-018-808[1], is generally flat and is at an elevation of approximately 14 feet above mean sea level (msl). The project site is located approximately 0.25-mile to the south of California State Route 22 (East 7th Street), approximately 0.7-mile northeast of California State Route 1 (East Pacific Coast Highway), and approximately 0.7-mile to the southwest of the San Diego Freeway (Interstate 405 [I-405]) and San Gabriel River Freeway (Interstate 605 [I-605]) interchange.

2.2 ENVIRONMENTAL SETTING

The Alamitos Generating Station is owned by AES Southland Energy, LLC (AES) and is a secure facility per state and federal regulations for generating facilities. This Generating Station facility is an industrial site with existing development and infrastructure, including:

- The Alamitos Generating Station;
- A Southern California Edison (SCE) switchyard and transmission facilities;
- Administration, maintenance, and warehouse buildings; and
- Rosie the Riveter Charter High School, a charter school operated by Women in Non-Traditional Employment Roles (WINTER). The school is located on AES property and is leased to WINTER.

The project site encompasses the existing development and infrastructure within the Generating Station facility as well as the existing 778 parking spaces, retention basin, and Alamitos Generation Station channel inlets. An existing on-site warehouse building is located to the east of the parking lot.

Alamitos Generating Station site is currently served by the Southern California Gas Company (SoCalGas) natural gas pipeline system and City of Long Beach Water Department (LBWD) potable water and process water supply lines. In addition, fire suppression and other emergency services facilities are present at the Alamitos Generating Station.

SURROUNDING USES

The property is bounded on the east side by the San Gabriel River, which is a channelized flood control waterway, and on the west side by Studebaker Road and Los Cerritos Channel. Surrounding land uses in proximity to the project site are primarily comprised of industrial, residential, recreational, and transit-related uses. The surrounding land uses are as follows:

- *North:* A self-storage facility, vacant land, and East 7th Street are located to the north;
- *East:* San Gabriel River, San Gabriel River Bike Trail, and an industrial use (Los Angeles Department of Water and Power Haynes Generating Station) are located to the east;
- *South:* Industrial uses including a petroleum storage facility and undeveloped property are located to the south; and
- *West:* Studebaker Road, Los Cerritos Channel, Long Beach Bikeway Route 10, former fuel oil tank farm, residential uses, and Kettering Elementary School are located to the west.

[1] First American Real Estate Solutions, *RealQuest Property Data*, accessed on June 8, 2016.

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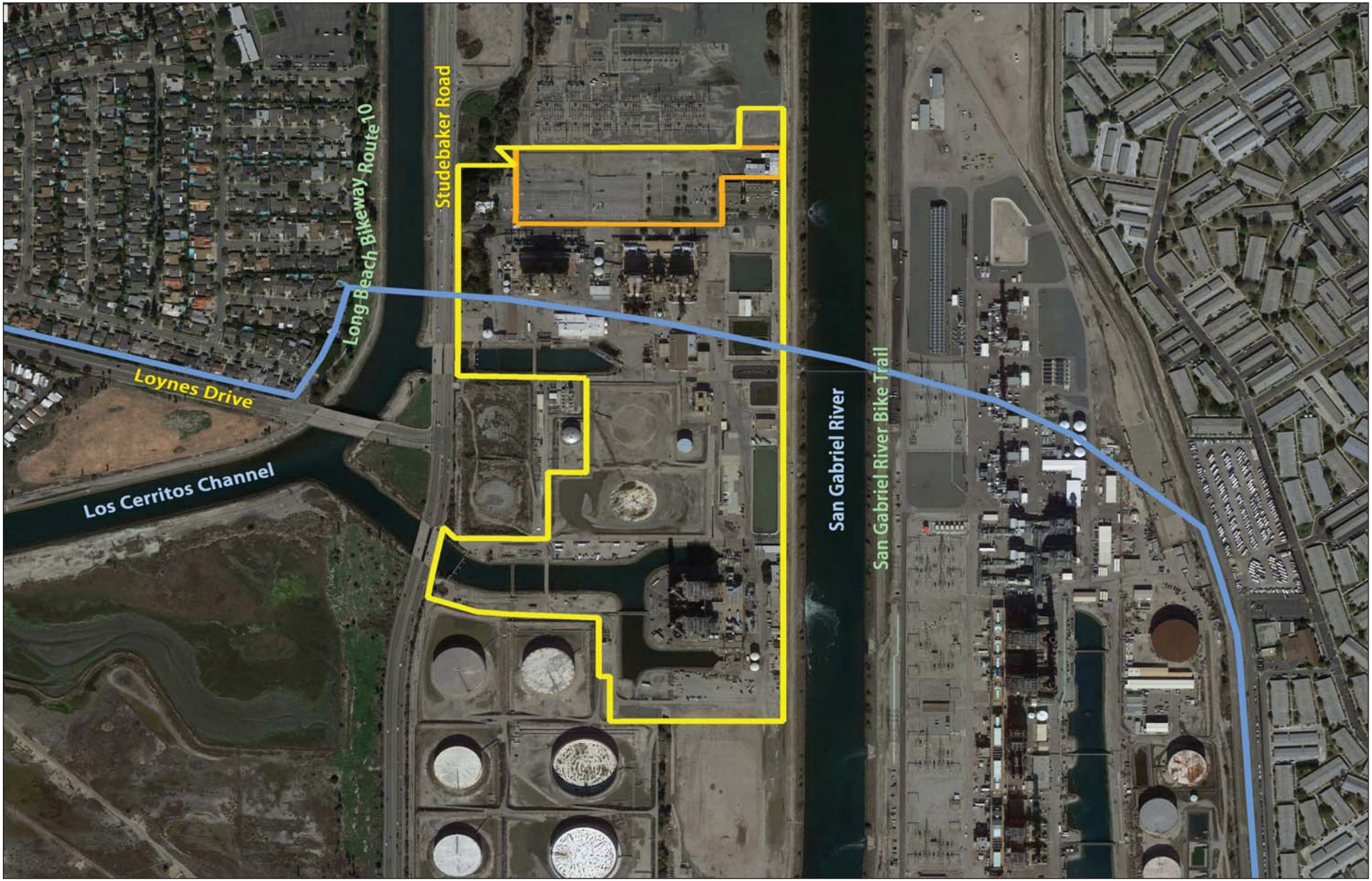
ALAMITOS GENERATING STATION
BATTERY ENERGY STORAGE SYSTEM PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Regional Map

Exhibit 2-1



Source: Google Earth 2015.

- Proposed BESS Location
- Proposed Parking and Landscape Improvements
- Coastal Zone Boundary

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ALAMITOS GENERATING STATION
BATTERY ENERGY STORAGE SYSTEM PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Site Vicinity Map

Exhibit 2-2

2.3 EXISTING GENERAL PLAN AND ZONING

According to the *City of Long Beach General Plan* (*General Plan*) Land Use Element, the project site and its surrounding areas are located within the Southeast Area Development Improvement Plan (SEADIP). The *General Plan* Land Use Map (Revised October 2012) designates the project site as "LUD No. 7; Mixed Uses". A combination of land uses intended for the Mixed Use District include, but are not limited to, employment centers such as retail, offices, medical facilities; high density residences; visitor-serving facilities; personal and professional services; or recreational facilities. Surrounding areas to the project site are designated "LUD 7; Mixed Uses", "LUD 11; Open Space/Parks", and "LUD 10; Institutions/Schools" by the Land Use Map.

The *City of Long Beach Zoning Map* zones the project site and its surrounding areas as "Planned Development District 1 (PD-1), Subarea 19". According to the *City of Long Beach Planned Development Districts Map*, prepared by the Department of Development Services, PD-1 represents SEADIP. Based on the *City of Long Beach Municipal Code* (*LBMC*), Subarea 19 consists of industrial uses. The PD designation allows for flexible development plans to be prepared for areas of the City which may benefit from the formal recognition of unique or special land uses and the definition of special design policies and standards not otherwise possible under conventional zoning district regulations.

2.4 PROJECT BACKGROUND

The proposed Alamitos Generating Station Battery Energy Storage System (BESS) would provide local area capacity for electrical system reliability and flexibility. As part of the state's energy and environmental policies for the electricity sector, the AES Alamitos BESS would be part of a sustainable solution to:

- Maintain grid reliability;
- Enable increasing amounts of intermittent renewable energy generating sources to be accessed;
- Reduce greenhouse gas (GHG) and criteria air pollutant emissions from the electricity sector;
- Reduce marine impacts from once-through-cooling power plants;
- Upgrade aging infrastructure; and
- Support increased and new electricity demand from non-traditional users such as transportation.

Battery-based energy storage provides flexibility to the electrical grid by storing energy produced at the Alamitos Generating Station during periods of oversupply, and discharging to the electrical grid during periods of high demand. A battery system can provide instantaneous response, as compared to a slower ramping rate of a traditional gas fired generation resource and can provide this response repeatedly in all hours. Energy storage speed of response actually reduces the total amount of reserve power needed to manage the grid effectively, providing savings and reliability benefits. By building the proposed project, a clean, reliable resource would be gained to help integrate renewables, reduce dependence on gas fired generation, eliminate ocean water for cooling, reduce fresh water consumption, and reduce GHG and criteria air pollutant emissions.

2.5 PROJECT CHARACTERISTICS

ALAMITOS GENERATING STATION BESS

AES proposes to construct 300-megawatts of battery energy storage on an existing parking lot located within the northern portion of the Alamitos Generating Station; refer to Exhibit 2-2. The Alamitos Generating Station BESS would consist of three 50-foot high buildings, similar in appearance to data server farms, and would be constructed within the existing surface parking lot between existing Units 1 through 4 and the switchyard. Construction would require moving the existing generator tie lines to the switchyard to accommodate the new battery storage buildings. This involves moving the 220-kilovolt high-voltage lines from Unit 4 to circumvent the buildings, and the permanent removal of the 220-kilovolt high-voltage lines and transmission structures connecting Units 5 and 6 to the switchyard. Exhibit 2-3, *Conceptual Site Plan*, illustrates the proposed BESS facility layout.

The proposed BESS facility proposes energy storage utilizing advanced technology batteries and control systems. The project would provide electrical service for the local electric utility, SCE. The BESS would ultimately consist of three 100-megawatt containment buildings. Each building would be 50 feet in height, 270 feet in length, and 165 feet in width and would be comprised of three levels: two battery storage levels separated by a mezzanine level. The mezzanine level would contain mechanical equipment such as electrical controls and heating, ventilation, and air conditioning (HVAC) units. Buildings would be set back at least 50 feet from each other and more than 50 feet from off-site properties.

The following major equipment and systems are included in the facility:

- Battery Storage Array equipment, including batteries and racks, inverters, isolation transformers, and battery storage core switchboards;
- Balance of Plant equipment, which includes a warehouse-type building, medium voltage (MV) and low voltage (LV) electrical systems, fire suppression, HVAC systems, building auxiliary electrical systems, and network/Supervisory Control and Data Acquisition (SCADA) systems;
- High Voltage (HV) equipment, including a step-up transformer, HV circuit breaker, HV current transformers and voltage transformers, a packaged control building for the HV breaker and transformer equipment, HV towers, structures, and HV cabling; and
- Transmission mono-poles up to 75 feet in height and associated electricity transmission facilities.

Chiller Plant

The proposed BESS facility would require a cooling system comprised of a chiller plant, which would be constructed at the location of the existing warehouse building located at the northeast corner of the project site. In order to accommodate the chiller plant, the existing 8,815-square foot warehouse building would be demolished.

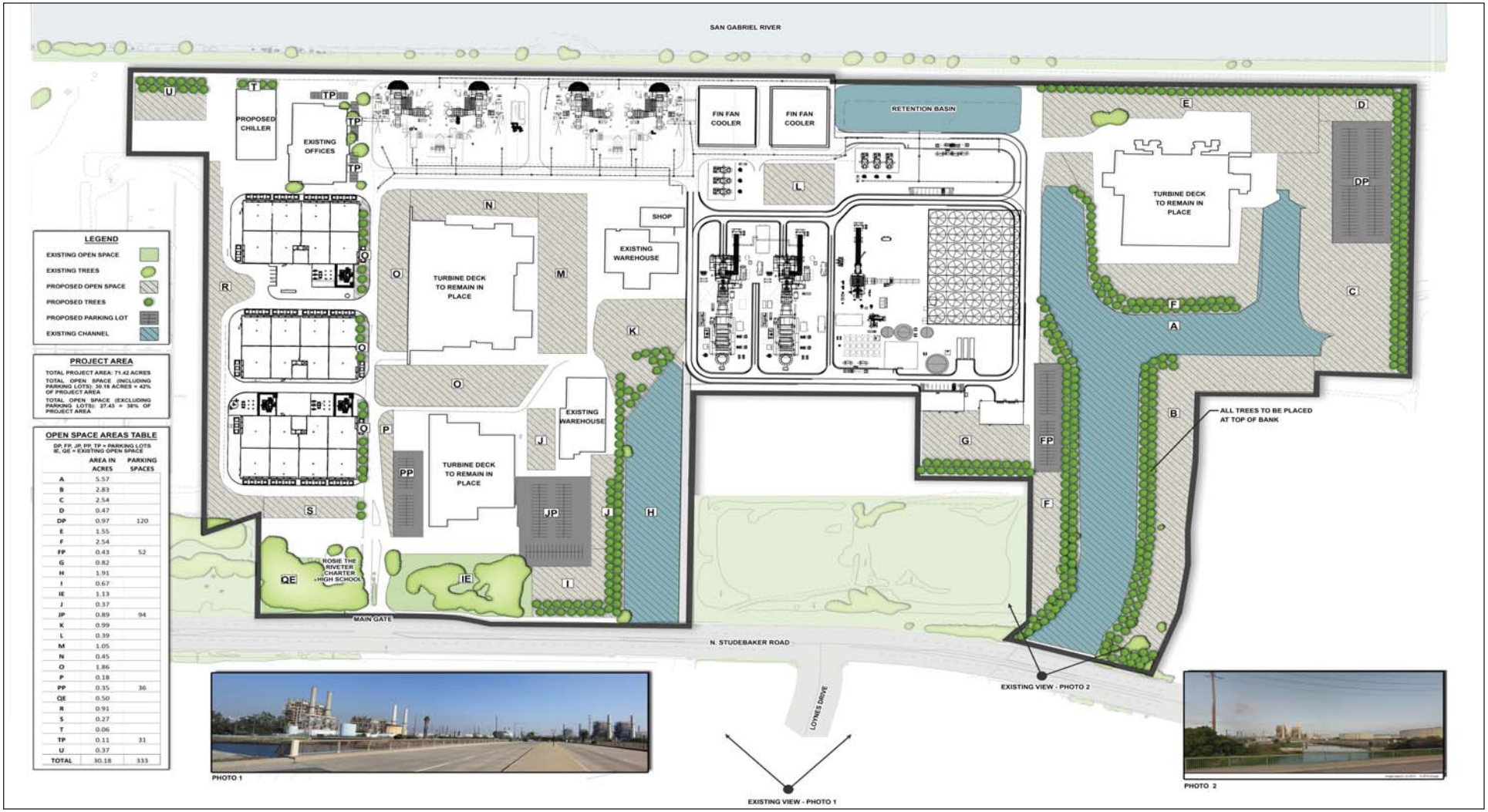
As noted above, each three-level energy storage building would be built to house a total of 100-megawatts of lithium-ion battery storage on the first and third levels. The middle (mezzanine) level would function primarily as a mechanical area for housing 24 chilled-water Air Handling Units needed for heat removal, isolation transformers for the third floor, building auxiliary transformers, and MV switchgear.

Heat would be removed from the Air Handling Units through the use of two closed-cycle recirculating cooling water loops. The chilled water system would have redundancy by incorporating the use of three 50 percent, 1,800-ton water-cooled chillers, along with three chilled water pumps, and three condensing water pumps. The chillers would operate as a closed-loop system with heat removal being conducted through air-cooled forced-draft heat exchangers measuring 14 feet wide by 62 feet long. As noted above, all cooling water would be recirculated within the system and would be operated such that no evaporation occurs. Any water consumption would be limited (20 to 100 gallons) when maintenance activities of the cooling system are required on an infrequent basis.

The chiller plant, at full operation, would encompass seven chillers, chilled water pumps and condensing pumps, and three heat exchangers. To utilize a smaller footprint, the heat exchangers would be installed on the roof of the chiller plant.

Wastewater and Stormwater Drainage System

The BESS buildings would include restroom facilities. A new sewage line would be added prior to construction and would connect to the existing sewage line from the existing adjacent office building. Stormwater would be routed to an existing retention basin equipped with an oil/water separator and managed on-site in accordance with National Pollutant Discharge Elimination System (NPDES) requirements.



Source: AES Southland Energy, LLC, *Schematic Landscape*, dated March 14, 2016.

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ALAMITOS GENERATING STATION
BATTERY ENERGY STORAGE SYSTEM PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Conceptual Site Plan

Exhibit 2-3

Operational Workforce

The long-term operational workforce would entail four to five full-time staff for maintenance (eight hours per day, 40 hours per week). Additional contracted staff may be used during forced and scheduled outage times. Operations outside normal weekday working hours would be managed from the adjacent Alamitos Generating Station plant control room or from another remote location. Each of the three BESS buildings would include a small administrative/office area and restroom facility on the mezzanine level to accommodate full-time staff.

Parking

There are currently 778 parking spaces available at the Alamitos Generating Station facility. Project implementation would result in a net loss of 477 parking spaces. However, the facility has, and would continue to have, surplus parking spaces, and would comply with the *LBMC* requirements for parking. The project proposes 301 parking spaces within 2.75 acres of parking lots within various portions of the project site. The parking spaces would be striped within five designated parking areas; two located southeast of Rosie The Riveter Charter High School, one bordering an existing office building located at the northeast corner of the project site, and the other two located within existing parking lots at the southern portion of the project site. No new pavement would be installed; refer to Exhibit 2-3.

Landscaping/Open Space

The existing Alamitos Generating Station includes trees and landscaping in various locations of the project site. Currently, the facility includes trees and manicured landscaping within the northeastern portion of the site adjacent to the administrative office building and associated parking lot; at and surrounding the Rosie the Riveter Charter High School; existing open space, trees, and vegetation south of the Rosie the Riveter Charter High School; and along the west side of the project site along Studebaker Road.

The project proposes to retain the existing ornamental landscaping located at the Rosie the Riveter Charter High School, the existing vegetation and open space south the of Rosie the Riveter Charter High School, as well as various trees located throughout the project site. New landscaping would be included on the east side of the proposed chiller plant, as well as along the proposed open space areas that border the project site along the east, south, and west edges. Additional landscaping would also border the existing channel inlets; refer to Exhibit 2-3.

The purpose of the proposed open space is to improve stormwater drainage and reduce site runoff by replacing impervious areas with porous aggregate material. The existing open space on-site, the Rosie the Riveter Charter High School, and open space located south of the Rosie the Riveter Charter High School, would remain. 19.95 acres of new open space would be included mainly throughout the northern and southern portions of the project site; refer to Exhibit 2-3. The improvements would include the removal of asphalt and concrete and the placement of porous aggregate material, resulting in a decrease in impervious area by approximately 28 percent.

2.5.1 PHASING AND CONSTRUCTION

The proposed construction at the project site would occur in three phases, one for each building from east to west. Construction of each building would begin within a few months of completion of the building before it. With the first building scheduled to be completed in 2020, it is expected the second would be completed in 2021 or early 2022, with the third completed in 2023. Overall, construction is proposed to commence in 2019, with completion of the first 100-megawatt battery containment building completed in late 2020 and commercial operation beginning the same year.

CHILLER PLANT

An existing warehouse building to the north of the existing administration office building would be demolished to construct the chiller plant adjacent to the first energy storage building, which would be constructed such that the building can be expanded to accommodate additional chillers as the second and third 100-megawatt energy storage buildings are constructed.

LAYDOWN AREAS

The project would require the use of an on-site laydown area. Because the energy storage buildings would be constructed in phases in an existing parking lot, the adjacent lot space would be used for construction of the first building. Then, a 40-foot swath around the perimeter of the first building would be used for roadway and staging of materials. An additional 500-foot by 300-foot laydown area would be required for construction materials, as well as a parking area for management and craft appropriate for staff requirements for each phase of construction. The staging area would be shifted westward with the construction of each subsequent phase. No off-site construction staging or laydown activities would be required.

2.6 PERMITS AND APPROVALS

The proposed project would require permits and approvals from the City of Long Beach and other agencies prior to construction. These permits and approvals are described below, and may change as the project entitlement process proceeds.

City of Long Beach
- California Environmental Quality Act Clearance
- Building Permit
- Standards Variance for Building Height and Mono-Poles
- Local Coastal Development Permit (limited to project components in the Coastal Zone)

Los Angeles Regional Water Quality Control Board
- NPDES Construction General Permit

3.0 INITIAL STUDY CHECKLIST

3.1 BACKGROUND

1.	**Project Title:** Alamitos Generating Station Battery Energy Storage System (BESS) Project
2.	**Lead Agency Name and Address:** City of Long Beach 333 West Ocean Boulevard Long Beach, CA 90802
3.	**Contact Person and Phone Number:** Mr. Craig Chalfant Senior Planner 562.670.6368
4.	**Project Location:** Regionally, the project site is located within the southeastern portion of the City of Long Beach (City), within the County of Los Angeles (County). Locally, the project site is situated at the Alamitos Generating Station located at 690 North Studebaker Road. The project site is located approximately 0.25 mile to the south of California State Route 22 (East 7th Street), approximately 0.9 mile northeast of California State Route 1 (East Pacific Coast Highway), and approximately 1.0 mile to the southwest of the San Diego Freeway (Interstate 405 [I-405]) and San Gabriel River Freeway (Interstate 605 [I-605]) interchange.
5.	**Project Sponsor's Name and Address:** AES Southland Energy, LLC Stephen O'Kane 690 Studebaker Road Long Beach, CA 90803
6.	**General Plan Designation:** According to the *City of Long Beach General Plan* (*General Plan*) Land Use Element, the project site and its surrounding areas are located within Southeast Area Development Improvement Plan (SEADIP). The *General Plan* Land Use Map (revised October 2012) designates the project site as "LUD No. 7; Mixed Uses".
7.	**Zoning:** The *City of Long Beach Zoning Map* zones the project site as "Planned Development District 1 (PD-1), Subarea 19". According to the *City of Long Beach Planned Development Districts Map*, prepared by the Department of Development Services, PD-1 represents SEADIP. Based on the *City of Long Beach Municipal Code* (*LBMC*), Subarea 19 consists of industrial uses.
8.	**Description of the Project:** AES Southland Energy, LLC (AES) proposes to construct a 300-megawatt battery energy storage facility at the existing Alamitos Generating Station. The Battery Energy Storage System (BESS) would consist of three 50-foot high buildings, similar in appearance to server farms, and would be constructed within the existing surface parking lot between existing Units 1 through 4 and the switchyard. Construction would require moving the existing generator tie lines to the switchyard to accommodate the new battery storage buildings. This involves moving the 220-kilovolt high-voltage lines from Unit 4 to circumvent the buildings, and the permanent removal of the 220-kilovolt high-voltage lines and transmission structures connecting Units 5 and 6 to the switchyard. Additional details regarding the project are provided in Section 2.5, *Project Characteristics*.

9.	**Surrounding Land Uses and Setting:** The property is bounded on the east side by the San Gabriel River, which is a channelized flood control waterway, and on the west side by Studebaker Road and Los Cerritos Channel. Surrounding land uses in proximity to the project site are primarily comprised of industrial, residential, recreational, and transit-related uses. The surrounding land uses are as follows: • *North:* A self-storage business, vacant land, and East 7th Street are located to the north; • *East:* San Gabriel River, San Gabriel River Bike Trail, and an industrial use (Los Angeles Department of Water and Power Haynes Generating Station) are located to the east; • *South:* Industrial uses including a petroleum storage facility and undeveloped property are located to the south; and • *West:* Studebaker Road, Los Cerritos Channel, Long Beach Bikeway Route 10, former fuel oil tank farm for the Alamitos Generating Station (now owned by a third party), residential uses, and Kettering Elementary School are located to the west.
10.	**Other public agencies whose approval is required (e.g., permits, financing approval or participation agreement).** Refer to Section 2.6, *Permits and Approvals*, for a description of the permits and approvals anticipated to be required for the project. Additional approvals may be required as the project entitlement process moves forward.

3.2 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" or "Less Than Significant Impact with Mitigation Incorporated," as indicated by the checklist on the following pages.

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

3.3 LEAD AGENCY DETERMINATION

On the basis of this initial evaluation:

The City of Long Beach finds that the proposed use COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ____

The City of Long Beach finds that although the proposal could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described in Section 4.0 have been added. A MITIGATED NEGATIVE DECLARATION will be prepared. ✓

The City of Long Beach finds that the proposal MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ____

The City of Long Beach finds that the proposal MAY have a significant effect(s) 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, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ____

Signature	City of Long Beach
	Agency
Craig Chalfant, Senior Planner	October 10, 2016
Printed Name	Date

3.4 EVALUATION OF ENVIRONMENTAL IMPACTS

This section analyzes the potential environmental impacts associated with the proposed project. The issue areas evaluated in this Initial Study include:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities and Service Systems

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the *CEQA Guidelines* and used by the City of Long Beach in its environmental review process. For the preliminary environmental assessment undertaken as part of this Initial Study's preparation, a determination that there is a potential for significant effects indicates the need to more fully analyze the development's impacts and to identify mitigation.

For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and an answer is provided according to the analysis undertaken as part of the Initial Study. The analysis considers the long-term, direct, indirect, and cumulative impacts of the development. To each question, there are four possible responses:

- *No Impact*. The development will not have any measurable environmental impact on the environment.

- *Less Than Significant Impact*. The development will have the potential for impacting the environment, although this impact will be below established thresholds that are considered to be significant.

- *Less Than Significant Impact With Mitigation Incorporated*. The development will have the potential to generate impacts which may be considered as a significant effect on the environment, although mitigation measures or changes to the development's physical or operational characteristics can reduce these impacts to levels that are less than significant.

- *Potentially Significant Impact*. The development will have impacts which are considered significant, and additional analysis is required to identify mitigation measures that could reduce these impacts to less than significant levels.

Where potential impacts are anticipated to be significant, mitigation measures will be required, so that impacts may be avoided or reduced to insignificant levels.

4.0 ENVIRONMENTAL ANALYSIS

The following is a discussion of potential project impacts as identified in the Initial Study/Environmental Checklist. Explanations are provided for each item.

4.1 AESTHETICS

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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) Have a substantial adverse effect on a scenic vista?

No Impact. The *City of Long Beach General Plan* (*General Plan*) identifies freeways, regional corridors, boulevards, major avenues, minor avenues, neighborhood connectors, local streets, port-related streets, and scenic routes. The nearest designated scenic routes to the project site include segments of East Pacific Coast Highway and East 2nd Street, both approximately one mile to the southwest of the project site. The primary scenic resources along these two segments include southern views toward the harbor and ocean. As the project site is located to the northeast of these views, no view blockage of these visual resources would occur. Moreover, the site is located in a heavily industrial area, within the boundaries of the existing Alamitos Generating Station and in proximity to the Haynes Generating Station. No impact would result in this regard.

Mitigation Measures: No mitigation is required.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. There are no officially-designated State scenic highways within proximity to the project site.[1] The nearest Officially Designated State Scenic Highway is State Route 2, located approximately 30 miles to the north. The nearest Eligible State Scenic Highway (not officially designated) is East Pacific Coast Highway, located approximately one mile to the southwest of the project site. As described in Response 4.1(a), the proposed project would not affect scenic resources along this eligible highway. Therefore, project implementation would not damage any scenic resource (i.e., trees, rock outcroppings, or historic buildings) within the viewshed of a state scenic highway. No impact would result in this regard.

Mitigation Measures: No mitigation is required.

[1] California Department of Transportation website, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm, accessed August 26, 2016.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

***Less Than Significant Impact*.**

Short-Term Impacts

Construction activities would be completed incrementally (in three phases) over the course of approximately four years (from 2019 through 2023). The project would require the use of an on-site laydown area. Because the energy storage buildings would be constructed in phases in an existing parking lot, the adjacent lot space would be used for construction of the first building. Then, a 40-foot swath around the perimeter of the first building would be used for roadway and staging of materials. An additional 500-foot by 300-foot laydown area would be required for construction materials, as well as a parking area for management and craft appropriate for staff requirements for each phase of construction. The staging area would be shifted westward with the construction of each subsequent phase. Construction activities would also involve temporary power lines and associated mono-poles (up to 130 feet in height) in order to maintain power to the switch yard while constructing the new buildings on-site.

During this time, project construction activities would temporarily disrupt views across the project site. However, views of the existing on-site surface parking lot are minimal, as seen from surrounding public areas due to mature ornamental trees along Studebaker Road as well as other intervening structures, as seen from public areas to the east. Further, the temporary mono-poles would appear similar in character to the existing on-site infrastructure, including generation tie lines, towers, poles, and transmission facilities throughout the site. Other areas of the project site would involve minor paving activities and installation of new landscaping. These visual impacts to the existing character/quality would be temporary in nature and would cease upon project completion (including removal of the temporary 130-foot mono-poles). Therefore, impacts in this regard would be less than significant.

Long-Term Impacts

Implementation of the proposed project would result in construction of three 50-foot high battery energy storage buildings, a chiller plant, transformers, and transmission mono-poles (up to 75 feet in height) within the northern portion of the existing Alamitos Generating Station. The proposed battery energy storage buildings would be constructed within the existing surface parking lot between existing Units 1 through 4 and the switchyard. The exterior of these buildings would be constructed primarily of precast concrete panels. The cooling system for the Battery Energy Storage System (BESS) would incorporate a chiller plant, which would be located at the existing warehouse building to the east of the parking lot. In order to accommodate the chiller plant, the existing warehouse building would be demolished. The project site is also located within an area designated as Southeast Area Development Improvement Plan (SEADIP), which has a maximum height restriction of 35 feet for non-residential uses. Each of the proposed energy storage buildings would be 50 feet in height. In addition, the overhead transmission lines and mono-poles associated with the proposed project would be up to 75 feet in height. As a result, the project would require a Standards Variance for the energy storage buildings and overhead transmission lines and mono-poles.

A project is generally considered to have a significant visual/aesthetic impact if it substantially changes the character of the project site such that it becomes visually incompatible or visually unexpected when viewed in the context of its surroundings, resulting in degradation of the existing visual character or quality of the site and its surroundings. In order to adequately analyze potential impacts to character/quality, Michael Baker prepared photosimulations from specific Key View locations throughout the project area.

Key Views represent public views from both the public right-of-way and publicly accessible areas located within the viewshed of the proposed project. Key Views that may be impacted by the proposed project were determined in consultation with City staff and through site reconnaissance. Characteristics for each Key View are defined within foreground, middleground, and/or background views. Characteristics located within foreground views are located at close range and tend to dominate the view. Characteristics located within middleground views are distinguishable,

yet not as sharp as those characteristics located in the foreground views. Features located within the background views have few details and distinctions in landform and surface features. The emphasis of background views is an outline or edge. Objects in the background eventually fade to obscurity with increasing distance.

Michael Baker staff visited the site to take photographs and make observations from Key Views. The camera locations were recorded utilizing Global Positioning System (GPS) equipment. A Fuji G-617 Panoramic camera with a 1:8/105 millimeter lens was selected as the primary photographic source, as it yields an accurate representation of human visual perception. Backup photos were also taken using a Nikon D1X digital camera with a fixed 50 millimeter lens.

Six Key Views were selected for this analysis. Exhibit 4.1-1, *Key View Locations Map*, illustrates the locations of the selected Key Views. Key View selection was conducted in consultation with City staff, based on public views in the area as well as the existing topography, structures, and vegetation. The intent of analyzing these Key Views is to depict potential impacts regarding the degradation of character/quality as a result of the proposed project.

Key View 1. This Key View looking southeast along the Long Beach Bikeway Route 10 (approximately 13 feet above mean sea level [msl]) provides pedestrian/bicyclist views of the proposed project; refer to Exhibit 4.1-2, *Key View 1*. These views encompass foreground views of Los Cerritos Channel and middleground views of the project site. Upon construction of the project, the new buildings would be visible. However, existing and proposed landscaping would remain in foreground views, softening the hardscape. Further, all new structures would be located under the existing visible tree line. Overall, the proposed condition would appear similar in character to the existing condition.

Key View 2. Views from Key View 2 (approximately 13 feet above msl) are afforded from eastbound views toward the project site from the project entrance; refer to Exhibit 4.1-3, *Key View 2*. Existing visible features include mature trees and the existing on-site facility. Development of the proposed project would construct new buildings within view of the project entrance and would result in new transmission lines and associated pole features. These new project features would not appear to be higher than existing features on-site that remain. Further, existing mature trees and new landscaping would be visible from this view. Overall, the proposed condition would appear similar in character to the existing condition.

Key View 3. Views from Key View 3 (approximately 21 feet above msl) are southwest views along the San Gabriel River Bike Trail, afforded by pedestrian/bicyclist; refer to Exhibit 4.1-4, *Key View 3*. Foreground views of the San Gabriel River and associated vegetation are afforded. Middleground views include the existing Alamitos Generating Station. Construction of the proposed project would result in three new buildings on-site. Proposed buildings would screen views to other on-site infrastructure, as seen from this Key View. Further, no new facilities would appear higher than the existing infrastructure on-site. Overall, construction of the proposed project would result in a similar character compared to the existing condition.

Key View 4. Views from Key View 4 (approximately 12 feet above msl) are southern views toward the project site from the single family residential development (College Estates) to the north; refer to Exhibit 4.1-5, *Key View 4*. Existing views encompass single family residential uses. Middleground views of existing overhead transmission lines and towers or poles are present. Upon construction of the proposed project, no project features would be visible from this Key View.

Key View 5. Views from Key View 5 (approximately 11 feet above msl) are southeastern views along the Long Beach Bikeway Route 10 that provide pedestrian/bicyclist views and institutional views (from Charles F. Kettering Elementary School) toward the proposed project; refer to Exhibit 4.1-6, *Key View 5*. These views encompass foreground views of Los Cerritos Channel and middleground views of the project site. Upon construction of the project, the new buildings would be nominally visible. Existing and proposed landscaping would remain in foreground views, softening the hardscape. Further, no new facilities would appear higher than the existing infrastructure on-site. Overall, the proposed condition would appear similar in character to the existing condition.

Source: Google Earth 2015.

- Proposed BESS Location
- Proposed Parking and Landscape Improvements

NOT TO SCALE

Michael Baker INTERNATIONAL

10/16 • JN 153317 [147442]

ALAMITOS GENERATING STATION
BATTERY ENERGY STORAGE SYSTEM PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Key View Locations Map

Exhibit 4.1-1

EXISTING CONDITION

PROPOSED CONDITION

NOT TO SCALE

Michael Baker INTERNATIONAL

10/16 • JN 153317 [147442]

ALAMITOS GENERATING STATION
BATTERY ENERGY STORAGE SYSTEM PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Key View 1

Exhibit 4.1-2

EXISTING CONDITION

PROPOSED CONDITION

NOT TO SCALE

Michael Baker INTERNATIONAL

10/16 • JN 153317 [147442]

ALAMITOS GENERATING STATION
BATTERY ENERGY STORAGE SYSTEM PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Key View 2

Exhibit 4.1-3

EXISTING CONDITION

PROPOSED CONDITION

NOT TO SCALE

Michael Baker INTERNATIONAL

10/16 • JN 153317 [147442]

ALAMITOS GENERATING STATION
BATTERY ENERGY STORAGE SYSTEM PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Key View 3

Exhibit 4.1-4

EXISTING CONDITION

PROPOSED CONDITION

- Proposed Project (Not Visible)

NOT TO SCALE

Michael Baker INTERNATIONAL

10/16 • JN 153317 [147442]

ALAMITOS GENERATING STATION
BATTERY ENERGY STORAGE SYSTEM PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Key View 4

Exhibit 4.1-5

EXISTING CONDITION

PROPOSED CONDITION

ALAMITOS GENERATING STATION
BATTERY ENERGY STORAGE SYSTEM PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Key View 5

Exhibit 4.1-6

NOT TO SCALE

Michael Baker INTERNATIONAL

Key View 6. Views from Key View 6 (approximately 12 feet above msl) are eastern views toward the project site from the single family residential development (University Park Estates) to the west; refer to Exhibit 4.1-7, *Key View 6*. Existing views encompass single family residential uses. Upon construction of the proposed project, portions of the new structures would be visible from this Key View. Proposed structures would be partially obstructed by existing mature trees located along the perimeter of the project site. Further, proposed coloring of the new structures (gray concrete tilt-up construction) would blend in with the existing vegetation. Thus, although nominal portions of the new structures would be visible, the proposed condition would appear similar in character to the existing condition.

Conclusion

The proposed structures and transmission poles would appear similar in character as the existing surrounding industrial uses. The existing on-site power plant structures include seven Heat-Recovering Generating Station (HRSG) units, which include six stacks that are over 200 feet high, as well as scaffold-covered structures to the south, and administration office and warehouse buildings at the east end of the site. There are existing high voltage H-frame structures for connecting the existing generator units 1 through 4 and transmission towers for connecting the existing generator units 5 and 6 to the Southern California Edison (SCE) switchyard. These existing transmission towers are approximately 200 feet in height. Upon completion of the proposed project, interconnection of the existing generators would be terminated and these associated support structures (H-frame structures and transmission towers) would be removed. Other visible structures in the vicinity include the SCE switchyard and transmission facilities, which are located to the north of the Generating Station facility. These transmission towers appear to be generally over 100 feet in height as well. While the project would result in the development of new structures and transmission poles (75 feet in height) within the project site, these new structures would appear compatible with the massing and scale of the existing industrial facilities at the Alamitos Generating Station (and Haynes Generating Station to the southeast) and would not substantially change the aesthetic character of the area. As noted above, numerous existing H-frame structures and transmission towers would be removed upon completion of the project, resulting in an overall reduction in the towers/structures at the project site. Further, the existing mature ornamental trees along Studebaker Road would obstruct the majority of public views to the project site, as seen from residential uses to the west. Moreover, the project would also result in an overall increase in landscaping on-site (refer to Exhibit 2-3).

As the proposed infrastructure would appear similar in character to the existing site and the project would result in increased landscaping, the resultant character/quality experienced at the project site, as seen from the surrounding community, would not be degraded compared to the existing condition. Less than significant impacts would result in this regard.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact With Mitigation Incorporated. There are two primary sources of light: light emanating from building interiors that pass through windows and light from exterior sources (i.e., street lighting, parking lot lighting, building illumination, security lighting, and landscape lighting). Depending upon the location of the light source and its proximity to adjacent light sensitive uses, light introduction can be a nuisance, affecting adjacent areas and diminishing the view of the clear night sky.

The proposed project is located within a developed area of the City of Long Beach. Currently, light is being emitted from the project site as a result of security lighting in the surface parking lot and vehicle headlights accessing the parking lot as well as other security lighting within the Alamitos Generating Station. Additionally, areas surrounding the project site are urbanized and contain various sources of light and glare. Specifically, light and glare in the area is generated from the light emanating from building interiors and light from exterior sources (i.e., building illumination, parking lot lighting, and security lighting) associated with adjacent industrial and residential land uses. Light and glare caused by car headlights and street lighting associated with Studebaker Road adjacent the project site further influence lighting in the project area.

EXISTING CONDITION

PROPOSED CONDITION

NOT TO SCALE

Michael Baker INTERNATIONAL

10/16 • JN 153317 [147442]

ALAMITOS GENERATING STATION
BATTERY ENERGY STORAGE SYSTEM PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Key View 6

Exhibit 4.1-7

The project may result in impacts related to light and glare during the short-term construction process. Some phases of the construction (e.g., continuous pouring of concrete during hot weather) would require 24-hour continuous operations. These nighttime construction activities would require safety lighting that could result in light/glare impacts. However, implementation of the recommended Mitigation Measure AES-1 would require using the minimum amount of lighting necessary to safely conduct construction activities, and would require orientation of any lighting directly towards the construction area and away from surrounding receptors, to the extent practicable. Moreover, it should be noted that existing landscaping along the east side of Studebaker Road would also shield construction-related nighttime safety lighting from the residential uses to the west. Upon implementation of Mitigation Measure AES-1, short-term impacts in this regard would be less than significant.

As part of the project's long-term operations, lighting would be included for security purposes around each battery energy storage building and the proposed chiller plant. Compliance with Mitigation Measure AES-2 would minimize the project's lighting impacts through the use of lighting design, shielding, direction, and siting techniques to minimize spillover onto adjacent properties. All lighting would be required to utilize directional lighting techniques (without compromising site safety or security) that direct light downwards and minimize light spillover onto adjacent light sensitive receptors. Implementation of Mitigation Measure AES-2 would ensure that long-term (operational) light and glare impacts as a result of the project would be reduced to less than significant levels.

Mitigation Measures:

AES-1 For any nighttime construction required for the project, the City of Long Beach Development Services Department shall ensure that the contract documents require the construction contractor to use the minimum amount and intensity of lighting required for safety and construction purposes. The lighting shall be shielded and directed towards the specific area of construction, and away from surrounding sensitive uses to the extent practicable.

AES-2 The project applicant shall ensure that any exterior lighting does not spill over onto the adjacent uses. Prior to issuance of any building permit, the project applicant shall prepare and submit an Outdoor Lighting Plan to the City of Long Beach Development Services Department, for review and approval, that includes a footcandle map illustrating the amount of light from the proposed project at adjacent light sensitive receptors. All exterior light fixtures shall be shielded or directed away from adjoining uses.

4.2 AGRICULTURE AND FORESTRY RESOURCES

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

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

No Impact. The proposed project would be constructed within the Alamitos Generating Station facility. The project site has been previously disturbed by development and does not contain any farmland. No farmland exists within the site vicinity. In addition, based on the California Department of Conservation mapping, *Important Farmland In California, 2010*, the proposed project site is not associated with an area designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.[1] Based on the map, the project site and surrounding areas are urban and built-up lands. Thus, no impacts would occur in this regard.

***Mitigation Measures*:** No mitigation is required.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The project site and its surrounding areas are designated "Planned Development District 1 (PD-1), Subarea 19" by the *City of Long Beach Zoning Map*. No zoning for agricultural use currently applies to the project

[1] California Department of Conservation Farmland Mapping and Monitoring Program, *California Important Farmland Finder,* http://www.conservation.ca.gov/dlrp/fmmp, accessed on June 8, 2016.

site and surrounding areas. Additionally, the project site is not a part of a Williamson Act contract. Thus, no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

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

No Impact. Refer to Responses 4.2(a) and 4.2(b). No zoning for forest land or timberland exists within the project site, and no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. Refer to Responses 4.2(b) and 4.2(c). No impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. As stated above in Responses 4.2(a) through 4.2(c), the project site occurs within an urbanized area and are void of agricultural or forest resources. Thus, there is no potential for the conversion of these resources and no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

4.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
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?			✓	

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

Less Than Significant Impact. The proposed project is located within the South Coast Air Basin (Basin), which is governed by the South Coast Air Quality Management District (SCAQMD). Consistency with the SCAQMD *2012 Air Quality Management Plan for the South Coast Air Basin* (*2012 AQMP*) means that a project is consistent with the goals, objectives, and assumptions set forth in the *2012 AQMP* that are designed to achieve Federal and State air quality standards. According to the SCAQMD CEQA Air Quality Handbook, in order to determine consistency with the *2012 AQMP*, two main criteria must be addressed:

Criterion 1:

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.

a) Would the project result in an increase in the frequency or severity of existing air quality violations?

Since the consistency criteria identified under the first criterion pertains to pollutant concentrations, rather than to total regional emissions, an analysis of the project's pollutant emissions relative to localized pollutant concentrations is used as the basis for evaluating project consistency. As discussed in Response 4.3(d), below, localized concentrations of carbon monoxide (CO), nitrogen oxides (NO_X), and particulate matter (PM_{10} and $PM_{2.5}$) would be less than significant. Therefore, the proposed project would not result in an increase in the frequency or severity of existing air quality violations. Because reactive organic gasses (ROGs) are not a criteria pollutant, there is no ambient standard or localized threshold for ROGs. Due to the role ROGs plays in ozone formation, it is classified as a precursor pollutant and only a regional emissions threshold has been established.

b) Would the project cause or contribute to new air quality violations?

As discussed below in Response 4.3(b), the proposed project would result in emissions that would be below the SCAQMD thresholds. Therefore, the proposed project would not have the potential to cause or affect a violation of the ambient air quality standards.

c) *Would the project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?*

The proposed project would result in less than significant impacts with regard to localized concentrations during project construction. As such, the proposed project would not delay the timely attainment of air quality standards or AQMP emissions reductions.

Criterion 2:

With respect to the second criterion for determining consistency with SCAQMD and Southern California Association of Governments (SCAG) air quality policies, it is important to recognize that air quality planning within the Basin focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining project consistency focuses on whether or not the proposed project exceeds the assumptions utilized in preparing the forecasts presented in the AQMP. Determining whether or not a project exceeds the assumptions reflected in the AQMP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

a) *Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the AQMP?*

A project is consistent with the AQMP in part if it is consistent with the population, housing, and employment assumptions that were used in the development of the AQMP. In the case of the *2012 AQMP*, three sources of data form the basis for the projections of air pollutant emissions: the *City of Long Beach General Plan* (*General Plan*), SCAG's *Growth Management* Chapter of the *Regional Comprehensive Plan and Guide* (*RCPG*), and SCAG's *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy* (*RTP/SCS*). The *RTP/SCS* also provides socioeconomic forecast projections of regional population growth. The project site is designated Mixed Use District (LUD No. 7), which is intended to permit a combination of land uses including, but are not limited to, employment centers such as retail, offices, medical facilities; high density residences; visitor-serving facilities; personal and professional services; or recreational facilities. The project proposes the construction of three battery energy storage buildings and associated facilities to provide electrical service for SCE. As discussed in Section 4.13, *Population and Housing*, the project would not have the capacity to result in significant population growth as the estimated population growth associated with the project would be at most up to five full-time employees. Therefore, the proposed project is considered consistent with the *General Plan*, and is consistent with the types, intensity, and patterns of land use envisioned for the site vicinity in the RCPG. The population, housing, and employment forecasts, which are adopted by SCAG's Regional Council, are based on the local plans and policies applicable to the City. Additionally, as the SCAQMD has incorporated these same projections into the *2012 AQMP*, it can be concluded that the proposed project would be consistent with the projections.

b) *Would the project implement all feasible air quality mitigation measures?*

The proposed project would result in less than significant air quality impacts. Compliance with emission reduction measures identified by the SCAQMD would be required as identified below in Response 4.3(b). As such, the proposed project meets this AQMP consistency criterion.

c) *Would the project be consistent with the land use planning strategies set forth in the AQMP?*

The proposed project would serve to implement various policies set forth by the City and SCAG. The proposed project is located within a developed portion of the City. The project site is located within an industrial area and is in the vicinity of a mix of uses including industrial, residential, and institutional.

In conclusion, the determination of AQMP consistency is primarily concerned with the long-term influence of a project on air quality in the Basin. The proposed project would not result in a long-term impact on the region's ability to meet State and Federal air quality standards. As discussed above, the proposed project's long-term influence would also be consistent with the goals and policies of the AQMP and is, therefore, considered consistent with the SCAQMD's *2012 AQMP*.

Mitigation Measures: No mitigation is required.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less Than Significant Impact With Mitigation Incorporated.

Short-Term (Construction) Emissions

Construction Emissions

Future construction of the project site would generate short-term air quality impacts. Construction equipment would include excavators, concrete/industrial saws, cranes, forklifts, generator sets, pavers, rollers, rubber tired dozers, tractors, loaders, backhoes, paving equipment, and welders. Exhaust emission factors for typical diesel-powered heavy equipment are based on the California Emissions Estimator Model (CalEEMod) program defaults. Variables factored into estimating the total construction emissions include the level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and the amount of materials to be transported on- or off-site. The analysis of daily construction emissions has been prepared utilizing CalEEMod. Table 4.3-1, *Construction Air Emissions*, presents the anticipated daily short-term construction emissions.

Table 4.3-1
Construction Air Emissions

Construction Emissions Source	Pollutant (pounds/day)[1]					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Year 1						
Unmitigated Emissions	9.50	73.97	100.71	0.21	25.47	14.94
Mitigated Emissions[2]	9.50	73.97	100.71	0.21	12.86	7.13
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	***No***	***No***	***No***	***No***	***No***	***No***
Year 2						
Unmitigated Emissions	8.81	66.83	96.11	0.21	14.00	5.53
Mitigated Emissions[2]	8.81	66.83	96.11	0.21	13.62	5.47
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	***No***	***No***	***No***	***No***	***No***	***No***

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = particulate matter up to 10 microns; $PM_{2.5}$ = particulate matter up to 2.5 microns

Notes:
1. Emissions were calculated using the California Emissions Estimator Model, as recommended by the SCAQMD.
2. As depicted in this table, the recommended mitigation measures would be required to ensure compliance with SCAQMD Rules and Regulations, which would be verified and enforced through the City's development review process. The reduction/credits for construction emission mitigations are based on mitigation included in CalEEMod and as typically required by the SCAQMD. The mitigation includes the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stock piles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour.
3. Refer to Appendix A, *Air Quality/Greenhouse Gas Data*, for assumptions used in this analysis.

Fugitive Dust Emissions

Construction activities are a source of fugitive dust emissions that may have a substantial, temporary impact on local air quality. In addition, fugitive dust may be a nuisance to those living and working in the project area. Fugitive dust emissions are associated with land clearing, ground excavation, cut-and-fill, and truck travel on unpaved roadways (including demolition as well as construction activities). Fugitive dust emissions vary substantially from day to day, depending on the level of activity, specific operations, and weather conditions. Fugitive dust from grading, excavation, and construction is expected to be short-term and would cease upon project completion. Additionally, most of this material is inert silicates, rather than the complex organic particulates released from combustion sources, which are more harmful to health.

Dust (larger than 10 microns) generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular health concern is the amount of PM_{10} (particulate matter smaller than 10 microns) generated as a part of fugitive dust emissions. PM_{10} poses a serious health hazard alone or in combination with other pollutants. $PM_{2.5}$ is mostly produced by mechanical processes. These include automobile tire wear, industrial processes such as cutting and grinding, and re-suspension of particles from the ground or road surfaces by wind and human activities such as construction or agriculture. $PM_{2.5}$ is mostly derived from combustion sources, such as automobiles, trucks, and other vehicle exhaust, as well as from stationary sources. These particles are either directly emitted or are formed in the atmosphere from the combustion of gases such as NO_X and sulfur oxides (SO_X) combining with ammonia. $PM_{2.5}$ components from material in the earth's crust, such as dust, are also present, with the amount varying in different locations.

Mitigation Measure AQ-1 would implement dust control techniques (i.e., daily watering), limitations on construction hours, and adherence to SCAQMD Rules 402 and 403 (which require watering of inactive and perimeter areas, track out requirements, etc.), to reduce PM_{10} and $PM_{2.5}$ concentrations. As depicted in Table 4.3-1, total PM_{10} and $PM_{2.5}$ emissions would not exceed the SCAQMD thresholds during construction. Therefore, impacts would be less than significant.

Construction Equipment and Worker Vehicle Exhaust

Exhaust emissions from construction activities include emissions associated with the transport of machinery and supplies to and from the project site, employee commutes to the project site, emissions produced on-site as the equipment is used, and emissions from trucks transporting materials to/from the site. As presented in Table 4.3-1, construction equipment and worker vehicle exhaust emissions would not exceed the established SCAQMD threshold for all criteria pollutants. Therefore, impacts in this regard would be less than significant.

ROG Emissions

In addition to gaseous and particulate emissions, the application of asphalt and surface coatings creates ROG emissions, which are O_3 precursors. In accordance with the methodology prescribed by the SCAQMD, the ROG emissions associated with paving have been quantified with CalEEMod. The project proposes the installation of pre-cast concrete panels and does not require exterior architectural coatings. Based on Table 4.3-1, the proposed project would not result in an exceedance of ROG emissions and impacts would be considered less than significant.

Naturally Occurring Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by State, Federal, and international agencies and was identified as a toxic air contaminant by the California Air Resources Board in 1986.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed. According to the Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report* (August 2000), serpentinite and ultramafic rocks are not known to occur within the project area. Thus, there would be no impact in this regard.

Total Daily Construction Emissions

In accordance with the SCAQMD Guidelines, CalEEMod was utilized to model construction emissions for ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. CalEEMod allows the user to input mitigation measures such as watering the construction area to limit fugitive dust. Mitigation measures that were input into CalEEMod allow for certain reduction credits and result in a decrease of pollutant emissions. Reduction credits are based upon studies developed by CARB, SCAQMD, and other air quality management districts throughout California, and were programmed within CalEEMod. As indicated in Table 4.3-1, CalEEMod calculates the reduction associated with recommended mitigation measures.

As indicated in Table 4.3-1, impacts would be less than significant for all criteria pollutants during construction. In accordance with SCAQMD Rules 402 and 403, the project would be required to implement Mitigation Measure AQ-1 to reduce PM_{10} and $PM_{2.5}$ emissions resulting from fugitive dust. Thus, construction related air emissions would be less than significant with mitigation incorporated.

Long-Term (Operational) Emissions

Mobile Source Emissions

Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ are all pollutants of regional concern (NO_X and ROG react with sunlight to form O_3 [photochemical smog], and wind currents readily transport SO_X, PM_{10}, and $PM_{2.5}$). However, CO tends to be a localized pollutant, dispersing rapidly at the source.

The project would generate a nominal number of traffic trips, as the project is only expected to require a maximum of five new employees. Table 4.3-2, *Long-Term Operational Air Emissions*, presents the anticipated mobile source emissions. As shown in Table 4.3-2, unmitigated emissions generated by vehicle traffic associated with the proposed project would not exceed established SCAQMD thresholds.

Area Source Emissions

Area source emissions would be generated due to an increased demand for consumer products, architectural coating, and landscaping. As shown in Table 4.3-2, area source emissions from the proposed project would not exceed SCAQMD thresholds for ROG, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$. Impacts from operational air emissions would be less than significant.

Table 4.3-2
Long-Term Operational Air Emissions

Emissions Source	Pollutant (pounds/day)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area Source Emissions	41.42	0.00	0.07	0.00	0.00	0.00
Energy Emissions	0.00	0.07	0.06	0.00	0.00	0.00
Mobile Emissions	0.65	0.21	0.79	0.00	0.19	0.52
Total Emissions	***41.49***	***0.28***	***0.92***	***0.00***	***0.19***	***0.06***
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Is Threshold Exceeded? (Significant Impact?)	***No***	***No***	***No***	***No***	***No***	***No***

Notes:
1. Based on CalEEMod modeling results, worst-case seasonal emissions for area and mobile emissions have been modeled.
2. Refer to Appendix A, *Air Quality/Greenhouse Gas Data*, for assumptions used in this analysis.

Energy Source Emissions

Energy source emissions would be generated as a result of electricity and natural gas (non-hearth) usage associated with the proposed project. The primary use of electricity and natural gas by the project would be for space heating and cooling, water heating, ventilation, lighting, appliances, and electronics. As shown in Table 4.3-2, energy source emissions from the proposed project would not exceed SCAQMD thresholds for ROG, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$.

Mitigation Measures:

AQ-1 Prior to issuance of any Grading Permit, the City of Long Beach City Engineer shall confirm that the Grading Plan and specifications stipulate that, in compliance with SCAQMD Rule 403, excessive fugitive dust emissions shall be controlled by regular watering or other dust prevention measures, as specified in the SCAQMD's Rules and Regulations. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Implementation of the following measures would reduce short-term fugitive dust impacts on nearby sensitive receptors:

- All active portions of the construction site shall be watered every three hours during daily construction activities and when dust is observed migrating from the project site to prevent excessive amounts of dust;
- Pave or apply water every three hours during daily construction activities or apply non-toxic soil stabilizers on all parking areas and staging areas. More frequent watering shall occur if dust is observed migrating from the site during site disturbance;
- Any on-site stockpiles of debris, dirt, or other dusty material shall be enclosed, covered, or watered three times daily, or non-toxic soil binders shall be applied;
- All grading and excavation operations shall be suspended when wind speeds exceed 25 miles per hour;
- Disturbed areas shall be replaced with ground cover or paved immediately after construction is completed in the affected area;

- Track-out devices such as gravel bed track-out aprons (3 inches deep, 25 feet long, 12 feet wide per lane and edged by rock berm or row of stakes) shall be installed to reduce mud/dirt trackout from unpaved truck exit routes;
- On-site vehicle speed shall be limited to 15 miles per hour;
- Visible dust beyond the property line which emanates from the project shall be prevented to the maximum extent feasible;
- All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust prior to departing the job site; and
- Trucks associated with soil-hauling activities shall avoid residential streets and utilize City-designated truck routes to the extent feasible.

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)?

Less Than Significant Impact With Mitigation Incorporated.

Cumulative Construction Impacts

With respect to the proposed project's construction-period air quality emissions and cumulative Basin-wide conditions, the SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the *2012 AQMP* pursuant to Federal Clean Air Act (FCAA) mandates. As such, the proposed project would comply with SCAQMD Rule 403 requirements, and implement all feasible mitigation measures (Mitigation Measure AQ-1). Rule 403 requires that fugitive dust be controlled with the best available control measures in order to reduce dust so that it does not remain visible in the atmosphere beyond the property line of the proposed project. In addition, the proposed project would comply with adopted *2012 AQMP* emissions control measures. Per SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403 compliance, the implementation of all feasible mitigation measures, and compliance with adopted *2012 AQMP* emissions control measures) would also be imposed on construction projects throughout the Basin, which would include related projects.

Cumulative Long-Term Impacts

As discussed previously, the proposed project would not result in long-term air quality impacts, as emissions would not exceed the SCAQMD adopted operational thresholds. Additionally, adherence to SCAQMD rules and regulations would alleviate potential impacts related to cumulative conditions on a project-by-project basis. Emission reduction technology, strategies, and plans are constantly being developed. As a result, the proposed project would not contribute a cumulatively considerable net increase of any nonattainment criteria pollutant. Therefore, cumulative operational impacts associated with implementation of the proposed project would be less than significant.

Mitigation Measures: Refer to Mitigation Measure AQ-1.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact With Mitigation Incorporated. Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. The California Air Resources Board (CARB) has identified the following groups of

individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

The closest sensitive receptor to the project site include the Rosie the Riveter Charter High School located on the Alamitos Generating Station site. In order to identify impacts to sensitive receptors, the SCAQMD recommends addressing localized significance thresholds (LSTs) for construction and operations impacts (area sources only). The CO hotspot analysis following the LST analysis addresses localized mobile source impacts.

Localized Significance Thresholds (LST)

LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized air quality impacts. The SCAQMD provides the LST lookup tables for one, two, and five acre projects emitting CO, NO_X, $PM_{2.5}$, or PM_{10}. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources traveling over the roadways. The SCAQMD notes that any project over five acres may need to perform air quality dispersion modeling to assess impacts to nearby sensitive receptors. The project is located within Sensitive Receptor Area (SRA) 4, South Los Angeles County Coastal.

Construction

Based on the SCAQMD guidance on applying LSTs, project construction would occur on the approximately 71.42 acre site. Therefore, LST thresholds for five acres were conservatively utilized for the construction LST analysis. The nearest sensitive receptor (Rosie the Riveter Charter High School) would not be directly affected or disturbed as part of the project, but construction would occur in proximity to the school on other portions of the project site. Given the proximity to the existing school, the lowest available LST values for 25 meters were used per the LST guidance. Table 4.3-3, *Localized Significance of Construction Emissions*, shows the localized unmitigated construction-related emissions. It is noted that the localized emissions presented in Table 4.3-3 are less than those in Table 4.3-1 because localized emissions include only on-site emissions (i.e., from construction equipment and fugitive dust), and do not include off-site emissions (i.e., from hauling activities). As seen in Table 4.3-3, mitigated on-site emissions would not exceed the LSTs for SRA 4.

Table 4.3-3
Localized Significance of Construction Emissions

Source	Pollutant (pounds/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Construction				
Year 1				
Total Unmitigated On-Site Emissions[1]	53.13	43.51	25.27	14.89
Total Mitigated On-Site Emissions[1]	53.13	43.51	11.06	7.07
Localized Significance Threshold[2]	99	1,503	14	8
Thresholds Exceeded?	***No***	***No***	***No***	***No***
Year 2				
Total Unmitigated On-Site Emissions[2]	25.67	22.40	1.57	1.40
Total Mitigated On-Site Emissions[2]	25.67	22.40	1.49	1.40
Localized Significance Threshold[3]	99	1,503	14	8
Thresholds Exceeded?	***No***	***No***	***No***	***No***

Notes:
1. For construction Year 1, the site preparation phase emissions are presented as the worst case scenario.
2. For construction Year 2, the building construction phase emissions are presented as the worst case scenarios.
3. The Localized Significance Threshold was determined using Appendix C of the SCAQMD *Final Localized Significant Threshold Methodology* guidance document for pollutants NO_X, CO, PM_{10}, and $PM_{2.5}$. The Localized Significance Threshold was based on the anticipated daily acreage disturbance for construction (approximately 71.42 acres; therefore the 5-acre threshold was conservatively used), the distance to sensitive receptors, and the source receptor area (SRA 4).

Operations

As seen in Table 4.3-4, *Localized Significance of Operational Emissions*, project-related unmitigated operational area source emissions would be negligible and would be below the LSTs. Therefore, operational LST impacts would be less than significant in this regard.

Table 4.3-4
Localized Significance of Operational Emissions

Source	Pollutant (pounds/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Operational				
Unmitigated Area Source Emissions	0.00	0.03	0.00	0.00
Localized Significance Threshold[1]	99	1,503	4	2
Thresholds Exceeded?	***No***	***No***	***No***	***No***

Notes:
1. The Localized Significance Threshold was determined using Appendix C of the SCAQMD *Final Localized Significant Threshold Methodology* guidance document for pollutants NO_X, CO, PM_{10}, and $PM_{2.5}$. The Localized Significance Threshold was based on the total acreage for operational (the 5-acre threshold was conservatively used), the distance to sensitive receptors, and the source receptor area (SRA 4).

Carbon Monoxide Hotspots

CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels (i.e., adversely affecting residents, school children, hospital patients, the elderly, etc.). The SCAQMD requires a quantified assessment of CO hotspots when a project increases the volume-to-capacity ratio (also called the intersection capacity utilization [ICU]) by 0.02 (two percent) for any intersection with an existing level of service LOS D or worse. Because traffic congestion is highest at intersections where vehicles queue and are subject to reduced speeds, these hot spots are typically produced at intersections.

As noted previously, the project involves the construction of three battery energy storage buildings and associated facilities, as well as landscaping. Operational vehicle trips would be nominal since the project would require a maximum of five new employees. As traffic generation associated with the proposed battery energy storage facilities would be nominal, it would not be of sufficient volume to increase the ICU of nearby intersections to warrant a CO hotspot analysis.

Mitigation Measures: Refer to Mitigation Measure AQ-1.

e) Create objectionable odors affecting a substantial number of people?

Less Than Significant Impact. According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project does not include any uses identified by the SCAQMD as being associated with odors.

The proposed project would result in the construction of three battery energy storage buildings, a chiller plant, transformers, and associated transmission lines and towers, as well as parking and landscaping. Construction activities associated with the project may generate detectable odors from heavy-duty equipment exhaust. Construction-related odors would be short-term in nature and cease upon project completion. Any impacts to existing adjacent land uses would be short-term and are less than significant.

Mitigation Measures: No mitigation is required.

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4.4 BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife 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 Wildlife or U.S. 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?				✓

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

Less Than Significant Impact With Mitigation Incorporated. The project site has been previously disturbed and is located within an urbanized area. The project site would be located within the existing Alamitos Generating Station which is bounded on the east side by the San Gabriel River, a channelized flood control waterway, and on the west side by Studebaker Road and Los Cerritos Channel. The project site has been previously graded and developed with the existing Generating Station facility. No endangered, rare, threatened, or special status plant species (or associated habitats) or wildlife species designated by the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), or California Native Plant Society (CNPS) are known to occur within the boundaries of the project site. Implementation of the BESS would not result in a substantial adverse effect, either directly or through habitat modifications, on any sensitive species. While a minor amount of ornamental landscaping may be affected, impacts to sensitive biological resources are not anticipated given the disturbed nature of the project site. According to Section 5.2, Biological Resources, of the *Alamitos Energy Center Application for Certification* (AFC) prepared by CH2M Hill (docketed February 2014), approximately 2,400 feet west of the Alamitos Generating Station, the Los Cerritos Wetlands provide potential nesting and foraging habitat for California least tern. Special-status bat species including western mastiff bat (*Eumops perotis*) and big free-tailed bat (*Nyctinomops*

macrotis) may also use these areas for foraging. Additionally, the salt marsh wetlands, pannes, and beaches located within a 10-mile radius of the Alamitos Generating Station provide suitable nesting habitat for special-status birds including, Belding's savanna sparrow and California least tern as well as a number of other bird species. The operations of the project would not result in the loss of any potential nesting and foraging habitat. However, potential temporary impacts from construction and demolition activities on nesting foraging birds could primarily occur due to noise generated by these activities.

Since the proposed project may result in the removal of ornamental vegetation in various locations of the project site, the proposed project could result in potential impacts to nesting birds protected by the Migratory Bird Treaty Act (MBTA). The MBTA prohibits activities that result in the direct take (defined as killing or possession) of a migratory bird. The proposed project has the potential to impact nesting birds if construction activities occur during the nesting season. However, Mitigation Measure BIO-1 has been provided to reduce impacts in this regard to less than significant levels.

Mitigation Measures:

BIO-1 If ground-disturbing activities or removal of any trees, shrubs, or any other potential nesting habitat are scheduled within the avian nesting season (nesting season generally extend from February 1 - August 31), a pre-construction clearance survey for nesting birds shall be conducted within 3 days prior to any ground disturbing activities.

The biologist conducting the clearance survey shall document the negative results if no active bird nests are observed on the project site or within the vicinity during the clearance survey with a brief letter report indicating that no impacts to active bird nests would occur before construction can proceed. If an active avian nest is discovered during the pre-construction clearance survey, construction activities shall stay outside of a 300-foot buffer around the active nest. For raptor species, this buffer shall be 500 feet. A biological monitor shall be present to delineate the boundaries of the buffer area and to monitor the active nest to ensure that nesting behavior is not adversely affected by the construction activity. Results of the pre-construction survey and any subsequent monitoring shall be provided to the California Department of Fish and Wildlife (CDFW) and other appropriate agencies.

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 U.S. Fish and Wildlife Service?

Less Than Significant Impact With Mitigation Incorporated. While no known riparian habitats or sensitive natural communities are present on-site, there is a potential for impacts to migratory birds within existing trees that may be affected by the project and in the immediate area during project construction; refer to Response 4.4(a). Mitigation Measure BIO-1 has been included to ensure that any potential impacts to species in riparian habitat are less than significant.

Mitigation Measures: Refer to Mitigation Measure BIO-1.

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?

Less Than Significant Impact. There are no federally protected wetlands present on the project site, since the project site is developed with industrial facilities, paved areas, and ornamental vegetation. According to the AFC, the Alamitos Generating Station is located approximately 2,400 feet west of the Los Cerritos Wetlands, which provide estuarine habitat. However, this wetland would not be affected by the proposed project. Erosion and sediment control Best Management Practices (BMPs) would be implemented during construction and demolition in accordance

with the Stormwater Pollution Prevention Plan (SWPPP) required by the State's General Construction Permit for construction projects over 1 acre in size. Appropriate BMPs and existing on-site stormwater pollution prevention controls would be implemented to avoid any adverse effects to the Los Cerritos Wetlands or other wetlands. Thus, project implementation would not impact federally protected wetlands through direct removal, filling, hydrological interruption or other means. Impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. The proposed battery energy storage buildings and associated facilities would be constructed on previously graded and developed areas that contain no biological resources other than ornamental landscaped features. The construction laydown area for the proposed project would also be within paved areas on the existing industrial site. The project site is surrounded by urban uses; therefore, the site does not function as a wildlife movement corridor. Project implementation would not interfere 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. Thus, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

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

No Impact. Vegetation removal associated with the proposed project is anticipated to be limited primarily to removal of ornamental trees and landscaping. The project proposes to retain the existing landscaping located at and adjacent to the Rosie the Riveter Charter High School, the existing open space south the of Rosie the Riveter Charter High School, as well as various trees located throughout the project site. New landscaping would be included on the east side of the proposed chiller plant, as well as along the proposed open space that borders the project site along the eastern, southern, and western perimeters. Additional proposed landscaping would border the existing channel inlets at the Generating Station as well. Chapter 14.28 of the *LBMC* contains regulations on tree and shrub planting, removal, and maintenance, including the protection of all trees located along the street, alley, court, or other public place during construction activities. However, implementation of the proposed project would not have any impacts to street trees or other trees within publicly-owned areas. Consequently, the proposed project site would not conflict with any local policies protecting biological resources. Thus, no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

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?

No Impact. According to the U.S. Fish and Wildlife Service's *HCP/NCCP Planning Areas in Southern California Map*[1] and *California Regional Conservation Plans Map*[2] the proposed project site is neither located within Natural Community Conservation Plan (NCCP) nor Habitat Conservation Plan (HCP). As such, there would be no impact in this regard.

Mitigation Measures: No mitigation is required.

[1] U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, *HCP/NCCP Planning Areas in Southern California*, October 2008.

[2] California Department of Fish and Wildlife, *California Regional Conservation Plans Map*, August 2015.

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4.5 CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in 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 geologic feature?		✓		
d. Disturb any human remains, including those interred outside of dedicated cemeteries?			✓	

a) Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5?

Less Than Significant Impact. The project site is not located within proximity to historical land mark locations or within a designated Historic District, as shown on Figure 12, *City of Long Beach Designated Landmarks*, and Figure 13, *City of Long Beach Designated Historic Districts*, of the Historic Preservation Element of the *General Plan*, respectively. The only structure that would be affected by the project consists of an existing warehouse (proposed for demolition). According to the Alamitos Energy Center *Application for Certification* (AFC), this warehouse structure, nor any other features on the Alamitos Generating Station site contain any properties that met the criteria for a historic resource; the site is not associated with significant events, important persons, or distinctive characteristics of a type, period, or method of construction; representing the work of an important creative individual; or does not possess high artistic values.

The project site and surrounding areas have been completely disturbed by grading and development. According to the AFC, the former Alamitos Generating Station Fuel Oil Tank Farm was noted on-site during the cultural resources literature search. This site was not recommended for eligibility for the National Register of Historic Places (NRHP) or California Register of Historic Resources (CRHR), which is further discussed as follows:

Site P-19-186880 (Alamitos Generating Station Fuel Oil Tank Farm). The Alamitos Generating Station Fuel Oil Tank Farm is an historic period built resource. The tank farm is a large-capacity petroleum storage tank farm, first recorded by Ivan Strudwick in 2004. The tank farm was part of the original SCE Alamitos Generating Station built in 1955 and consisted of four large-capacity petroleum fuel storage tanks, each measuring 40 feet high and 60 feet in diameter (Strudwick, 2004). This site was evaluated as not eligible for the NRHP or CRHR, and the fuel tanks were removed in 2010.

Thus, project implementation would not cause a substantial adverse change in the significance of a historical resource, and impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5?

Less Than Significant Impact With Mitigation Incorporated. The majority of underground work would be conducted within artificial fill materials, as the Alamitos Generating Station was constructed on artificial fill to a depth

of 9 feet below ground surface. Further, prior to significant land development in the 1900s, the proposed site and surrounding area was a tidal flat environment with high groundwater levels at approximately 10 feet below ground surface or less. As a result, intact archaeological deposits below the artificial fill are unlikely.[1]

No known archaeological resources exist within the boundaries of the site. However, the site may have a sensitivity to unknown resources due to its proximity to the San Gabriel River, Los Cerritos Channel, and the Pacific Ocean. Although it is not expected that archaeological resources would be encountered during construction due to previous disturbance at the site and depths to native soils, the project would require excavation to remove the existing surface parking lot and warehouse building foundation and implement structural foundations for the proposed battery energy storage buildings and the chiller plant. As such, Mitigation Measure CUL-1 is provided in the unlikely event such resources are discovered during the grading and excavation process. Upon implementation of the recommended mitigation measure, impacts would be reduced to a less than significant level. Impacts related to tribal cultural resources are discussed in Section 4.17, *Tribal Cultural Resources*.

Mitigation Measures:

CUL-1 If evidence of subsurface archaeological resources is found during construction, excavation, and other construction activity in that area shall cease and the construction contractor shall contact the City of Long Beach Development Services Department. With direction from the Development Services Department, an archaeologist certified by the County of Los Angeles shall be retained to evaluate the discovery prior to resuming grading in the immediate vicinity of the find. If warranted, the archaeologist shall collect the resource and prepare a technical report describing the results of the investigation. The test-level report shall evaluate the site including discussion of significance (depth, nature, condition, and extent of the resources), final mitigation recommendations, and cost estimates.

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

Less Than Significant Impact With Mitigation Incorporated. As noted in Response 4.5(b), the site exists within a highly developed area and the project site has been completely disturbed by development. No known paleontological resources exist within the boundaries of the site, and the site occurs over artificial fill. Although it is not expected that paleontological resources would be encountered during construction, the project would require excavation for project improvements. Thus, ground-disturbing activities could unearth undocumented subsurface paleontological resources. As such, Mitigation Measure CUL-2 is provided in the unlikely event such resources are discovered during the grading and excavation process. Upon implementation of the recommended mitigation measure, impacts would be less than significant.

Mitigation Measures:

CUL-2 If evidence of subsurface paleontological resources is found during construction, excavation and other construction activity in that area shall cease and the construction contractor shall contact the City of Long Beach Development Services Department. With direction from the Development Services Department, a paleontologist certified by the County of Los Angeles shall evaluate the find. If warranted, the paleontologist shall prepare and complete a standard Paleontological Resources Mitigation Program for the salvage and curation of identified resources.

d) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact. No conditions exist that suggest human remains are likely to be found on the project site. Due to the level of past disturbance on-site, it is not anticipated that human remains, including those interred

[1] AES, *Alamitos Energy Center Application for Certification 13-AFC-01*, December 27, 2013.

outside of formal cemeteries, would be encountered during earth removal or disturbance activities. If human remains are found, those remains would require proper treatment, in accordance with applicable laws. State of California Public Resources Health and Safety Code Section 7050.5-7055 describe the general provisions for human remains. Specifically, Health and Safety Code Section 7050.5 describes the requirements if any human remains are accidentally discovered during excavation of a site. As required by State law, the requirements and procedures set forth in Section 5097.98 of the California Public Resources Code would be implemented, including notification of the County Coroner, notification of the Native American Heritage Commission and consultation with the individual identified by the Native American Heritage Commission to be the "most likely descendant." If human remains are found during excavation, excavation must stop in the vicinity of the find and any area that is reasonably suspected to overlay adjacent remains until the County coroner has been called out, and the remains have been investigated and appropriate recommendations have been made for the treatment and disposition of the remains. Following compliance with existing State regulations, which detail the appropriate actions necessary in the event human remains are encountered, impacts in this regard would be considered less than significant.

Mitigation Measures: No mitigation is required.

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4.6 GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			✓	
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) 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.

Less Than Significant Impact. Southern California, including the project area, is subject to the effects of seismic activity due to the active faults that traverse the area. Active faults are defined as those that have experienced surface displacement within Holocene time (approximately the last 11,000 years) and/or are in a State-designated Alquist-Priolo Earthquake Fault Zone.

According to the Figure 2, *Fault Map with Special Study Zones*, of the Seismic Safety Element of the *General Plan*, no Alquist-Priolo Earthquake Fault Zones traverse the project site. An Alquist-Priolo Special Study zone is located approximately 0.5 mile to the southwest of the project site. The probability of damage due to surface ground rupture within the project site is low due to the distance to the known active faults and special study zones. Thus, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

2) Strong seismic ground shaking?

Less Than Significant Impact. Southern California has numerous active seismic faults subjecting residents to potential earthquake and seismic-related hazards. Seismic activity poses two types of potential hazards for residents and structures, categorized either as primary or secondary hazards. Primary hazards include ground rupture, ground shaking, ground displacement, subsidence, and uplift from earth movement. Primary hazards can also induce secondary hazards such as ground failure (lurch cracking, lateral spreading, and slope failure), liquefaction, water waves (seiches), movement on nearby faults (sympathetic fault movement), dam failure, and fires. Both primary and secondary hazards pose a threat to the community as a result of the project's proximity to active regional faults.

The region surrounding the Long Beach area is characterized by a relatively high seismic activity. The greatest damage from earthquakes results from ground shaking. Ground shaking is generally most severe near quake epicenters and generally become weaker further out from the epicenter. Based on *2010 Fault Activity Map of California*[1], and Figure 2*, Fault Map with Special Study Zones*, of the *General Plan*, the closest major fault to the project site, along which historic (last 200 years) displacement has occurred, is the Newport-Inglewood fault which is located approximately 0.5 mile to the southwest of the project site. As such, the project site may be subject to strong seismic shaking during a seismic event, as is the case with the vast majority of areas throughout southern California.

Implementation of the proposed project would install battery energy storage buildings and associated facilities. No habitable structures are proposed. Due to the location of the project site, which is within seismically-active region, there is potential for seismic ground shaking. However, the project would be required to comply with California Building Code (CBC) standards in order to minimize the potential for damage and major injury during a seismic event. The CBC includes design requirements for construction practices, foundation design, structural seismic resistance, and site classifications. Through compliance with CBC standards, impacts associated with strong seismic ground shaking would be less than significant.

Mitigation Measures: No mitigation is required.

3) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction of cohesionless soils can be caused by strong vibratory motion due to earthquakes. Liquefaction is characterized by a loss of shear strength in the affected soil layers, thereby causing the soils to behave as a viscous liquid. Susceptibility to liquefaction is based on geologic and geotechnical data. River channels and floodplains are considered most susceptible to liquefaction, while alluvial fans have a lower susceptibility. Depth to groundwater is another important element in the susceptibility to liquefaction. Groundwater shallower than 30 feet results in high to very high susceptibility to liquefaction, while deeper water results in low and very low susceptibility.

Based on the Regulatory Map for the Los Alamitos Quadrangle prepared by the State of California Department of Conservation, the project site is subject to the potential for liquefaction.[2] According to the Figure 7, *Liquefaction Potential Area*, of the Seismic Safety Element of the *General Plan*, the project site is located within liquefaction potential significant area. Based on the *General Plan*, the consequences for liquefaction in areas designates as having a significant potential for liquefaction includes possible horizontal failure by lateral spreading and instability of containment dikes where they are present, the occurrence of sand boils and differential settlements of the order of several inches to a foot or more. The State Division of Mines and Geology has designated all areas within the City within a liquefaction hazard zone, which requires geotechnical reports for construction projects to mitigate the potential undermining of structural integrity during earthquakes. However, according to the Alamitos Energy Center *Application for Certification* (AFC), liquefaction-induced settlement at the project site would be generally less than 1

[1] State of California Department of Conservation, *2010 Fault Activity Map of California*, http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html, accessed on June 9, 2016.

[2] State of California Department of Conservation, Regulatory Map for the Los Alamitos Quadrangle, http://www.quake.ca.gov/gmaps/WH/regulatorymaps.htm, accessed on June 9, 2016.

inch. As stated above, compliance with the CBC would minimize risks related to liquefaction to a less than significant level.

Mitigation Measures: No mitigation is required.

4) Landslides?

Less Than Significant Impact. Landslides are a geologic hazard, with some moving slowly and causing damage gradually, and others moving rapidly and causing unexpected damage. Gravity is the force driving landslide movement. Factors that commonly allow the force of gravity to overcome the resistance of earth material to landslide movement include saturation by water, steepening of slopes by erosion or construction, alternate freezing or thawing, and seismic shaking.

Based on the State of California Department of Conservation, Regulatory Map for the Los Alamitos Quadrangle, the project site is not subject to potential for ground displacement and landslide. Additionally, according to the *General Plan*, slope stability in Long Beach is not a major problem as slopes generally are neither high nor steep. While slope instability is not a major consideration in overall land planning, it is a factor in designing individual sites.

In addition, there are no landforms in the project vicinity capable of producing a significant landslide event. Consequently, there is a low potential for landslides to occur on or near the proposed project site as a result of the proposed development. Therefore, there would be a less than significant impact associated with the exposure of people or structures to potential substantial adverse effects involving landslides.

Mitigation Measures: No mitigation is required.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. The primary concern in regards to soil erosion or loss of topsoil would be during the construction phase of the project. Grading and earthwork activities associated with project construction activities would expose soils to potential short-term erosion by wind and water. All demolition and construction activities would be subject to compliance with the CBC. Further, the project would be subject to compliance with the requirements set forth in the National Pollutant Discharge Elimination System (NPDES) Storm Water General Construction Permit for construction activities; refer to Response 4.9(a). The NPDES Storm Water General Construction Permit requires preparation of a Storm Water Pollution Prevention Plan (SWPPP), which would identify specific erosion and sediment control Best Management Practices (BMPs) that would be implemented to protect storm water runoff during construction activities. Compliance with the CBC and NPDES requirements would minimize effects from erosion and ensure consistency with the RWQCB Water Quality Control Plan. Following compliance with the CBC and NPDES requirements, project implementation would result in a less than significant impact regarding soil erosion.

Mitigation Measures: No mitigation is required.

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 an on-site or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less Than Significant Impact. The project site is located within a seismically-active area. As stated within Response 4.6(a)(3), impacts related to liquefaction would be less than significant and, as demonstrated in Response 4.6(a)(4), the project site would not be subject to earthquake-induced landslides.

As stated in Response 4.6(a)(4), according to the Public Safety Element of the *General Plan*, slope stability in the City of Long Beach is not a major problem as slopes generally are neither high nor steep. According to the AFC, the project site is underlain by existing fill soils and interbedded alluvial sediments. Older, undocumented fill soils are

considered potentially compressible. Some very soft to soft clayey silt and silty clay alluvial layers that are considered potentially compressible were encountered at variable depths to approximately 50 feet. Because of the high groundwater levels encountered at the site and the reported historically high groundwater, the AFC concluded that the site soils are not susceptible to hydro-collapse. Project improvements would conform to the requirements of the CBC in order to minimize the potential for hazards due to unstable soils, which would reduce impacts in this regard to less than significant levels.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. Expansive soils are defined as soils possessing clay particles that react to moisture changes by shrinking (when dry) or swelling (when wet). According to the AFC, the project site is underlain by fill and alluvial deposits. Fill generally consisting of loose to medium dense, sandy silt and clayey sand and firm, clayey silt was encountered to depths of approximately 6 to 9 feet below ground surface (bgs). Alluvial sediments consisting of interbedded layers of loose to very dense, sand, silty sand, sandy silt, clayey sand and sand with silt and very soft to stiff, clayey silt, silty clay, and silt were encountered below the fill to the depths explored of approximately 63.5 feet. Clayey soil could be subject to settlement and/or instability. However, the project area has been developed with a range of industrial and residential uses and has not experienced hazards related to expansive soils. The proposed project would comply with the CBC to minimize the potential for hazards related to expansive soil, reducing impacts to less than significant levels.

Mitigation Measures: No mitigation is required.

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?

No Impact. No septic tanks or alternative wastewater disposal systems would be constructed as part of the project, and no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

4.7 GREENHOUSE GASES

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

Global Climate Change

California is a substantial contributor of global greenhouse gases (GHGs), emitting over 450 million tons of carbon dioxide (CO_2) in 2013.[1] Climate studies indicate that California is likely to see an increase of three to four degrees Fahrenheit (ºF) over the next century. Methane (CH_4) is also an important GHG that potentially contributes to global climate change. GHGs are global in their effect, which is to increase the earth's ability to absorb heat in the atmosphere. As primary GHGs have a long lifetime in the atmosphere, accumulate over time, and are generally well-mixed, their impact on the atmosphere is mostly independent of the point of emission.

The impact of anthropogenic activities on global climate change is apparent in the observational record. Air trapped by ice has been extracted from core samples taken from polar ice sheets to determine the global atmospheric variation of CO_2, CH_4, and nitrous oxide (N_2O) from before the start of industrialization (approximately 1750), to over 650,000 years ago. For that period, it was found that CO_2 concentrations ranged from 180 parts per million (ppm) to 300 ppm. For the period from approximately 1750 to the present, global CO_2 concentrations increased from a pre-industrialization period concentration of 280 to 379 parts per million (ppm) in 2005, with the 2005 value far exceeding the upper end of the pre-industrial period range.

Regulations and Significance Criteria

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. It concluded that a stabilization of GHGs at 400 to 450 ppm, carbon dioxide equivalent (CO_2eq)[2] concentration, is required to keep global mean warming below 2 degrees Celsius (ºC), which in turn is assumed to be necessary to avoid significant levels of climate change.

Executive Order S-3-05 was issued in June 2005, which established the following GHG emission reduction targets:

- 2010: Reduce GHG emissions to 2000 levels;
- 2020: Reduce GHG emissions to 1990 levels; and
- 2050: Reduce GHG emissions to 80 percent below 1990 levels.

Issued in April 2015, Executive Order B-30-15 requires statewide GHG emissions to be reduced 40 percent below 1990 levels by 2030. Assembly Bill 32 (AB 32) requires that the California Air Resources Board (CARB) determine what the statewide GHG emissions level was in 1990, and approve a statewide GHG emissions limit that is equivalent to that level, to be achieved by 2020. CARB has approved a 2020 emissions limit of 431 million metric tons (MT) of CO2eq (MTCO2eq). Effective September 8, 2016, Senate Bill 32 (SB 32) requires the State to reduce GHG emissions to 40 percent below 1990 levels by 2030 and Assembly Bill 197 (AB 197) creates a legislative committee to oversee regulators.

[1] California Environmental Protection Agency, *California Greenhouse Gas Emission Inventory - 2015 Edition*, http://www.arb.ca.gov/cc/inventory/data/data.htm, accessed June 13, 2016.

[2] Carbon Dioxide Equivalent (CO_2eq) – A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

Due to the nature of global climate change, it is not anticipated that any single development project would have a substantial effect on global climate change. In actuality, GHG emissions from the proposed project would combine with emissions emitted across California, the United States, and the world to cumulatively contribute to global climate change.

In June 2008, the California Governor's Office of Planning and Research (OPR) published a Technical Advisory, which provides informal guidance for public agencies as they address the issue of climate change in California Environmental Quality Act (*CEQA*) documents.[3] This is assessed by determining whether a proposed project is consistent with or obstructs the 39 Recommended Actions identified by CARB in its *Climate Change Scoping Plan* which includes nine Early Action Measures (qualitative approach). The Attorney General's Mitigation Measures identify areas were GHG emissions reductions can be achieved in order to achieve the goals of AB 32. As set forth in the OPR Technical Advisory and in the proposed amendments to the *CEQA Guidelines* Section 15064.4, this analysis examines whether the project's GHG emissions are significant based on a qualitative and performance based standard (*CEQA Guidelines* Section 15064.4(a)(1) and (2)).

SCAQMD Thresholds

On December 5, 2008, the South Coast Air Quality Management District (SCAQMD) adopted GHG significance thresholds for Stationary Sources, Rules, and Plans where the SCAQMD is lead agency. The threshold uses a tiered approach. A proposed project is compared with the requirements of each tier sequentially and would not result in a significant impact if it complies with any tier. Tier 1 excludes projects that are specifically exempt from Senate Bill (SB) 97 from resulting in a significant impact. Tier 2 excludes projects that are consistent with a GHG reduction plan that has a certified final CEQA document and complies with AB 32 GHG reduction goals. Tier 3 excludes projects with annual emissions lower than a screening threshold. For industrial stationary source projects, the SCAQMD adopted a screening threshold of 10,000 $MTCO_2eq$ per year ($MTCO_2eq/yr$). This threshold was selected to capture 90 percent of the GHG emissions from these types of projects where the combustion of natural gas is the primary source of GHG emissions. For all non-industrial projects, the SCAQMD is proposing a screening threshold of 3,000 $MTCO_{2eq}/yr$. SCAQMD concluded that projects with emissions less than the screening thresholds would not result in a significant cumulative impact.

Tier 4 consists of three decision tree options. Under the Tier 4 first option, the project would be excluded if design features and/or mitigation measures resulted in emissions 30 percent lower than business as usual (BAU) emissions. Under the Tier 4 second option, the project would be excluded if it had early compliance with AB 32 through early implementation of CARB's *Climate Change Scoping Plan* measures. Under the Tier 4 third option, the project would be excluded if it was below an efficiency-based threshold of 4.8 $MTCO_2eq$ per service population (SP) per year.[4] However, the specifics of the Tier 4 compliance options were not adopted by the SCAQMD Board in order to allow further time to develop the options and coordinate with CARB's GHG significance threshold development efforts. Tier 5 would exclude projects that implement off-site mitigation (GHG reduction projects) or purchase offsets to reduce GHG emission impacts to less than the proposed screening level.

While not adopted by the SCAQMD Board, the guidance document prepared for the stationary source threshold also suggested the same tiered approach for residential and commercial projects with a 3,000 $MTCO_2eq/yr$ screening threshold. However, at the time of adoption of the industrial stationary source threshold, the SCAQMD felt additional analysis was required along with coordination with CARB's GHG significance threshold development efforts.

[3] Governor's Office of Planning and Research, *CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review*, 2008.

[4] The project-level efficiency-based threshold of 4.8 $MTCO_2eq$ per SP per year is relative to the 2020 target date. The SCAQMD has also proposed efficiency-based thresholds relative to the 2035 target date to be consistent with the GHG reduction target date of SB 375. GHG reductions by the SB 375 target date of 2035 would be approximately 40 percent. Applying this 40 percent reduction to the 2020 targets results in an efficiency threshold for plans of 4.1 $MTCO_2eq$ per SP per year and an efficiency threshold at the project level of 3.0 $MTCO_2eq/yr$.

At the November 2009 meeting of the SCAQMD GHG working group, SCAQMD staff presented two options for screening thresholds for residential and commercial projects. The first option would have different thresholds for specific land uses. The proposed threshold for residential projects is 3,500 $MTCO_2eq/yr$, the commercial threshold is 1,400 $MTCO_2eq/yr$, and the mixed-use threshold is 3,000 $MTCO_2eq/yr$. The second option would apply the 3,000 $MTCO_2eq/yr$ screening threshold for all commercial/residential projects. Lead agencies would be able to select either option. These thresholds are based on capturing 90 percent of the emissions from projects and requiring them to comply with the higher tiers of the threshold (i.e., performance requirements or GHG reductions outside of the project) to not result in a significant impact.

SCAQMD staff also presented updates for compliance options for Tier 4 of the significance thresholds. The first option would be a reduction of 23.9 percent in GHG emissions over the base case. This percentage reduction represents the land use sector portion of the CARB's *Climate Change Scoping Plan's* overall reduction of 28 percent. This target would be updated as the AB 32 *Climate Change Scoping Plan* is revised. The base case scenario for this reduction still needs to be defined. Residual emissions would need to be less than 25,000 $MTCO_2eq/yr$ to comply with the option. Staff proposed efficiency targets for the third option of 4.6 $MTCO_2eq/yr$ per service population (population plus employment) for project level analysis and 6.6 $MTCO_2eq/yr$ for plan level analyses. For project level analyses, residual emissions would need to be less than 25,000 $MTCO_2eq/yr$ to comply with this option.

At the most recent meeting of the SCAQMD GHG working group, SCAQMD staff recommended extending the 10,000 $MTCO_2eq/yr$ industrial project threshold for use by all lead agencies. The two options for land-use thresholds were reiterated with a recommendation that lead agencies use the second, 3,000 $MTCO_2eq/yr$ threshold for all non-industrial development projects. Staff indicated that they would not be recommending a specific approach to address the first option of Tier 4, Percent Emissions Reduction Target. If lead agencies enquire about using this approach, staff will reference the approach recommended by the San Joaquin Valley Air Pollution Control District and describe the challenges to using this approach. For the third option of Tier 4, SCAQMD staff re-calculated the recommended Tier 4 efficiency targets for project level analyses to 4.8 $MTCO_2eq/yr$ in 2020 and 3.0 MTCO2eq/yr in 2035. The recommended plan level analysis efficiency target remains 6.6 $MTCO_2eq/yr$ for 2020, but was lowered to 4.1 $MTCO_2eq/yr$ for 2035. SCAQMD staff also stated that they are no longer proposing to include a 25,000 $MTCO_2eq/yr$ maximum emissions requirement for compliance with Tier 4. Staff indicated that they hoped to bring the proposed GHG significance thresholds to the board for their December 2010 meeting; however, this did not occur.

For the proposed project, the 10,000 $MTCO_2eq$ per year industrial screening threshold is used as the significance threshold, in addition to the qualitative thresholds of significance set forth below from Section VII of Appendix G to the *CEQA Guidelines*.

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

Less Than Significant Impact.

Project-Related Sources of Greenhouse Gases

Project-related GHG emissions would include emissions from direct and indirect sources. The proposed project would result in direct and indirect emissions of CO_2, N_2O, and CH_4, and would not result in other GHGs that would facilitate a meaningful analysis. Therefore, this analysis focuses on these three forms of GHG emissions. The proposed project involves construction of three battery energy storage buildings and associated facilities to provide electrical service for Southern California Edison (SCE). Direct proposed project-related GHG emissions include emissions from construction activities, area sources, and mobile sources, while indirect sources include emissions from electricity consumption, water demand, and solid waste generation. Operational GHG estimations are based on energy emissions from electricity, natural gas usage, and automobile emissions. The California Emissions Estimator Model (CalEEMod) was used to calculate emissions. Table 4.7-1, *Estimated Greenhouse Gas Emissions*, presents the estimated CO_2, N_2O, and CH_4 emissions of the proposed project. The CalEEMod outputs are contained within the Appendix A, *Air Quality/Greenhouse Gas Data*.

Table 4.7-1
Estimated Greenhouse Gas Emissions

Source	CO_2	CH_4		N_2O		Total $MTCO_2eq/yr$[3]
	MT/yr[1]	MT/yr[1]	$MTCO_2eq/yr$[2]	MT/yr[1]	$MTCO_2eq/yr$[2]	
Construction (amortized over 30 years)	88.86	0.01	0.24	0.00	0.00	89.35
Area Source	0.02	0.00	0.00	0.00	0.00	0.02
Energy	405.70	0.02	0.50	0.00	0.00	406.22
Mobile Source	33.35	0.00	0.00	0.00	0.00	33.35
Water Demand	372.36	2.18	54.50	0.05	14.90	443.99
Waste	55.26	3.27	81.80	0.00	0.00	140.33
Total Proposed Project-Related Emissions[3]	***1,113.26 $MTCO_2eq/yr$***					

Notes:
1. Emissions calculated using California Emissions Estimator Model.
2. Carbon dioxide equivalent values calculated using the United States Environmental Protection Agency Website, *Greenhouse Gas Equivalencies Calculator*, http://www.epa.gov/cleanenergy/energy-resources/calculator.html, accessed June 2016.
3. Totals may be slightly off due to rounding.

Refer to Appendix A, *Air Quality/Greenhouse Gas Data*, for detailed model input/output data.

Direct Project-Related Source of Greenhouse Gases

- *Construction Emissions*. Construction GHG emissions are typically summed and amortized over the lifetime of the project (assumed to be 30 years), then added to the operational emissions.[5] As shown in Table 4.7-1, the proposed project would result in 89.35 $MTCO_2eq/yr$ (amortized over 30 years), which represents a total of 2,680.50 $MTCO_2eq$ from construction activities.

- *Area Source*. Area source emissions were calculated using CalEEMod and project-specific land use data. The proposed project would result in nominal area sources GHG emissions; refer to Table 4.7-1.

- *Mobile Source*. The proposed project would generate a nominal number of traffic trips associated with the maximum five employees generated by the project, which would directly result in 33.35 $MTCO_2eq/yr$ of mobile source-generated GHG emissions; refer to Table 4.7-1.

Indirect Project-Related Source of Greenhouse Gases

- *Energy Consumption*. Energy consumption were calculated using CalEEMod and project-specific land use data. It is important to note that the project would not increase energy generation. Electricity would be provided to the project site via SCE. The proposed project would indirectly result in 406.22 $MTCO_2eq/year$ due to energy consumption; refer to Table 4.7-1.

- *Water Demand*. The proposed project's operations would result in a demand of approximately 99.07 million gallons of water per year.[6] Emissions from indirect energy impacts due to water supply would result in 443.99 $MTCO_2eq/yr$; refer to Table 4.7-1.

[5] The project lifetime is based on the standard 30 year assumption of the South Coast Air Quality Management District (SCAQMD). SCAQMD, *Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #13,* August 26, 2009.

[6] This estimate for project water demand is based upon the default modeling assumptions within the California Emissions Estimator Model (CalEEMod). As noted in Section 2.0, *Project Description*, all cooling water associated with the project would be recirculated within the system and would be operated such that no evaporation occurs. Any water consumption would be limited (20 to 100 gallons) when maintenance activities of the cooling system are required on an infrequent basis. As such, the analysis presented within this section is considered highly conservative.

- *Solid Waste*. Solid waste associated with operations of the proposed project would result in 140.33 $MTCO_2eq/yr$; refer to Table 4.7-1.

Total Project-Related Sources of Greenhouse Gases

As shown in Table 4.7-1, the total amount of project-related "business as usual" emissions from direct and indirect sources combined would total 1,113.26 $MTCO_2eq/yr$, which is below the 10,000 $MTCO_2eq/yr$ threshold. Therefore, the proposed project would result in a less than significant impact with regard to GHG.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. The City adopted its Sustainable City Action Plan (CAP) in February 2010 to guide operational, policy, and financial decisions within the City. While the CAP provides a sustainable framework for future developments within the City, the goals outlined in the City's CAP are primarily municipal in nature, and not project-specific. Therefore, the implementation of the proposed project would not conflict with an adopted plan, policy, or regulation pertaining to GHGs. The proposed project involves construction of three battery energy storage buildings, a chiller plant, transformers, and associated transmission lines and towers to provide electrical service for SCE. As discussed above, the proposed project would not generate a significant amount of GHGs in an unmitigated condition and would not exceed the 10,000 $MTCO_2eq/yr$ threshold. Thus, a less than significant impact would occur in this regard.

Mitigation Measures: No mitigation is required.

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4.8 HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		✓		
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, would the project result in a safety hazard for people residing or working in the project area?				✓
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 wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				✓

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

Less Than Significant Impact. Exposure of the public or the environment to hazardous materials could occur through the improper handling or use of hazardous materials or hazardous wastes particularly by untrained personnel; transportation accident; environmentally unsound disposal methods; and/or fire, explosion, or other emergencies. The severity of potential effects varies with the activity conducted, the concentration and type of hazardous material or wastes present, and the proximity of sensitive receptors.

Implementation of the proposed project would result in construction of three battery energy storage buildings, a chiller plant, transformers, and associated transmission lines and towers at the existing Alamitos Generating Station. The project falls under the High-hazard Group H occupancy, which includes, among others, the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation, or storage of materials that constitute a physical or health hazard in quantities in excess of those allowed in control areas complying with Section 414 of the California Building Code (CBC). Hazardous occupancies are classified in Groups H-1, H-2, H-3, H-4, and H-5 and must be in accordance with this section, the requirements of Section 415 of the CBC, and the California Fire Code (CFC).

During operation, an electrolyte would be used for the proposed lithium ion cells. The electrolyte (10 to 20 percent of the 0.280 liter cell volume) presents a flammability hazard. Each proposed three-level building would store 50 megawatts (for a total of 100 megawatts per building). AES would monitor the on-site batteries at all times for consistency/degradation. Should any battery show signs of poor performance/degradation, that battery would be disconnected and disposed of/recycled per existing hazardous waste transport regulations.

The total amount of flammable liquid from the electrolyte is approximately 70,000 to 90,000 gallons (gal). This exceeds the maximum allowable quantity of 240 gal of flammable liquid listed in the CBC; therefore, H-3 occupancy classification is indicated. For group H-3, the maximum area allowable per fire control area is 60,000 square feet. The facility would incorporate a fire protection system designed as required based on its occupancy classification of H-3 per the CBC.

Per CBC Section 903.2.5.1, automatic sprinkler systems must be installed in Group H occupancies for the proposed project. The second floor, mechanical equipment story, would be sprinklered, as it is below the third floor Group H occupancy and the floor area exceeds the maximum allowable unsprinklered area. Remaining ancillary spaces would be sprinklered as well to qualify the building as fully sprinklered. The sprinkler system would be a double-interlock and pre-action sprinkler system with heat sensitive closed sprinkler heads. Each floor would have its own control valve per CBC Section 903.3.8. Automatic pre-action valves are actuated (opened) electrically upon receipt of fire indication from the detection system for the given hazard, and the control panel concurrently produces a fire alarm and initiates any required auxiliary shutdown functions that may be required. The panel for each pre-action sprinkler system also continuously monitors off-normal conditions to ensure the availability and proper operation of each system, and to annunciate supervisory and trouble alarms.

The project is also subject to compliance with the existing hazardous materials regulations, which are codified in California Code of Regulations Titles 8, 22, and 26, and their enabling legislations set forth in Health and Safety Code Chapter 6.95. The project is subject to compliance with applicable Federal, State, and local laws and regulations pertaining to the transport, use, and disposal of hazardous waste including, without limitation, the Code of Federal Regulations Title 49, as implemented by California Code of Regulations Title 13. As the project would be subject to compliance with the established regulatory framework, project implementation would create a less than significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact With Mitigation Incorporated.

Short-Term Impacts

Construction Equipment

During project construction, there is a possibility of accidental release of hazardous substances such as petroleum-based fuels or hydraulic fluid used for construction equipment. The level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials utilized during construction. The construction contractor would be required to use standard construction controls and safety procedures that would avoid and minimize the potential for accidental release of such substances into the environment. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, State, and Federal law.

Site History

Based on the AFC, although the existing Alamitos Generating Station is a natural-gas-fueled electrical power plant operated by the AES Corporation since 1998, Southern California Edison (SCE) previously operated the plant using both natural gas and fuel oil until 1989, when fuel oil was permanently retired as a fuel source.

The site was previously vacant, undeveloped land possibly used for agricultural purposes prior to construction of the original electrical power generating station in the mid-1950s. The site includes underground fuel-oil pipelines and wastewater retention basins once operated by SCE. Subsurface investigations regarding the former SCE operations are ongoing at the site.

The site partially surrounds a former aboveground storage tank (AST) farm referred to as the Tom Dean Property in the AFC. The Tom Dean Property was also previously owned by Plains America. The Tom Dean and Plains America tanks farms were once part of the power plant when SCE operated the plant using fuel oil.

Contaminated Soil and Groundwater

As documented in the AFC, past operations of the generating station, tank farm, and possible historical agricultural uses have, or anticipated to have, impacted on-site soils and groundwater. The Alamitos Generating Station is currently undergoing corrective action through a voluntary cleanup agreement with the Department of Toxic Substances Control (DTSC). Numerous site investigations have been completed to date and corrective action and site cleanup are under way. As the Alamitos Generating Station is already undergoing remediation activities under the oversight of the DTSC, the project owner would be required to ensure that the project site is properly characterized and remediated as necessary pursuant to these corrective action plans, as reviewed by the DTSC and the Long Beach Fire Department (LBFD) during site disturbance activities (Mitigation Measure HAZ-1). In no event would project construction commence in areas requiring characterization and remediation until the DTSC and/or LBFD determines that all necessary remediation has been accomplished. Prior to and during grading and construction, discovery of additional soil contamination not previously identified or already included in corrective action plans, work plans, or closure plans, must be reported to the DTSC and LBFD immediately. A qualified professional engineer or professional geologist would be required to be available for consultation during site characterization (if needed), demolition, excavation, and grading activities and would be required to oversee any earth moving activities that have the potential to disturb contaminated soil (Mitigation Measure HAZ-2). Should potentially contaminated soils be identified, Mitigation Measure HAZ-3 would be required to be implemented to ensure appropriate measures are taken. The project owner would also be required to prepare a Soils Management Plan (SMP) prior to any earthwork (HAZ-4). The SMP is required to be prepared by a California-Registered Geologist or a California-Registered Civil Engineer with sufficient experience in hazardous waste management.

With implementation of the recommended Mitigation Measures HAZ-1 through HAZ-4, impacts in this regard would be reduced to less than significant levels.

Demolition of the Warehouse Building

In order to accommodate the chiller plant, the existing warehouse building at the east of the project site would be demolished. The existing on-site warehouse structure is used for storage of parts and does not store or involve the handling of hazardous materials. Thus, contaminated soil as a result of the existing on-site warehouse is not anticipated to be encountered. However, there is a potential for asbestos-containing materials (ACMs) and lead-based paint (LBP) to be present in association with the on-site structure. Demolition of the warehouse building could expose construction personnel and the public to ACMs and/or LBPs. However, Federal and State regulations govern the renovation and demolition of structures where ACMs and LBPs are present. All demolition that could result in the release of ACMs or LBPs must be conducted according to Federal and State standards.

The National Emission Standards for Hazardous Air Pollutants (NESHAP) mandates that building owners conduct an asbestos survey to determine the presence of ACMs prior to the commencement of any remedial work, including demolition (Mitigation Measure HAZ-5). If ACM material is found, abatement of asbestos would be required prior to any demolition activities. If paint is separated from building materials (chemically or physically) during demolition of the structures, the paint waste would be required to be evaluated independently from the building material by a qualified Environmental Professional (HAZ-6). If LBP is found, abatement would be required to be completed by a qualified Lead Specialist prior to any demolition activities. With implementation of Mitigation Measures HAZ-5 and HAZ-6, impacts associated with the potential release hazardous materials into the environment through reasonably foreseeable upset and accident conditions during construction would ensure less than significant impacts would result.

Long-Term Operational Impacts

Refer to Response 4.8(a), above, for a description of impacts related to existing and proposed operations at the site. Upon adherence to existing regulations related to chemical safety, impacts pertaining to the potential for accidental conditions during project operations would be less than significant.

Impacts pertaining to electric and magnetic fields (EMFs) have been considered as part of this analysis. According to the California Public Utilities Commission (CPUC), EMFs are invisible lines of force that surround any electrical device. Electric fields are produced by voltage and increase in strength as the voltage increases. The electric field strength is measured in units of volts per meter (V/m). Magnetic fields result from the flow of current through wires or electrical devices and increase in strength as the current increases. Magnetic fields are measured in units of gauss (G) or tesla (T). Most electrical equipment has to be turned on (i.e., current must be flowing) for a magnetic field to be produced. Electric fields, on the other hand, are present even when the equipment is switched off, as long as it remains connected to the source of electric power.

Electric fields are shielded or weakened by materials that conduct electricity (including trees, buildings, and human skin). Magnetic fields, on the other hand, pass through most materials and are therefore more difficult to shield. Both electric and magnetic fields decrease as the distance from the source increases.

No EMFs would result from the proposed BESS facility. However, new transmission lines could increase EMFs on-site. For the project site, existing transmission lines are present that may generate existing magnetic fields. These existing lines have an existing current of 2,000 MW. The proposed transmission lines would only generate 300 MW. Further, upon completion of the Repower Project, considered as part of the AFC, the future Generating Station would only generate 1,000 MW on the future lines. Thus, upon completion of the proposed project, the resultant magnetic fields as a result of transmission lines would be nominal and upon completion of the Repower Project, would actually decrease. Thus, impacts in this regard would be less than significant.

Mitigation Measures:

HAZ-1 The project applicant shall ensure that the project site is properly characterized and remediated as necessary pursuant to the corrective action plans reviewed by the Department of Toxic Substances Control (DTSC) and the Long Beach Fire Department (LBFD). In no event shall project construction commence in areas requiring characterization and remediation until the DTSC and/or LBFD determines that all necessary remediation has been accomplished. Proof of compliance with DTSC and LBFD characterization and remediation requirements shall be provided to the City of Long Beach City Engineer prior to the issuance of any grading permits for the proposed project.

Prior to and during grading and construction, discovery of additional soil contamination not previously identified or already included in corrective action plans, work plans, or closure plans, shall be reported to the DTSC and LBFD immediately.

HAZ-2 The project applicant shall provide the resume of an experienced and qualified professional engineer or professional geologist, who shall be available for consultation during site characterization (if needed), demolition, excavation, and grading activities, to the City of Long Beach City Engineer for review and approval. The resume shall show experience in remedial investigation and feasibility studies. The professional engineer or professional geologist shall be retained oversee any earth moving activities that have the potential to disturb contaminated soil. This requirement shall be documented within project plans and specifications and verified by the City of Long Beach City Engineer prior to issuance of any grading permit for the proposed project.

HAZ-3 If potentially contaminated soil is identified during site characterization, demolition, excavation, or grading for the proposed project, as evidenced by discoloration, odor, detection by instruments, or other signs, the professional engineer or professional geologist retained as part of Mitigation Measure HAZ-2 shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and provide a written report to the project applicant, representatives of the Department of Toxic Substances Control (DTSC), Long Beach Fire Department (LBFD), and City of Long Beach stating the recommended course of action.

Depending on the nature and extent of contamination, the professional engineer or professional geologist shall have the authority to temporarily suspend construction activity at that location for the protection of workers or the public. If, in the opinion of the professional engineer or professional geologist, significant remediation may be required, the project applicant shall contact representatives of the DTSC and LBFD for guidance and possible oversight.

HAZ-4 The project applicant shall prepare and submit to the City of Long Beach City Engineer a Soils Management Plan (SMP) prior to the issuance of any grading permit for the proposed project. The SMP must be prepared by a California-Registered Geologist or a California-Registered Civil Engineer with sufficient experience in hazardous waste management. The SMP shall be updated as needed to reflect changes in laws, regulations, or site conditions. An SMP summary report, which includes all analytical data and other findings, must be submitted once the earthwork has been completed. Topics covered by the SMP shall include, but not be limited to:

- Land use history, including description and locations of known contamination.
- The nature and extent of previous investigations and remediation at the site.
- The nature and extent of unremediated areas at the Alamitos Generating Station.
- A listing and description of institutional controls, such as the City's excavation ordinance and other local, state, and federal regulations and laws that would apply to Alamitos Generating Station.
- Names and positions of individuals involved with soils management and their specific role.
- An earthwork schedule.
- Requirements for site-specific Health and Safety Plans (HSPs) to be prepared by all contractors at Alamitos Generating Station. The HSP should be prepared by a Certified Industrial Hygienist and would protect onsite workers by including engineering controls, personal protective equipment, monitoring, and security to prevent unauthorized entry and to reduce construction related hazards. The HSP should address the possibility of encountering subsurface hazards including hazardous waste contamination and include procedures to protect workers and the public.
- Hazardous waste determination and disposal procedures for known and previously unidentified contamination.
- Requirements for site specific techniques at the site to minimize dust, manage stockpiles, run-on and run-off controls, waste disposal procedures, etc.
- Copies of relevant permits or closures from regulatory agencies.

HAZ-5 Prior to demolition activities, the project applicant shall retain an Asbestos Hazard Emergency Response Act (AHERA) and California Division of Occupational Safety and Health (Cal/OSHA) certified building inspector to conduct an asbestos survey to determine the presence or absence of asbestos containing-materials (ACMs). If ACMs are located, the abatement of asbestos shall be completed by the project applicant prior to any activities that would disturb ACMs or create an airborne asbestos hazard. Asbestos removal shall be performed by a State-certified asbestos containment contractor in accordance with the South Coast Air Quality Management District (SCAQMD) Rule 1403. Contractors performing asbestos abatement activities shall provide evidence of abatement activities to the City of Long Beach City Engineer.

HAZ-6 If paint is separated from building materials (chemically or physically) during demolition of the structures, the paint waste shall be evaluated independently from the building material by a qualified Lead Specialist. If lead-based paint is found, the project applicant shall retain a qualified Lead Specialist to conduct abatement prior to any activities that would create lead dust or fume hazard. Lead-based paint removal and disposal shall be performed in accordance with California Code of Regulation Title 8, Section 1532.1, which specifies exposure limits, exposure monitoring and respiratory protection, and mandates good worker practices by workers exposed to lead. Contractors performing lead-based paint removal shall provide evidence of abatement activities to the City of Long Beach City Engineer prior to any demolition activities associated with the project.

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

Less Than Significant Impact. The only emissions that would occur during short-term construction are those resulting from the use of construction equipment. However, these emissions would be primarily composed of particulates and criteria air pollutants that do not pose a significant health risk (refer to Section 4.3, *Air Quality*). During long-term operations, unintended fugitive leaks of coolant in the chiller system have the potential to occur and must be managed, monitored, and reported per the South Coast Air Quality Management District (SCAQMD) Rule 1418.1, *Reduction of Refrigerant Emissions from Stationary Refrigeration Systems*. Rosie the Riveter Charter High School, a charter school operated by Women in Non-Traditional Employment Roles (WINTER), is located at the Alamitos Generating Station along Studebaker Road, to the north side of the entry road to the project site. Additionally, Kettering Elementary School is located approximately 790 feet to the northwest of the project site. Although these schools are located within one-quarter mile of the project site, the project would not pose a significant health risk to these facilities. As noted above, the project would be required to adhere to existing requirements under the SCAQMD, CBC, CFC, Code of California Regulations, and the Code of Federal Regulations pertaining to the safe use, storage, and transport of hazardous materials. Therefore, upon adherence to existing rules and regulations, impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact With Mitigation Incorporated. Government Code Section 65962.5 requires the Department of Toxic Substances Control (DTSC) and the State Water Resources Control Board (SWRCB) to compile and update a regulatory sites listing (per the criteria of the Section). The California Department of Health Services is also required to compile and update, as appropriate, a list of all public drinking water wells that contain detectable levels of organic contaminants and that are subject to water analysis pursuant to Section 116395 of the Health and Safety Code. Section 65962.5 requires the local enforcement agency, as designated pursuant to Section 18051 of Title 14 of the California Code of Regulations (CCR), to compile, as appropriate, a list of all solid waste disposal facilities from which there is a known migration of hazardous waste.

According to the AFC, the Alamitos Generating Station is listed pursuant to Government Code Section 65962.5, and is currently undergoing active cleanup under the jurisdiction of the DTSC. As discussed in Response 4.8(b), implementation of the recommended Mitigation Measures HAZ-1 through HAZ-4 would reduce impacts in this regard to less than significant levels.

Mitigation Measures: Refer to Mitigation Measures HAZ-1 through HAZ-4.

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?

No Impact. The proposed project site is not located within an airport land use plan or within two miles of a public airport or public use airport. The nearest airport to the project site is the Long Beach Airport, located approximately 2.9 miles to the northwest of the project site at 4100 Donald Douglas Drive. In addition, the project site is located outside of the Long Beach Airport Influence Area.[1] Therefore, no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. There are no private airstrips located within the vicinity of the proposed project, and no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The proposed project would not physically interfere with an adopted emergency response plan or emergency evacuation plan. The construction process would be confined to the boundaries of the project site, and no impacts to surrounding roadways would occur (e.g., temporary traffic detours and lane closures would not be required). On a long-term operational basis, the project is not anticipated to generate traffic capable of interfering with emergency operations, as only up to five permanent employees would be required. As such, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

h) 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?

No Impact. The proposed project site is located within an urbanized area. The project site has been disturbed as a result of the past development and is not identified as a high fire hazard area in the City. Thus, no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

[1] Los Angeles County Airport Land Use Commission, *Long Beach Airport, Airport Influence Area Map*, May 13, 2003.

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4.9 HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 pre-existing 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 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?				✓
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) Violate any water quality standards or waste discharge requirements?

Less Than Significant Impact. As part of Section 402 of the Clean Water Act, the U.S. Environmental Protection Agency (EPA) has established regulations under the NPDES program to control direct storm water discharges. In California, the SWRCB administers the NPDES permitting program and is responsible for developing NPDES permitting requirements. The NPDES program regulates industrial pollutant discharges, which include construction activities. The SWRCB works in coordination with the Regional Water Quality Control Boards (RWQCB) to preserve, protect, enhance, and restore water quality. The City of Long Beach is within the jurisdiction of the Los Angeles RWQCB.

Short-Term Construction

Dischargers whose projects disturb one or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would contain a site map(s) which shows the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP would list Best Management Practices (BMPs) the discharger would use to protect storm water runoff and the placement of those BMPs. Additionally, the SWPPP would contain: a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP.

The project's construction activity would be subject to the State's General Construction Permit, as discussed above, because it involves clearing, grading, and disturbances to the ground such as stockpiling or excavation, and a construction site with soil disturbance greater than 1.0 acre. More specifically, as part of the project's compliance with NPDES requirements, the project applicant would be required to prepare a Notice of Intent (NOI) for submittal to the Los Angeles RWQCB providing notification of intent to comply with the General Construction Permit. A copy of the SWPPP would be made available and implemented at the construction site at all times. The SWPPP is required to outline the erosion, sediment, and non-storm water BMPs, in order to minimize the discharge of pollutants at the construction site. These BMPs would include measures to contain runoff from vehicle washing at the construction site, prevent sediment from disturbed areas from entering the storm drain system using structural controls (i.e., sand bags at inlets), and cover and contain stockpiled materials to prevent sediment and pollutant transport. Implementation of the BMPs would ensure runoff and discharges during the project's construction phase would not violate any water quality standards. Compliance with NPDES requirements would reduce short-term construction-related impacts to water quality to a less than significant level.

Long-Term Operations

The project would be regulated under the NPDES Phase I Municipal Stormwater Permits issued by the Los Angeles RWQCB for Long Beach. Storm water would be routed to a retention basin with oil/water separator and managed on-site according to the existing NPDES permit for the site.

<u>Los Angeles RWQCB Requirements for Long Beach</u>

Since 1990, operators of municipal separate storm sewer systems are required to develop a storm water management program designed to prevent harmful pollutants from impacting water resources via storm water runoff. The City of Long Beach owns and/or operates a large municipal separate storm sewer system (MS4) that conveys and ultimately discharges into surface waters under the jurisdiction of the Los Angeles RWQCB. These discharges originate as surface runoff from the various land uses within the City's boundary. Untreated, these discharges contain pollutants with the potential to impair or contribute to the impairment of the beneficial uses in surface waters. Since 1999, the City's monitoring data and analyses in support of Total Maximum Daily Load (TMDL) development have identified pollutants of concern in discharges from the MS4. These pollutants of concern vary by receiving water. They generally include, but are not limited to, copper, lead, zinc, cadmium, PCBs, PAHs, pyrethroid pesticides, organophosphate pesticides fecal indicator bacteria, and trash.

On March 28, 2014, the Los Angeles RWQCB made effective Order No. R4-2014-0024, which renews the municipal NPDES permit. As prescribed in Order No. R4-2014-0024, *Water Discharge Requirements for Municipal Separate Storm Sewer System Discharges From The City of Long Beach*, the City of Long Beach shall develop and implement procedures to ensure that a discharger fulfills the following for non-storm water discharges to MS4s:[1]

- Notifies the City of Long Beach of the planned discharge in advance, consistent with requirements in Table 7 of Order No. R4-2014-0024 or recommendations pursuant to the applicable BMP manual;
- Obtains any local permits required by the City of Long Beach;
- Provides documentation to the City of Long Beach that it has obtained any other necessary permits of water quality certifications for the discharge;
- Conducts monitoring of the discharge, if required by the City of Long Beach;
- Implements BMPs and/or control measures as specified in Table 7 or in the applicable BMP manual(s) as a condition of the approval to discharge into the MS4; and
- Maintains records of its discharge to the MS4, consistent with requirements in Table 7 or recommendations pursuant to the applicable BMP manual.

In 2001, the City revised its Long Beach Storm Water Management Program (LBSWMP). The LBSWMP is a comprehensive program containing several elements, practices, and activities aimed at reducing or eliminating pollutants in storm water to the maximum extent possible. Furthermore, the City's NPDES and Standard Urban Storm Water Mitigation Plan (SUSMP) regulations contained in Chapter 18.61 of the *LBMC* state that:

A. The Building Official shall prepare, maintain, and update, as deemed necessary and appropriate, the NPDES and SUSMP Regulations Manual and shall include technical information and implementation parameters, alternative compliance for technical infeasibility, as well as other rules, requirements and procedures as the City deems necessary, for implementing the provisions of this chapter.

B. The Building Official shall develop, as deemed necessary and appropriate, in cooperation with other City departments and stakeholders, informational bulletins, training manuals and educational materials to assist in the implementation of this chapter.

Within the existing Alamitos Generating Station, the storm water drainage system consists of two retention basins and existing storm water outfalls. Storm water discharges into the San Gabriel River through existing retention basins along the eastern span of the Alamitos Generating Station. The retention basins are used for runoff from storm drains, boilers, and sumps. Waste water accumulated on-site is discharged to the Long Beach Water Department (LBWD) sanitary system and transported to the Los Angeles County Sanitation District for treatment and disposal.

Implementation of the proposed project would occur within the existing Alamitos Generating Station which has been previously graded and developed. The project would not result in the generation of large quantities of wastewater or result in any new off-site discharges. The area where the three proposed battery energy storage buildings would be located is almost entirely paved and impervious, and the project would not result in an increase in impervious area. Rather, the project is expected to result in beneficial impacts in regards to potential pollutants related to impervious areas and site runoff. The project includes a range of open space improvements that would convert existing asphalt and concrete and replace it with pervious aggregate materials (approximately 20 acres). Thus, with the introduction of new pervious areas and upon compliance with the requirements of the NPDES, SUSMP, Order No. R4-2014-

[1] Los Angeles Regional Water Quality Control Board, *Order No. R4-2014-002, NPDES Permit No, CAS004003*, March 28, 2014.

0024, and the LBSWMP, impacts related to water quality standards and waste discharge requirements during long-term operations would be less than significant.

Mitigation Measures: No mitigation is required.

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 pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Less Than Significant Impact. The proposed project site exists within a completely developed, urbanized area. The proposed project would be constructed within the existing Alamitos Generating Station. According to the Seismic Safety Element of the *General Plan*, the project site's depth to groundwater is less than 10 feet. The site does not currently affect groundwater directly (through pumping, wells, or injection), nor would the proposed project include any components that would directly affect groundwater. Additionally, the proposed project would result in a decrease of impervious surfaces from existing site conditions. Thus, project implementation would not deplete groundwater supplies or interfere with groundwater recharge. Impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Less Than Significant Impact. Soil disturbance would temporarily occur during project construction due to earth-moving activities such as excavation and trenching for foundations and utilities, soil compaction and moving, and grading. Disturbed soils would be susceptible to high rates of erosion from wind and rain, resulting in sediment transport via storm water runoff from the project site.

The project would be subject to compliance with the requirements set forth in the NPDES Storm Water General Construction Permit for construction activities; refer to Response 4.9(a). Compliance with the NPDES, including preparation of a SWPPP would reduce the volume of sediment-laden runoff discharging from the site. The implementation of BMPs such as storm drain inlet protection and fiber rolls would reduce the potential for sediment and storm water runoff containing pollutants from entering receiving waters. Therefore, project implementation would not substantially alter the existing drainage pattern of the site during the construction process such that substantial erosion or siltation would occur.

The long-term operation of the proposed battery energy storage and ancillary infrastructure would not have the potential to result in substantial erosion or siltation on- or off-site. The project would not substantially alter the existing topography or drainage patterns on-site. Storm water would be routed to a retention basin with oil/water separator and managed on-site according to the existing NPDES permit for the site. Additionally, development of the proposed project would result in a decrease in impervious area on the project site, decreasing storm water runoff and the potential for erosion or siltation. Thus, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

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?

Less Than Significant Impact. Refer to Response 4.9(c), above. The project site is generally flat and is located within an urbanized area. The project site is not located within areas of potential flooding according to the Public

Safety Element of the *General Plan*. The project would implement an industrial use similar to the existing on-site use, which would not require a substantial change in topography of the project site. Additionally, the proposed project would remove approximately 20 acres of existing asphalt and concrete for replacement with pervious aggregate, reducing the amount of impervious surfaces on-site. The project is not expected to result in substantial changes to drainage patterns. Surface runoff would be reduced due to the increase in pervious surfaces. As such, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact. Refer to Responses 4.9(a) and 4.9(c), above. The project would not result in an increase in off-site runoff in comparison to existing conditions. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

f) Otherwise substantially degrade water quality?

Less Than Significant Impact. The proposed project is not anticipated to result in water quality impacts other than the potential impacts identified above in Responses 4.9(a) and 4.9(c). Impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

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?

No Impact. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for the project area, the project site is located within "Zone X", within an area protected by levees from the one percent annual chance flood.[2] Since the project area is outside of the 100-year flood hazard area and no housing is proposed as part of the project, no impacts would result in this regard.

Mitigation Measures: No mitigation is required.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No Impact. As stated above in Response 4.9(g), the project site is located outside of the 100-year flood hazard area.[3] No impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

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?

Less Than Significant Impact.

[2] Federal Emergency Management Agency, Flood Insurance Rate Map #06037C1988F, Panel 1988 of 2350, revised September 26, 2008.

[3] Ibid.

Risk Related to Dam Failure

According to the Public Safety Element of the *General Plan*, the failure of structures that might cause flooding are dikes in the waterfront area of the City and flood-control dams which lie upstream from the City of Long Beach. Areas within 2 feet above mean sea level (msl) are considered most susceptible and areas over 2 feet up to 5 feet above msl are considered secondary flooding zones. Precise topographic control is required to estimate flooding potential.

Three flood control dams lie upstream from the City: Sepulveda Basin, Hansen Basin, and Whittier Narrows Basin. The Sepulveda and Hansen Basins lie more than 30 miles upstream from where the Los Angeles River passes through the City. Due to the intervening low and flat ground and the distance involved, flood waters resulting from a dam failure at either of these reservoirs would be expected to dissipate before reaching the City of Long Beach. In the event of failure of the Whittier Narrows Dam while full, flooding could occur along both sides of the San Gabriel River where it passes through the City but would probably be most severe on the eastside of the river channel. Due to the infrequent periods of high precipitation and high river flow, the probability of flooding as a result of seismically induced failure of these structures is considered to be very low. Furthermore, the project site is not located within areas of potential flooding according to the Public Safety Element of the *General Plan*. Therefore, impacts in this regard would be less than significant for the project area.

Risk Related to Sea Level Rise

In support of the City's ongoing Local Coastal Program Update, the City retained Moffatt & Nichol (M&N) to prepare a sea level rise (SLR) analysis for the Southeast Area Development Improvement Plan (SEADIP). The 1,475-acre SEADIP planning area is located in the southeastern portion of the City, generally north/northeast of the Marine Stadium and south of Colorado Street and Loynes Drive. The SLR analysis prepared for the SEADIP includes the proposed Alamitos Generating Station BESS project site.

Primary water bodies located within proximity to the project site include the Alamitos Bay and Marine Stadium, Los Cerritos Channel, San Gabriel River, and Pacific Ocean. The SLR analysis consists of the following modeling scenarios:

1. Existing tides without SLR during dry conditions;
2. Year 2060 including 1.5 feet of SLR during dry conditions;
3. Year 2060 including 2.6 feet of SLR during dry conditions; and
4. Year 2060 including 2.6 feet of SLR and 50-year storm flow where the peak coincides with high tide.

The model utilized within the study is a two-dimensional depth-averaged finite element hydrodynamic numerical model referred to as RMA-2, a federally-developed and approved model for tidal and storm flows. The model provides data of water levels and water flow velocities over time and space. The domain of the model included the entire Alamitos Bay, Marine Stadium, Colorado Lagoon, several miles along the San Gabriel River and Los Cerritos Channel, and the near-shore ocean.

Based on the results of the SLR analysis, the battery storage site would not be inundated under any of the modeling scenarios identified above. The modeling results show minor inundation immediately surrounding the inlets within the central and southern portions of the generating station site; however, the project would not include any proposed structures or improvements in those areas that could expose people to flooding hazards; refer to Appendix B, *Sea Level Rise Analysis*. As such, impacts related to SLR would be less than significant.

Mitigation Measures: No mitigation is required.

j) Inundation by seiche, tsunami, or mudflow?

Less Than Significant Impact. A seiche is an oscillation of a body of water in an enclosed or semi-enclosed basin, such as a reservoir, harbor, lake, or storage tank. A tsunami is a great sea wave, commonly referred to as a tidal wave, produced by a significant undersea disturbance such as tectonic displacement of a sea floor associated with large, shallow earthquakes. Mudflows result from the downslope movement of soil and/or rock under the influence of gravity.

Several bodies of water surround the proposed project site, including the San Gabriel River immediately to the east and the Los Cerritos Channel to the west which drains into the Alamitos Bay. The project site is located within 1.5 miles of the Alamitos Bay and the Pacific Ocean. Based on the State of California *Tsunami Inundation Map for Emergency Planning* for the Los Alamitos Quadrangle/Seal Beach Quadrangle, the project site is situated within the tsunami inundation area.[4] However, according to the Figure 11, *Tsunami and Seiche Influence Area*, of the Seismic Safety Element of the *General Plan*, the project site is not located within the tsunami and seiche influence areas. According to the *General Plan*, due to the presence of the Palos Verdes Peninsula, Channel Islands, and the harbor breakwater, the Long Beach Coastline and harbor are somewhat protected (especially to the north and the west). However, due to the more open exposure to the south, the harbor and coastline are more vulnerable to tsunamis generated in the South Seas and offshore southern California. Published estimates of recurrence intervals indicate maximum wave heights of three to six feet for 50 and 100 year recurrence intervals. Such events are not expected to cause major damage to on-shore features. Given the distance of the project site to the coast and intervening features and facilities, the risk of inundation due to tsunami and seiche is considered low. The project site is protected under the seismic Sea-Wave Warning System for the Pacific Ocean as operated by the National Weather Service in the United States. Additionally, structural reinforcement for tsunami and seiche protection must be considered, if needed, within the detailed design. Therefore, impacts in this regard would be less than significant.

Due to the relatively flat and urbanized nature of the project area, inundation resulting from mudflows is not expected. No impacts are anticipated in this regard.

Mitigation Measures: No mitigation is required.

[4] California Geological Survey, *Tsunami Inundation Map for Emergency Planning*, Los Alamitos Quadrangle/Seal Beach Quadrangle, Scale 1:24,000, March 2009.

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4.10 LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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) Physically divide an established community?

No Impact. The proposed project site would be constructed within the Alamitos Generating Station, which is an existing industrial facility. Surrounding land uses in proximity to the project site are primarily comprised of industrial, residential, recreational, and open space uses. Due to the built-out nature of the surrounding area, and since all proposed improvements would occur within the existing Alamitos Generating Station, project implementation would not physically divide an established community. As such, no impacts would result in this regard.

Mitigation Measures: No mitigation is required.

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?

Less Than Significant Impact. The *City of Long Beach General Plan* (*General Plan*) designates the project site as a Mixed Use District (LUD No. 7). A combination of land uses intended for this district include, but are not limited to, employment centers such as retail, offices, medical facilities; high density residences; visitor-serving facilities; personal and professional services; or recreational facilities. No amendment to the *General Plan* would be required as part of the project; thus, the project would be consistent with the *General Plan* and no land use conflict would occur.

The *Zoning Ordinance* zones the project site as PD-1, Subarea 19. The PD-1 zone allows for flexible development plans to be prepared for areas of the City, which may benefit from the formal recognition of unique or special land uses and the definition of special design policies and standards not otherwise possible under conventional zoning district regulations. According to the *LBMC*, Subarea 19 consists of industrial uses. As such, the project is consistent with the City's *Zoning Ordinance* and no conflicts would occur in this regard.

The PD-1 zone is located within SEADIP, which has a maximum height restriction of 35 feet for non-residential uses. Each of the proposed energy storage buildings would be 50 feet in height. In addition, the overhead transmission lines and towers associated with the proposed project would be up to 75 feet in height. As a result, the project would require a Standards Variance (SV) for the energy storage buildings and overhead transmission lines and mono-poles. The existing Alamitos Generating Station facility includes features that extent higher than 100 feet in height (such as the existing Units 1 and 2 as well as other transmission towers present in the project area). With approval of the proposed project, including approval of the proposed SV, the proposed project would be consistent with the *LBMC*. Less than significant impacts would result in this regard.

In addition, the southern portion of the project site (i.e., areas where parking, landscaping, and open space improvements are proposed) is situated within the Coastal Zone. As such, the project would be required to comply with California Coastal Act (CCA) as administered by the California Coastal Commission (CCC). The project site is located in the City Permit Jurisdiction portion of the Coastal Zone, and therefore requires approval of a Local Coastal Development Permit (LCDP) from the City. As such, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. As stated in Response 4.4(f), the project site is not located within a Natural Community Conservation Plan (NCCP) and/or Habitat Conservation Plan (HCP).[1, 2] As such, no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

[1] U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, *HCP/NCCP Planning Areas in Southern California*, October 2008.

[2] California Department of Fish and Wildlife, *California Regional Conservation Plans*, March 2014.

4.11 MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?			✓	
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) 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?

Less Than Significant Impact. Historically, the primary mineral resources within the City of Long Beach have been oil and natural gas. However, oil and natural gas extraction has diminished over the last century as the resources have become depleted. Today, extraction operations continue, but on a reduced scale compared to past levels. The proposed project would include three battery energy storage buildings, a chiller plant, as well as open space and landscaping on the existing Alamitos Generating Station. According to Figure 9.6, *Mineral Resources*, of the *Los Angeles County General Plan*, designated Mineral Resources Zones are identified in the vicinity of the project site and within the project footprint (as Oil and Gas Resources). However, implementation of the proposed project would result in similar industrial operations as the existing condition, and there are no existing or proposed mineral resource extraction activities occurring in the vicinity. Thus, development of the proposed project would not result in a loss of availability of the identified mineral resources. As such, less than significant impacts would result in this regard.

Mitigation Measures: No mitigation is required.

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?

Less Than Significant Impact. Refer to Response 4.11(a), above.

Mitigation Measures: No mitigation is required.

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4.12 NOISE

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				✓

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air, and is characterized by both its amplitude and frequency (or pitch). The human ear does not hear all frequencies equally. In particular, the ear deemphasizes low and very high frequencies. To better approximate the sensitivity of human hearing, the A-weighted decibel scale (dBA) has been developed. On this scale, the human range of hearing extends from approximately 3 dBA to around 140 dBA.

Noise is generally defined as unwanted or excessive sound, which can vary in intensity by over one million times within the range of human hearing; therefore, a logarithmic scale, known as the decibel scale (dB), is used to quantify sound intensity. Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks, and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Noise generated by mobile sources typically attenuates (is reduced) at a rate between 3 dBA and 4.5 dBA per doubling of distance. The rate depends on the ground surface and the number or type of objects between the noise source and the receiver. Hard and flat surfaces, such as concrete or asphalt, have an attenuation rate of 3 dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, have an attenuation rate of about 4.5 dBA per doubling of distance. Noise generated by stationary sources typically attenuates at a rate between 6 dBA and about 7.5 dBA per doubling of distance.

There are a number of metrics used to characterize community noise exposure, which fluctuate constantly over time. One such metric, the equivalent sound level (L_{eq}), represents a constant sound that, over the specified period, has the same sound energy as the time-varying sound. Noise exposure over a longer period of time is often evaluated based on the Day-Night Sound Level (L_{dn}). This is a measure of 24-hour noise levels that incorporates a 10-dBA penalty for sounds occurring between 10 PM and 7 AM The penalty is intended to reflect the increased human sensitivity to noises occurring during nighttime hours, particularly at times when people are sleeping and there are lower ambient noise conditions. Typical L_{dn} noise levels for light and medium density residential areas range from 55 dBA to 65 dBA.

Two of the primary factors that reduce levels of environmental sounds are increasing the distance between the sound source to the receiver and having intervening obstacles such as walls, buildings, or terrain features between the sound source and the receiver. Factors that act to increase the loudness of environmental sounds include moving the sound source closer to the receiver, sound enhancements caused by reflections, and focusing caused by various meteorological conditions.

REGULATORY SETTING

State of California

The State Office of Planning and Research *Noise Element Guidelines* include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The *Noise Element Guidelines* contain a land use compatibility table that describes the compatibility of various land uses with a range of environmental noise levels in terms of the Community Noise Equivalent Level (CNEL). A noise environment of 50 CNEL to 60 CNEL is considered to be of "normally acceptable" for residential uses. The Office of Planning and Research recommendations also note that, under certain conditions, more restrictive standards than the maximum levels cited may be appropriate.

City of Long Beach

Municipal Code

Chapter 8.80, *Noise,* of the *Long Beach Municipal Code (LBMC)* sets forth all noise regulations controlling unnecessary, excessive, and annoying noise and vibration in the City. As outlined in Section 8.80.150 of the *LBMC*, maximum exterior noise levels are based on land use districts. According to the *Noise District Map* of the *LBMC*, the project site is located within Receiving Land Use District Four and surrounding uses to the project site are located within Receiving Land Use Districts One and Four. District Four is defined as "predominantly industrial uses with other land use types also present" and District One is defined as "predominantly residential uses with other land use types also present". Table 4.12-1, *Long Beach Noise Limits*, summarizes the exterior and interior noise limits for both District One and District Four.

Table 4.12-1
Long Beach Noise Limits

Land Use District	Exterior		Interior	
	Exterior Noise Level (Leq) 7 AM to 10 PM	Exterior Noise Level (Leq) 10 PM to 7 AM	Interior Noise Level (Leq) 7 AM to 10 PM	Interior Noise Level (Leq) 10 PM to 7 AM
District One	50	45	45	35
District Four	70	70	--	--

Notes:
1. District Four limits are intended primarily for use at their boundaries rather than for noise control within the district.
2. No person shall operate or cause to be operated any source of sound at any location within the incorporated limits of the City or allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, which causes the noise level when measures from any other property to exceed:
   - The noise standard for that land use district as specified in Table 4.12-1 for a cumulative period of more than five (5) minutes in any hour; or
   - The noise standard plus five decibels (5 dB) for a cumulative period of more than one (1) minute in any hour; or
   - The noise standard plus ten decibels (10 dB) or the maximum measured ambient, for any period of time.

Source: City of *Long Beach Municipal Code (LBMC)*, Section 8.80.160 and Section 8.80.170, 1977.

Section 8.80.202, *Construction Activity – Noise Regulations*, of the *LBMC* specifies the following construction-related noise standards:

> *The following regulations shall apply only to construction activities where a building or other related permit is required or was issued by the Building Official and shall not apply to any construction activities within the Long Beach harbor district as established pursuant to Section 201 of the City Charter.*
>
> A. *Weekdays and federal holidays. No person shall operate or permit the operation of any tools or equipment used for construction, alteration, repair, remodeling, drilling, demolition or any other related building activity which produce loud or unusual noise which annoys or disturbs a reasonable person of normal sensitivity between the hours of 7:00 PM and 7:00 AM the following day on weekdays, except for emergency work authorized by the Building Official. For purposes of this Section, a federal holiday shall be considered a weekday.*
>
> B. *Saturdays. No person shall operate or permit the operation of any tools or equipment used for construction, alteration, repair, remodeling, drilling, demolition or any other related building activity which produce loud or unusual noise which annoys or disturbs a reasonable person of normal sensitivity between the hours of 7:00 PM on Friday and 9:00 AM on Saturday and after 6:00 PM on Saturday, except for emergency work authorized by the Building Official.*
>
> C. *Sundays. No person shall operate or permit the operation of any tools or equipment used for construction, alteration, repair, remodeling, drilling, demolition or any other related building activity at any time on Sunday, except for emergency work authorized by the Building Official or except for work authorized by permit issued by the Noise Control Officer.*
>
> D. *Owner's/employer's responsibility. It is unlawful for the landowner, construction company owner, contractor, subcontractor or employer of persons working, laboring, building, or assisting in construction to permit construction activities in violation of provisions in this Section.*
>
> E. *Sunday work permits. Any person who wants to do construction work on a Sunday must apply for a work permit from the Noise Control Officer. The Noise Control Officer may issue a Sunday work permit if there is good cause shown; and in issuing such a permit, consideration will be given to the nature of the work and its proximity to residential areas. The permit may allow work on Sundays, only between 9:00 AM and 6:00 PM, and it shall designate the specific dates when it is allowed.*

EXISTING STATIONARY SOURCES

The project area is urbanized and generally built-out. The project site is located within the existing Alamitos Generating Station which is an industrial use. Surrounding uses in proximity to the project site consist of industrial, educational, recreational, and residential uses. The primary sources of stationary noise in the project vicinity are urban-related activities (i.e., mechanical equipment associated with existing industrial uses). The noise associated with these sources may represent a single-event noise occurrence, short-term or long-term/continuous noise.

EXISTING MOBILE SOURCES

The majority of the existing noise from mobile sources in the project area is generated from vehicle sources along Studebaker Road adjacent to the project site.

NOISE MEASUREMENTS

In order to quantify existing ambient noise levels in the project area (vicinity of the project site), three noise measurements were taken on May 4, 2016; refer to Table 4.12-2, *Noise Measurements*. The noise measurement

sites were representative of typical existing noise exposure within and immediately adjacent to the project site; refer to Exhibit 4.12-1, *Noise Measurement Locations*. Ten-minute measurements were taken, between 1:25 PM and 2:10 PM. Short-term (Leq) measurements are considered representative of the noise levels throughout the day.

Table 4.12-2
Noise Measurements

Site No.	Location	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)	Peak (dBA)	Time
1	Approximately 100 feet south of East 5th Street on Long Beach Bikeway Route 10	58.0	51.0	84.3	82.7	1:28 PM
2	Approximately 800 feet south of East 5th Street on Long Beach Bikeway Route 10	59.6	50.7	88.2	85.4	1:42 PM
3	Approximately 75 feet north of East Vista Street on Long Beach Bikeway Route 10	54.7	47.0	75.8	86.0	1:57 PM

Source: Michael Baker International, May 4, 2016.

- *Measurement Site 1* was located approximately 100 feet south of East 5th Street on Long Beach Bikeway Route 10. Sources of peak noise included traffic on Studebaker Road, people talking, and dogs barking. The noise level monitored at Site 1 was 58.0 dBA Leq.

- *Measurement Site 2* was located approximately 800 feet south of East 5th Street on Long Beach Bikeway Route 10. Sources of peak noise included traffic on Studebaker Road and people talking. The noise level monitored at Site 2 was 59.6 dBA Leq.

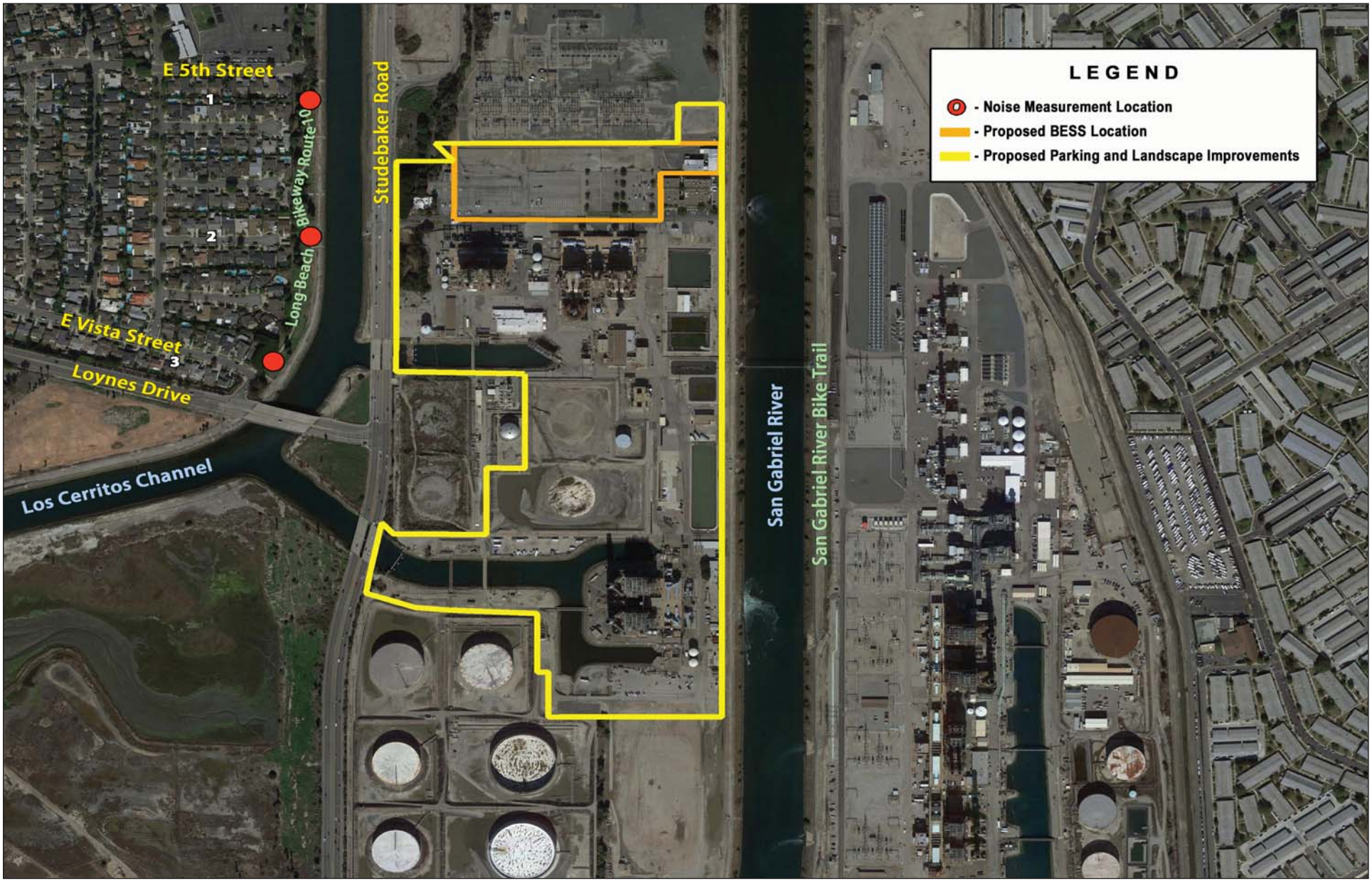
- *Measurement Site 3* was located approximately 75 feet south of East 5th Street on Long Beach Bikeway Route 10. Sources of peak noise included traffic on Studebaker Road and Loynes Drive, as well as air planes. The noise level monitored at Site 3 was 54.7 dBA Leq.

Meteorological conditions were sunny and clear skies, warm temperatures, with light wind speeds (0 to 5 miles per hour), and low humidity. Noise monitoring equipment used for the ambient noise survey consisted of a Brüel & Kjær Hand-held Analyzer Type 2250 equipped with a Type 4189 pre-polarized microphone. The monitoring equipment complies with applicable requirements of the American National Standards Institute (ANSI) for Type I (precision) sound level meters. The results of the field measurements are included in Appendix C, *Noise Data*.

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?

Less Than Significant Impact With Mitigation Incorporated. It is difficult to specify noise levels that are generally acceptable to everyone; noise that is considered a nuisance to one person may be unnoticed by another. Standards may be based on documented complaints in response to documented noise levels, or based on studies of the ability of people to sleep, talk, or work under various noise conditions. However, all such studies recognize that individual responses vary considerably. Standards usually address the needs of the majority of the general population.

As stated above, the *LBMC* includes some regulations controlling unnecessary, excessive, and annoying noise within the City. As outlined in the *LBMC*, maximum noise levels are based on land use districts.



Source: Google Earth 2016.

NOT TO SCALE

Michael Baker INTERNATIONAL

10/16 • JN 153317 [147442]

ALAMITOS GENERATING STATION
BATTERY ENERGY STORAGE SYSTEM PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Noise Measurement Locations

Exhibit 4.12-1

Short-Term Noise Impacts

Construction activities generally are temporary and have a short duration, resulting in periodic increases in the ambient noise environment. Construction activities would be completed incrementally (in three phases for three battery energy storage buildings and associated facilities) over the course of approximately four years (from 2019 through 2023). Construction activities would include demolition, site preparation, building construction, equipping, and paving. Ground-borne noise and other types of construction-related noise impacts typically occur during the initial demolition and earthwork phases. These phases of construction have the potential to create the highest levels of noise. Typical noise levels generated by construction equipment are shown in Table 4.12-3, *Maximum Noise Levels Generated by Construction Equipment*. It should be noted that the noise levels identified in Table 4.12-3 are maximum sound levels (L_{max}), which are the highest individual sound occurring at an individual time period. Operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be due to random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts).

Table 4.12-3
Maximum Noise Levels Generated by Construction Equipment

Type of Equipment	Acoustical Use Factor[1]	L_{max} at 50 Feet (dBA)
Concrete Saw	20	90
Crane	16	81
Augur Drill Rig	20	85
Concrete Mixer Truck	40	79
Backhoe	40	78
Dozer	40	82
Excavator	40	81
Forklift	40	78
Paver	50	77
Roller	20	80
Tractor	40	84
Water Truck	40	80
Grader	40	85
General Industrial Equipment	50	85

Note:
1. Acoustical Use Factor (percent): Estimates the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.

Source: Federal Highway Administration, *Roadway Construction Noise Model (FHWA-HEP-05-054)*, January 2006.

Sensitive uses within and surrounding the project site include the Rosie the Riveter Charter High School located in the northwest corner of the existing Alamitos Generating Station along Studebaker Road and single-family residential uses to the west of Los Cerritos Channel approximately 450 feet to the western boundary of the project site. Additionally, residential uses are located approximately 1,350 feet to the north and 1,190 feet to the east of the project site. These sensitive uses may be exposed to elevated noise levels during project construction.

Construction noise would be acoustically dispersed throughout the project site and not concentrated in one area near adjacent sensitive uses. Pursuant to the *LBMC*, all construction activities may only occur between the hours of 7:00 AM and 7:00 PM, Monday through Friday, and between the hours of 9:00 AM and 6:00 PM on Saturday.

Construction activities are prohibited on Sundays and Federal holidays. It should be noted that some phases of construction (e.g., continuous pouring of concrete during hot weather) would require 24-hour continuous operations. However, nighttime construction would occur approximately 450 feet away from the closest residential uses to the project site. Additionally, implementation of Mitigation Measure NOI-1 would further minimize impacts from construction noise as it requires the use of best management practices. Mitigation Measure NOI-1 requires construction equipment to be equipped with properly operating and maintained mufflers and other state required noise attenuation devices. Thus, a less than significant noise impact would result from construction activities.

Long-Term Off-Site Mobile Noise Impacts

The proposed project would not substantially increase off-site mobile noise, since it only requires up to five full-time employees to serve the project. Therefore, the traffic would not substantially increase with implementation of the project. Although the project may result in a nominal number of trips associated with new employees, the impact of these trips would be negligible. Thus, impacts in this regard would be less than significant.

Long-Term Stationary Noise Impacts

Upon project completion, noise in the project area would not significantly increase. The project involves construction of battery energy storage facilities within an existing industrial site. The proposed project would include heat exchanger cooling towers, main power transformer, and an isolation transformer, which would generate stationary source noise. However, these facilities would be located at least 391 feet away from the Rosie the Riveter Charter High School, the closest sensitive receptor. Based on the reference noise levels for the stationary noise sources, the proposed heat exchanger cooling towers, main power transformer, and isolation transformer would result in a combined noise level of 89.2 dBA at a distance of 3 feet.[1] As this equipment would be located approximately 391 feet away from the closest sensitive receptor (Rosie the Riveter Charter High School), distance attenuation would reduce noise levels to 46.9 dBA, which is below the City's 70 dBA noise limit for District Four. Therefore, impacts during long term operations would be less than significant.

Mitigation Measures:

NOI-1 Prior to Grading Permit issuance, the project applicant shall demonstrate, to the satisfaction of the City of Long Beach City Engineer, that the project complies with the following:

- Construction contracts specify that all construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and other state required noise attenuation devices.

- Property owners and occupants located within 100 feet of the project boundary shall be sent a notice, at least 15 days prior to commencement of construction of each phase, regarding the construction schedule of the proposed project. A sign, legible at a distance of 50 feet shall also be posted at the project construction site. All notices and signs shall be reviewed and approved by the City of Long Beach Development Services Department, prior to mailing or posting and shall indicate the dates and duration of construction activities, as well as provide a contact name and a telephone number where residents can inquire about the construction process and register complaints.

- Prior to issuance of any Grading or Building Permit, the contractor shall provide evidence that a construction staff member will be designated as a Noise Disturbance Coordinator and will be present on-site during construction activities. The Noise Disturbance Coordinator shall be responsible for responding to any local complaints about construction noise. When a

[1] AES Southland Energy, LLC, *CEQA Checklist Alamitos Energy Storage Project*, June 2015.

complaint is received, the Noise Disturbance Coordinator shall notify the City within 24-hours of the complaint and determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall implement reasonable measures to resolve the complaint, as deemed acceptable by the City of Long Beach City Engineer. All notices that are sent to residential units immediately surrounding the construction site and all signs posted at the construction site shall include the contact name and the telephone number for the Noise Disturbance Coordinator.

- Prior to issuance of any Grading or Building Permit, the project applicant shall demonstrate to the satisfaction of the City of Long Beach City Engineer that construction noise reduction methods shall be used where feasible. These reduction methods include shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging areas and occupied residential areas, and electric air compressors and similar power tools.

- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. Project construction can generate varying degrees of ground-borne vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Ground-borne vibrations from construction activities rarely reach levels that damage structures.

The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations. In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.20 inch/second) appears to be conservative. The types of construction vibration impact include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. Typical vibration produced by construction equipment is illustrated in Table 4.12-4, *Typical Vibration Levels for Construction Equipment*.

The nearest structures to the project site are the adjacent Alamitos Generating Station office building to the south of the proposed chiller plant and east of battery energy storage building, Rosie the Riveter Charter High School to the west, power generating facilities to the south, and SCE switchyard to the north. The closest adjacent structure (Alamitos Generating Station office building) is located approximately 25 feet away from the proposed development within the project site. Groundborne vibration decreases rapidly with distance. As indicated in Table 4.12-4, based on the FTA data, vibration velocities from typical heavy construction equipment operation that would be used during project construction range from 0.003 to 0.089 inch-per-second peak particle velocity (PPV) at 25 feet from the source of activity. With regard to the proposed project, groundborne vibration would be generated primarily during grading activities on-site and by off-site haul-truck travel. Although the adjacent office building is located approximately 25 feet of the project site, the proposed construction activities would not be capable of exceeding the 0.2 inch-per-second PPV significance threshold for vibration, as construction activities would be limited and would not

be concentrated within 25 feet of the adjoining structures for an extended period of time. Therefore, vibration impacts would be less than significant.

Table 4.12-4
Typical Vibration Levels for Construction Equipment

Equipment	Approximate peak particle velocity at 25 feet (inches/second)	Approximate peak particle velocity at 50 feet (inches/second)
Large bulldozer	0.089	0.0315
Loaded trucks	0.076	0.0269
Small bulldozer	0.003	0.0011
Jackhammer	0.035	0.0124

Notes:
1. Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Guidelines*, May 2006. Table 12-2.
2. Calculated using the following formula:
   $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$
   where: PPV (equip) = the peak particle velocity in in/sec of the equipment adjusted for the distance
   PPV (ref) = the reference vibration level in in/sec from Table 12-2 of the FTA *Transit Noise and Vibration Impact Assessment Guidelines*
   D = the distance from the equipment to the receiver

Mitigation Measures: No mitigation is required.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact. Refer to Response 4.12(a) above.

Mitigation Measures: No mitigation is required.

d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above the levels existing without the project?

Less Than Significant Impact. Refer to Responses 4.12(a) above.

Mitigation Measures: No mitigation is required.

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?

No Impact. The proposed project site is not located within an airport land use plan or within two miles of a public airport or public use airport. The nearest airport to the project site is the Long Beach Airport, located approximately 2.9 miles to the northwest of the project site at 4100 Donald Douglas Drive. In addition, the project site is located outside of the Long Beach Airport Influence Area.[2] Therefore, no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

[2] Los Angeles County Airport Land Use Commission, *Long Beach Airport, Airport Influence Area Map*, May 13, 2003.

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?

No Impact. There are no private airstrips located within the project area or in the vicinity. Thus, no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

4.13 POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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) 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)?

Less Than Significant Impact. A project could induce population growth in an area, either directly (for example, by proposing new homes and/or businesses) or indirectly (for example, through extension of roads or other infrastructure). No residential uses would be developed as part of the project. Therefore, the project would not induce direct population growth in the City of Long Beach through new housing development.

The project would not have the capacity to result in significant impacts related to indirect population growth. As noted previously, the estimated employment growth associated with the project would be limited to up to five full-time employees. Even if all five of these new employees choose to relocate to the City (thus indirectly increasing the population within the City), this growth would not be substantial and no significant impacts would occur.

Mitigation Measures: No mitigation is required.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. The project site is currently occupied by the Alamitos Generating Station. There is no existing housing on-site. Project implementation would not displace any existing housing or persons, thus, would not necessitate the construction of replacement housing elsewhere. No impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. Refer to Response 4.13(b).

Mitigation Measures: No mitigation is required.

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4.14 PUBLIC SERVICES

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

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

1) Fire protection?

Less Than Significant Impact. The Long Beach Fire Department (LBFD) provides fire protection within the City. The LBFD has 23 stations within the City of Long Beach. The nearest station to the project site is Fire Station 22, located at 6340 East Atherton Street, approximately 1.25 miles to the northwest. Project implementation is not anticipated to increase response times to the project site or surrounding vicinity. The proposed project would install new battery storage facilities to provide improved electrical service for the local electric utility purveyor and would result in an increase in the demand for fire protection services at the project site. The overall project design would be subject to compliance with the requirements set forth in the 2013 California Fire Code (CFC), including providing the required fire sprinkler system throughout the proposed buildings. The development would also be subject to compliance with the fire provisions specified in the 2013 California Building Code (CBC) and LBMC, Title 18, *Building and Construction*. The project plans would be subject to LBFD site/building plan review, which would ensure adequate emergency access, fire hydrant availability, and compliance with all applicable codes.

The project falls under the High-hazard Group H occupancy, which includes, among others, the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation, or storage of materials that constitute a physical or health hazard in quantities in excess of those allowed in control areas complying with Section 414 of the CBC. The fire protection system and design requirements are based on application of CFC and H-3 occupancy classification. The existing Alamitos Generating Station would also be required to have a hydraulically adequate and code-acceptable water supply for all water-based suppression systems available.

Per CBC Section 903.2.5.1, automatic sprinkler systems must be installed in Group H occupancies for the proposed project. The second floor, mechanical equipment story, would be sprinklered, as it is below the third floor Group H occupancy and the floor area exceeds the maximum allowable unsprinklered area. Remaining ancillary spaces would be sprinklered as well to qualify the building as fully sprinklered. The sprinkler system would be a double-interlock and pre-action sprinkler system with heat sensitive closed sprinkler heads. Each floor would have its own

control valve per CBC Section 903.3.8. Automatic pre-action valves are actuated (opened) electrically upon receipt of fire indication from the detection system for the given hazard, and the control panel concurrently produces a fire alarm and initiates any required auxiliary shutdown functions that may be required. The panel for each pre-action sprinkler system also continuously monitors off-normal conditions to ensure the availability and proper operation of each system, and to annunciate supervisory and trouble alarms.

LBMC Chapter 18.23, *Fire Facilities Impact Fee*, was adopted for the purpose of imposing mitigation fees on applicants seeking to construct development projects. The purpose of such fees is to assure that the impacts created by proposed development pay its fair share of the costs required to support needed fire facilities and related costs necessary to accommodate such development. The amount of applicable fire facilities impact fee would be calculated based on the gross square feet of floor area and type of use and location in a non-residential development. Compliance with LBMC Chapter 18.23, which requires payment of fire facilities impact fee, would ensure that project implementation would result in a less than significant impact to fire protection services.

Project implementation is not anticipated to require the construction of new or physically altered fire protection facilities. Upon compliance with the existing CBC, CFC, LBMC, and LBFD design standards, impacts pertaining to fire hazards would be reduced to less than significant levels.

Mitigation Measures: No mitigation is required.

2) Police protection?

Less Than Significant Impact. The Long Beach Police Department (LBPD) provides law enforcement services to the City, including the project site. According to the *Police Reporting Districts Map*, prepared by the City of Long Beach, the project site is located within the East Police Division, Police Beat 13. The LBPD operates out of a central location at 400 West Broadway, which is approximately 5.4 miles west of the project site. Long Beach Police East Sub-Station is located at 3800 East Willow Street, approximately 3.4 miles to the northwest of the project site.

Implementation of the proposed project would not substantially increase the need for additional police protection services to the project site. The operational workforce of the proposed project would only require up to five full-time employees for maintenance. The Alamitos Generating Station is not open to the public and no residential uses are proposed. The proposed project would not introduce a use that would substantially increase the need for police response. As a result, project implementation is not anticipated to increase response times to the project site or surrounding vicinity, or require the construction of new or physically altered police protection facilities. In addition, the project would be subject to site plan review by the City prior to project approval to ensure that it meets City requirements in regards to safety (e.g., nighttime security lighting) to minimize the potential for safety concerns. Thus, impacts in this regard would be less than significant.

Moreover, LBMC Chapter 18.22, *Police Facilities Impact Fee*, was adopted for the purpose of imposing mitigation fees on applicants seeking to construct development projects. The purpose of such fees is to assure that the impacts created by proposed development pay its fair share of the costs required to support needed police facilities and related costs necessary to accommodate such development. The amount of applicable police facilities impact fee would be calculated based on the gross square feet of floor area and type of use and location in a non-residential development. Compliance with LBMC Chapter 18.22, which requires payment of police facilities impact fee, would ensure that project implementation would result in a less than significant impact to police protection services.

Mitigation Measures: No mitigation is required.

3) Schools?

Less Than Significant Impact. The area surrounding the Alamitos Generating Station is served by the Long Beach Unified School District (LBUSD), which includes 85 public schools in the cities of Long Beach, Lakewood, Signal Hill,

and Avalon on Catalina Island (2015 LBUSD). Rosie the Riveter Charter High School, a charter school operated by Women in Non-Traditional Employment Roles (WINTER), is located at the Alamitos Generating Station along Studebaker Road, to the north side of the entry road to the project site. Additionally, Kettering Elementary School is located approximately 790 feet to the northwest of the project site. California State University, Long Beach, is located approximately one mile to the northwest of the project site.

The proposed project would require up to five full-time employees during long-term operations. Some or all of those hired employees may already be residents of the City and may currently work at the Alamitos Generating Station facility. As such, implementation of the proposed project would not result in the need for the construction of additional school facilities, as the project would not result in a substantial increase in population. However, the project would be subject to the requirements of Assembly Bill (AB) 2926 and Senate Bill (SB) 50, which allow school districts to collect impact fees from developers of new industrial projects. According to Section 65996 of the California Government Code, development fees authorized by SB 50 are deemed to be "full and complete school facilities mitigation." Thus, upon payment of required fees by the project applicant consistent with existing State requirements, impacts in this regard would be reduced to less than significant levels.

Mitigation Measures: No mitigation is required.

4) Parks?

Less Than Significant Impact. The project does not propose new or physically altered parks or recreational facilities. According to the City of Long Beach Parks, Recreation, and Marine Department, the City maintains 162 parks and 26 community centers, among other programs and services. Several parks and recreational facilities including Channel View Park, Long Beach Bikeway Route 10, San Gabriel River Bike Trail, Jack Nichol Park, and College Park are located in close proximity of the project site. Project implementation would not involve residential development, thus, would not generate a demand for park facilities through new residential development. Project implementation would not generate a significant demand for park facilities or increase the use of existing facilities as a result of the new employees, since the proposed project would only result in an increase of up to five new employees. Less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

5) Other public facilities?

Less Than Significant Impact. Library services for the project area are provided by the Long Beach Public Library. The closest public library to the project site is Bay Shore Neighborhood Library, located at 195 Bay Shore Avenue, approximately 1.65 miles to the southwest. The proposed project is industrial in nature similar to the existing on-site uses and would not result in impacts on public facilities beyond those described in Response 4.14(a)(4), including public libraries. Therefore, less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

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4.15 RECREATION

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			✓	
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?

Less Than Significant Impact. Refer to Response 4.14(a)(4). The project proposes to install energy storage facilities within the existing Alamitos Generating Station, resulting in a maximum of five new employees on the site. Therefore, the proposed project would not result in a substantial increase in demand on parks or other recreational facilities, and would not result in the physical deterioration of these facilities. Less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

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

No Impact. The project does not include recreational facilities, nor would it require the construction or expansion of existing recreational facilities. No impacts would result in this regard.

Mitigation Measures: No mitigation is required.

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4.16 TRANSPORTATION/TRAFFIC

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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) 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?

Less Than Significant Impact. Implementation of the proposed project would result in the construction of three battery energy storage buildings, associated facilities, landscaping/open space, and parking improvements within the existing Alamitos Generating Station. The project site is accessible via an entry road located along Studebaker Road approximately 1,000 feet to the north of the intersection of Studebaker Road and Loynes Drive.

Construction activities would be completed incrementally (in three phases for three battery energy storage buildings and associated facilities) over the course of approximately four years (from 2019 through 2023). This short-term traffic would include the transfer of construction equipment, construction worker trips, and hauling trips for construction material. In general, the first three months of construction for each BESS building, which include demolition and grading activities, would generate the highest number of hauling trips. The remaining months would include steel, electrical/HVAC equipment, and racks and batteries deliveries. For each phase of the construction, an average of 20 trucks per day is estimated for the first three months, and an average of 15 vehicles per day is estimated for the next nine months. The remaining days would have an average of 10 trucks per day. An additional 1,250 truck trips are estimated for the surface work for the proposed open space areas. This work would be completed in stages throughout project construction (over a 24 month period), which would result in an average of 52 truck trips per month (averaging 11 truck trips per day). It is expected that many of these construction-related trips

would occur outside of the peak morning and evening congestion periods. The City of Long Beach regulates truck routes on the City roadways. Project related trucks must utilize designated truck routes near the project site. According to the Map 18, *Designated Truck Routes*, of the Mobility Element of the *General Plan*, Studebaker Road is designated as an appropriate path of travel for trucks. Given the minimal number of construction-related trips expected to occur during the short-term construction process, and the classification of Studebaker Road as an appropriate truck route, short-term impacts would be less than significant.

Long-term operation of the project would not generate substantial vehicle trips along nearby roadways, since the proposed project would only require up to five full-time employees for maintenance. Moreover, the project would not result in any change to roadway geometry or capacity on surrounding roadways. Therefore, long-term operational impacts would be less than significant.

Mitigation Measures: No mitigation is required.

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?

Less Than Significant Impact. The *2010 Congestion Management Program* (CMP) prepared by the Los Angeles Metropolitan Transportation Authority (Metro) is intended to address the impact of local growth on the regional transportation system for Los Angeles County. The CMP was created to link local land use decisions with their impacts on regional transportation and air quality. One of the primary reasons for defining and monitoring a CMP highway and roadway system is to assess the overall performance of the highway system in Los Angeles County and track changes over time. The entrance to the existing Alamitos Generating Station and the project site is located along Studebaker Road approximately 1,000 feet to the north of the intersection of Studebaker Road and Loynes Drive. Studebaker Road is not designated a CMP roadway by Metro. In addition, as stated in Response 4.16(a), above, long-term operation of the project would not generate substantial vehicle trips along nearby roadways, since the proposed project would only require up to five full-time employees for maintenance. Short-term construction process for the project would result in increase in traffic on the roadways in the project area; however, impacts in this regard would be temporary in nature and would cease upon project completion. Thus, the project would not create the potential for additional traffic that would conflict with an applicable CMP. Therefore, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

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?

No Impact. The nearest airport to the project site is the Long Beach Airport, located approximately 2.9 miles to the northwest of the project site at 4100 Donald Douglas Drive. Construction and operation of the proposed project would not increase the frequency of air traffic or alter air traffic patterns. No impacts are anticipated in this regard.

Mitigation Measures: No mitigation is required.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact. Implementation of the proposed project would result in the construction of three battery energy storage buildings and associated facilities within the existing Alamitos Generating Station. The existing entry road to the Alamitos Generating Station is located along Studebaker Road and would be utilized to access the project site. Currently, a right-turn pocket along northbound Studebaker Road and a left-turn pocket along the southbound Studebaker Road provide access to the entry road. The proposed project would not alter site

access or geometry on surrounding roadways, nor would it substantially increase hazards due to a design feature. Thus, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

e) Result in inadequate emergency access?

Less Than Significant Impact. Refer to Response 4.8(g), above.

Mitigation Measures: No mitigation is required.

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?

No Impact. The proposed project would not conflict with any policies related to alternative forms of transportation. The project site is located within the SEADIP Planned Development District which is comprised of a variety of uses including residential, commercial, and industrial uses. The proposed project includes construction of battery energy storage facilities within the existing Alamitos Generating Station which is an industrial use. The Alamitos Generating Station is not open to the public. The project site is accessible via an entry road located along Studebaker Road approximately 1,000 feet to the north of the intersection of Studebaker Road and Loynes Drive. Studebaker Road lacks sidewalk facilities and does not include striped bicycle lanes in the vicinity of the project site. The nearest bike trails to the project site are the Long Beach Bikeway Route 10 to the west of Los Cerritos Channel and the San Gabriel River Bike Trail to the east of San Gabriel River. No impacts to these trail facilities are anticipated by the proposed project. Additionally, the closest bus stop to the project site is located along the southbound Studebaker Road approximately 800 feet to the south of the entry road, and no modifications to this bus stop would occur as part of the project. As such, no impact would occur in this regard.

Mitigation Measures: No mitigation is required.

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4.17 TRIBAL CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
1) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or		✓		
2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		✓		

As of July 1, 2015, California Assembly Bill 52 (AB 52) was enacted and expanded CEQA by establishing a formal consultation process for California tribes within the CEQA process. The bill specifies that any project may affect or cause a substantial adverse change in the significance of a tribal cultural resource would require a lead agency to "begin consultation with a California Native American tribe that is traditional and culturally affiliated with the geographic area of the proposed project." Section 21074 of AB 52 also defines a new category of resources under CEQA called "tribal cultural resources." Tribal cultural resources are defined as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and is either listed on or eligible for the California Register of Historical Resources or a local historic register, or if the lead agency chooses to treat the resource as a tribal cultural resource.

In compliance with AB 52, the City of Long Beach distributed letters to numerous Native American tribes notifying each tribe of the opportunity to consult with the City regarding the proposed project. The tribes were identified based on a list provided by the Native American Heritage Commission (NAHC), or were tribes that had previously requested to be notified of future projects proposed by the City. While two responses were received from tribal contacts, no tribes initiated consultation with the City for the project under AB 52. One response requested the presence of a Native American monitor during ground disturbing activities associated with the project. The City is amenable to the presence of a tribal observer during construction activities.

On February 19, 2016, the California Natural Resources Agency proposed to adopt and amend regulations as part of AB 52 implementing Title 14, Division 6, Chapter 3 of the California Code of Regulations, CEQA Guidelines, to include consideration of impacts to tribal cultural resources pursuant to Government Code Section 11346.6. On September 27, 2016, the California Office of Administrative Law approved the amendments to Appendix G of the CEQA Guidelines, and these amendments are addressed within this environmental document.

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

1) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

Less Than Significant Impact With Mitigation Incorporated. According to the Alamitos Energy Center *Application for Certification* (AFC), the NAHC record search of the Sacred Land file did not indicate the presence of Native American cultural resources at the Alamitos Generating Station. The record search conducted at the South Coastal Information Center of the California Historical Resources Information System also did not indicate the presence of Native American traditional cultural properties. In addition, the majority of underground work would be conducted within artificial fill materials, as the Alamitos Generating Station was constructed on artificial fill to a depth of 9 feet below ground surface. Further, prior to significant land development in the 1900s, the proposed site and surrounding area was a tidal flat environment with high groundwater levels at approximately 10 feet below ground surface or less. As a result, intact archaeological deposits below the artificial fill are unlikely.[1]

In compliance with AB 52, letters were distributed to the Native American tribes in May 2016. While two responses were received from tribal contacts, no tribes initiated consultation with the City for the project under AB 52. One response requested the presence of a Native American monitor during ground disturbing activities associated with the project. The City is amenable to the presence of a tribal observer during construction activities. In addition, given the level of previous disturbance within the project site, it is not expected that any tribal cultural resources as defined in Public Resources Code Section 21074 would occur within the project area. Therefore, the proposed project would not have a significant impact to a historical resource, as defined in PRC Section 5020.1(k). As noted in Section 4.5, *Cultural Resources*, Mitigation Measure CUL-1 would be implemented to minimize impacts to sensitive resources in the event they are found during the construction process. Thus, impacts to a listed or eligible resource under the California Register of Historical Resources or a local register as defined under Public Resources Code section 5020.1(k) are anticipated to be less than significant.

Mitigation Measures: Refer to Mitigation Measure CUL-1.

2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less Than Significant Impact With Mitigation Incorporated. Refer to Response 4.17(a). The project area is developed and urbanized, and located on artificial fill. Further, prior to significant land development in the 1900s, the proposed site and surrounding area was a tidal flat environment with high groundwater levels at approximately 10 feet below ground surface or less. As a result, intact archaeological deposits below the artificial fill are unlikely.[2] In compliance with AB 52, the City of Long Beach distributed letters to potentially affected tribes for consultation regarding the proposed project. One Native American tribe has requested a monitor during construction activities. The City is amenable to the presence of a tribal observer during construction activities. Given the level of previous disturbance within the project site, it is not expected that any tribal cultural resources would occur within the project area. Therefore, the proposed project would not have a significant impact to a tribal cultural resource, as defined in

[1] AES, *Alamitos Energy Center Application for Certification 13-AFC-01*, December 27, 2013.
[2] Ibid.

PRC Section 5024.1(c). Thus, impacts pertaining to tribal resources would be less than significant with implementation of Mitigation Measure CUL-1.

Mitigation Measures: Refer to Mitigation Measure CUL-1.

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4.18 UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			✓	
b. 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?			✓	
c. 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?			✓	
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) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Less Than Significant Impact. Sewer services for the project site are provided by Long Beach Water Department (LBWD). The LBWD operates and maintains nearly 765 miles of sanitary sewer lines, delivering over 40 million gallons per day to Los Angeles County Sanitation Districts (LACSD) facilities located on the north and south sides of the City. From these facilities, treated sewage will be used in one of three ways: 1) it will be used to irrigate parks, golf courses, cemeteries, and athletic fields, 2) it will be used to recharge the City's groundwater basin, or 3) it will be pumped into the Pacific Ocean.

Currently, a majority of the City's wastewater is delivered to the Joint Water Pollution Control Plant (JWPCP) of the LACSD. The remaining portion of the City's wastewater is delivered to the Long Beach Water Reclamation Plant of the LACSD. JWPCP is located approximately 10.5 miles northwest of the project site at 24501 South Figueroa Street in the City of Carson. The plant occupies approximately 420 acres to the east of the Harbor (110) Freeway. The JWPCP is the largest of the LACSDs' wastewater treatment plants. It provides both primary and secondary treatment for 280 million gallons of wastewater per day. The plant serves a population of approximately 3.5 million people, including most of the 460,000 residents of the City. At JWPCP, the treated wastewater is disinfected with chlorine and sent to the Pacific Ocean through networks of outfalls that extend 1.5 miles off the Palos Verdes Peninsula to a depth of 200 feet. The Long Beach Water Reclamation Plant is located at 7400 East Willow Street in the City of Long Beach, approximately 2 miles to the northeast of the project site. The plant occupies 17 acres west of the San Gabriel River (605) Freeway. The plant provides primary, secondary, and tertiary treatment for 25 million gallons of wastewater per day. The plant serves a population of approximately 250,000 people, including a portion of the 460,000 residents of the City.

Implementation of the proposed project would result in construction of three battery energy storage buildings and associated facilities within the existing Alamitos Generating Station. As the proposed project is a self-contained energy storage facility, no process water would be produced by the batteries. The proposed project would entail up to five full-time employees to serve the facility during long-term operations. Each battery energy storage building would include restroom facilities. A new sewage line to each building would be added during construction and would connect to the existing sewage line from the adjacent office building. However, usage of the new restroom facilities and associated wastewater generation would be minimal, given the small amount of additional staff proposed for operation of the facility (up to five new employees). It is not expected that the project would exceed wastewater treatment requirements of the Los Angeles RWQCB. The LACSD is responsible for meeting all State and Federal wastewater treatment requirements. As part of any new development project, the LACSD would charge a standard sewer connection fee that would assist LACSD in ensuring that sufficient capacity is available and that the wastewater treatment requirements of the Los Angeles RWQCB are met. Thus, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation measures are required.

b) 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?

Less Than Significant Impact. The LBWD maintains and operates its own municipal water system, and would continue to provide water service to the project site. Impacts regarding wastewater treatment facilities are described in Response 4.18(a), above. Each battery energy storage building would include restroom facilities. As stated in Response 4.18(a), usage of the new restroom facilities and water consumption/wastewater generation would be minimal, given the small amount of additional staff proposed for operation of the facility. Refer to Response 4.18(d), below, for a discussion of water supply impacts. Once the system is operational, water usage is anticipated to be nominal. All cooling water for battery operations would be recirculated within the system and would be operated such that no evaporation occurs. Any water consumption would be limited (20 to 100 gallons) when maintenance activities of the cooling system are required on an infrequent basis. As such, it is not anticipated that any water or wastewater facilities would be required to serve the project that would result in a significant environmental effect. Impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

c) 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?

Less Than Significant Impact. The existing Alamitos Generating Station is currently regulated under the NPDES Storm water permit issued by the Los Angeles RWQCB for Long Beach. Currently, the storm water drainage system consists of two retention basins and existing storm water outfalls. Storm water discharges into the San Gabriel River through existing retention basins along the eastern span of the Alamitos Generating Station. The retention basins are used for runoff from storm drains, boilers, and sumps. Storm water on the proposed project site would also be routed to the existing retention basin with oil/water separator and managed on-site according to the existing NPDES permit for the site. Additionally, the project would include the conversion of approximately 20 acres of paved area into areas covered by pervious aggregate, thereby beneficially reducing site runoff. No expansion of the existing storm water drainage facilities would result from the project. Therefore, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. Potable water is currently provided to the existing Alamitos Generating Station via a LBWD pipeline interconnection that connects to the site from Studebaker Road. The LBWD maintains and operates its own municipal water system, and would provide water service to the project site. The chiller plant associated with the cooling system of the proposed battery energy storage buildings would utilize recirculating cooling water loops, chillers, and chilled water pumps. As such, the chiller plant would require minimal water usage. Once the system is operational, water usage is anticipated to be nominal. Additionally, as the expansion tank is not vented to the atmosphere, no water would be lost from the system through evaporation and would thus not need to be replaced other than during periodic maintenance and coil replacement. Therefore, any water consumption would be limited (20 to 100 gallons) when maintenance activities of the cooling system are required on an infrequent basis.

The perimeter landscaping within the project site would include medjool date palms, toyon and western redbud, ceanothus "concha", California glory flannel bush, Catalina cherry, blue elderberry, and California fan palms. The proposed landscaping is drought tolerant and would not result in substantial increases in water demand.

Each battery energy storage building would include restroom facilities. However, these restroom facilities would serve a maximum of five new employees, and any water consumption associated with these facilities is anticipated to be nominal given the small amount of additional staff proposed for operation of the project. Therefore, new or expanded entitlements to serve the project would not be required. Impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

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?

Less Than Significant Impact. Refer to Response 4.18(a), above.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. Implementation of the proposed project would result in construction of three battery energy storage buildings and associated facilities within the existing Alamitos Generating Station. The project would not include any habitable structures. The primary hauler for waste for the Alamitos Generating Station is currently Universal Waste Systems, Inc., and would likely be used for the project. Universal Waste Systems provides residential, recycling, and commercial waste services. The primary disposal facility for the proposed project would be the Bel-Art Waste Transfer Station, located at 2495 East 68th Street, Long Beach, approximately nine miles to the northwest of the project site. This facility is a 3.2-acre large volume transfer station. The facility accepts mixed municipal waste, construction and demolition waste, green materials, and inert waste. Once the waste has been processed at Bel-Art Waste Transfer Station, waste would be transferred to a nearby landfill for disposal. The nearest landfill to the project site that would handle solid waste and recycling for the project is Savage Canyon Landfill located at 13919 Penn Street in the City of Whittier, approximately 15 miles to the northeast of the project site.[1]

[1] AES, *Alamitos Energy Center Application for Certification 13-AFC-01*, December 27, 2013.

Demolition and construction activities associated with the proposed development would generate construction debris (soil, asphalt, demolished materials, etc.). However, the generation of these materials would be short-term in nature and would not have the capability to substantially affect the capacity of regional landfills. Additionally, the proposed project operational activities is not expected to substantially increase the volume of solid waste generated by the Alamitos Generating Station over existing conditions, since the project would only require up to five new full-time employees to serve the project. As a result, once construction is completed, the facility would generate minimal amount of waste, which would be limited to that generated by the small number of staff working at the facility. Thus, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

Less Than Significant Impact. As stated above, the proposed project would result in the generation of solid waste during the short-term construction processes and minimal amount of solid waste during long-term operations. The proposed project would comply with all applicable Federal, State, and local statutes and regulations related to solid waste. The project would be required to comply with Assembly Bills (AB) 939 and 1327, which require measures to enhance recycling and source reduction. The project would also be required to comply with the *LBMC* Chapter 18.67, *Construction and Demolition Recycling Program*, which requires covered projects to divert at least 60 percent of all project-related construction and materials. Chapter 18.67 of the *LBMC* also requires preparation of a Waste Management Plan (WMP) for the project. Thus, compliance with AB 939 and AB 1327, as well as the *LBMC* Chapter 18.67 would reduce impacts in this regard to less than significant levels.

Mitigation Measures: No mitigation is required.

4.19 MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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 which will cause substantial adverse effects on human beings, either directly or indirectly?		✓		

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

Less Than Significant Impact With Mitigation Incorporated. As shown within Section 4.4, *Biological Resources*, construction of the proposed battery energy storage facilities would occur within an urbanized and fully developed area. The project site would be located within the existing Alamitos Generating Station which is an industrial use. The project site has been previously graded and developed. The project would not result in direct impacts to any sensitive species or wildlife habitat and impacts to sensitive biological resources would be less than significant. Since the proposed project would result in the removal and replacement of ornamental vegetation within the project site, the proposed project could result in potential impacts to nesting birds protected by the Migratory Bird Treaty Act (MBTA). Mitigation Measure BIO-1 has been included in order to minimize potential impacts to nesting birds in the event any mature trees are affected during the avian nesting season.

In addition, as described within Section 4.5, *Cultural Resources* and Section 4.17, *Tribal Cultural Resources*, the project site has been completely disturbed by development and have been subject to ground disturbance in the past. As such, any historical, archaeological, and paleontological resources which may have existed in the project area have likely been disturbed. However, Mitigation Measures CUL-1 and CUL-2 would be required in the event unexpected resources are uncovered during the grading and excavation process. With implementation of recommended mitigation, the project is not anticipated to eliminate important examples of the major periods of California history or prehistory. Thus, impacts in this regard would be less than significant.

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

Less Than Significant Impact With Mitigation Incorporated. The proposed project would include construction of three battery energy storage buildings and associated facilities within the existing Alamitos Generating Station to provide electrical service for the local electric utility, SCE. The project would not result in any new land uses at the project site. The project would not result in substantial population growth within the area, either directly or indirectly. Although the project may incrementally affect other resources that were determined to be less than significant, the project's contribution to these effects is not considered "cumulatively considerable," in consideration of the relatively nominal impacts of the project and mitigation measures provided.

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

Less Than Significant Impact With Mitigation Incorporated. Previous sections of this Initial Study reviewed the proposed project's potential impacts related to aesthetics, air quality, geology and soils, greenhouse gases, hydrology/water quality, noise, hazards and hazardous materials, traffic, and other issues. As concluded in these previous discussions, the proposed project would result in less than significant environmental impacts with implementation of the recommended mitigation measures. Therefore, the proposed project would not result in environmental impacts that would cause substantial adverse effects on human beings.

4.20 REFERENCES

The following references were utilized during preparation of this Initial Study. These documents are available for review at the City of Long Beach Development Services Department, located at 333 West Ocean Boulevard, 3rd Floor, Long Beach, California 90802.

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4.21 REPORT PREPARATION PERSONNEL

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5.0 INVENTORY OF MITIGATION MEASURES

AESTHETICS

AES-1 For any nighttime construction required for the project, the City of Long Beach Development Services Department shall ensure that the contract documents require the construction contractor to use the minimum amount and intensity of lighting required for safety and construction purposes. The lighting shall be shielded and directed towards the specific area of construction, and away from surrounding sensitive uses to the extent practicable.

AES-2 The project applicant shall ensure that any exterior lighting does not spill over onto the adjacent uses. Prior to issuance of any building permit, the project applicant shall prepare and submit an Outdoor Lighting Plan to the City of Long Beach Development Services Department, for review and approval, that includes a footcandle map illustrating the amount of light from the proposed project at adjacent light sensitive receptors. All exterior light fixtures shall be shielded or directed away from adjoining uses.

AIR QUALITY

AQ-1 Prior to issuance of any Grading Permit, the City of Long Beach City Engineer shall confirm that the Grading Plan and specifications stipulate that, in compliance with SCAQMD Rule 403, excessive fugitive dust emissions shall be controlled by regular watering or other dust prevention measures, as specified in the SCAQMD's Rules and Regulations. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Implementation of the following measures would reduce short-term fugitive dust impacts on nearby sensitive receptors:

- All active portions of the construction site shall be watered every three hours during daily construction activities and when dust is observed migrating from the project site to prevent excessive amounts of dust;
- Pave or apply water every three hours during daily construction activities or apply non-toxic soil stabilizers on all parking areas and staging areas. More frequent watering shall occur if dust is observed migrating from the site during site disturbance;
- Any on-site stockpiles of debris, dirt, or other dusty material shall be enclosed, covered, or watered three times daily, or non-toxic soil binders shall be applied;
- All grading and excavation operations shall be suspended when wind speeds exceed 25 miles per hour;
- Disturbed areas shall be replaced with ground cover or paved immediately after construction is completed in the affected area;
- Track-out devices such as gravel bed track-out aprons (3 inches deep, 25 feet long, 12 feet wide per lane and edged by rock berm or row of stakes) shall be installed to reduce mud/dirt trackout from unpaved truck exit routes;
- On-site vehicle speed shall be limited to 15 miles per hour;
- Visible dust beyond the property line which emanates from the project shall be prevented to the maximum extent feasible;

- All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust prior to departing the job site; and

- Trucks associated with soil-hauling activities shall avoid residential streets and utilize City-designated truck routes to the extent feasible.

BIOLOGICAL RESOURCES

BIO-1 If ground-disturbing activities or removal of any trees, shrubs, or any other potential nesting habitat are scheduled within the avian nesting season (nesting season generally extend from February 1 - August 31), a pre-construction clearance survey for nesting birds shall be conducted within 3 days prior to any ground disturbing activities.

The biologist conducting the clearance survey shall document the negative results if no active bird nests are observed on the project site or within the vicinity during the clearance survey with a brief letter report indicating that no impacts to active bird nests would occur before construction can proceed. If an active avian nest is discovered during the pre-construction clearance survey, construction activities shall stay outside of a 300-foot buffer around the active nest. For raptor species, this buffer shall be 500 feet. A biological monitor shall be present to delineate the boundaries of the buffer area and to monitor the active nest to ensure that nesting behavior is not adversely affected by the construction activity. Results of the pre-construction survey and any subsequent monitoring shall be provided to the California Department of Fish and Wildlife (CDFW) and other appropriate agencies.

CULTURAL RESOURCES

CUL-1 If evidence of subsurface archaeological resources is found during construction, excavation, and other construction activity in that area shall cease and the construction contractor shall contact the City of Long Beach Development Services Department. With direction from the Development Services Department, an archaeologist certified by the County of Los Angeles shall be retained to evaluate the discovery prior to resuming grading in the immediate vicinity of the find. If warranted, the archaeologist shall collect the resource and prepare a technical report describing the results of the investigation. The test-level report shall evaluate the site including discussion of significance (depth, nature, condition, and extent of the resources), final mitigation recommendations, and cost estimates.

CUL-2 If evidence of subsurface paleontological resources is found during construction, excavation and other construction activity in that area shall cease and the construction contractor shall contact the City of Long Beach Development Services Department. With direction from the Development Services Department, a paleontologist certified by the County of Los Angeles shall evaluate the find. If warranted, the paleontologist shall prepare and complete a standard Paleontological Resources Mitigation Program for the salvage and curation of identified resources.

HAZARDS AND HAZARDOUS MATERIALS

HAZ-1 The project applicant shall ensure that the project site is properly characterized and remediated as necessary pursuant to the corrective action plans reviewed by the Department of Toxic Substances Control (DTSC) and the Long Beach Fire Department (LBFD). In no event shall project construction commence in areas requiring characterization and remediation until the DTSC and/or LBFD determines that all necessary remediation has been accomplished. Proof of compliance with DTSC and LBFD characterization and remediation requirements shall be provided to the City of Long Beach City Engineer prior to the issuance of any grading permits for the proposed project.

Prior to and during grading and construction, discovery of additional soil contamination not previously identified or already included in corrective action plans, work plans, or closure plans, shall be reported to the DTSC and LBFD immediately.

HAZ-2 The project applicant shall provide the resume of an experienced and qualified professional engineer or professional geologist, who shall be available for consultation during site characterization (if needed), demolition, excavation, and grading activities, to the City of Long Beach City Engineer for review and approval. The resume shall show experience in remedial investigation and feasibility studies. The professional engineer or professional geologist shall be retained oversee any earth moving activities that have the potential to disturb contaminated soil. This requirement shall be documented within project plans and specifications and verified by the City of Long Beach City Engineer prior to issuance of any grading permit for the proposed project.

HAZ-3 If potentially contaminated soil is identified during site characterization, demolition, excavation, or grading for the proposed project, as evidenced by discoloration, odor, detection by instruments, or other signs, the professional engineer or professional geologist retained as part of Mitigation Measure HAZ-2 shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and provide a written report to the project applicant, representatives of the Department of Toxic Substances Control (DTSC), Long Beach Fire Department (LBFD), and City of Long Beach stating the recommended course of action.

Depending on the nature and extent of contamination, the professional engineer or professional geologist shall have the authority to temporarily suspend construction activity at that location for the protection of workers or the public. If, in the opinion of the professional engineer or professional geologist, significant remediation may be required, the project applicant shall contact representatives of the DTSC and LBFD for guidance and possible oversight.

HAZ-4 The project applicant shall prepare and submit to the City of Long Beach City Engineer a Soils Management Plan (SMP) prior to the issuance of any grading permit for the proposed project. The SMP must be prepared by a California-Registered Geologist or a California-Registered Civil Engineer with sufficient experience in hazardous waste management. The SMP shall be updated as needed to reflect changes in laws, regulations, or site conditions. An SMP summary report, which includes all analytical data and other findings, must be submitted once the earthwork has been completed. Topics covered by the SMP shall include, but not be limited to:

- Land use history, including description and locations of known contamination.
- The nature and extent of previous investigations and remediation at the site.
- The nature and extent of unremediated areas at the Alamitos Generating Station.
- A listing and description of institutional controls, such as the City's excavation ordinance and other local, state, and federal regulations and laws that would apply to Alamitos Generating Station.
- Names and positions of individuals involved with soils management and their specific role.
- An earthwork schedule.
- Requirements for site-specific Health and Safety Plans (HSPs) to be prepared by all contractors at Alamitos Generating Station. The HSP should be prepared by a Certified Industrial Hygienist and would protect onsite workers by including engineering controls, personal protective equipment, monitoring, and security to prevent unauthorized entry and to reduce construction related hazards. The HSP should address the possibility of encountering subsurface hazards including hazardous waste contamination and include procedures to protect workers and the public.
- Hazardous waste determination and disposal procedures for known and previously unidentified contamination.

- Requirements for site specific techniques at the site to minimize dust, manage stockpiles, run-on and run-off controls, waste disposal procedures, etc.
- Copies of relevant permits or closures from regulatory agencies.

HAZ-5 Prior to demolition activities, the project applicant shall retain an Asbestos Hazard Emergency Response Act (AHERA) and California Division of Occupational Safety and Health (Cal/OSHA) certified building inspector to conduct an asbestos survey to determine the presence or absence of asbestos containing-materials (ACMs). If ACMs are located, the abatement of asbestos shall be completed by the project applicant prior to any activities that would disturb ACMs or create an airborne asbestos hazard. Asbestos removal shall be performed by a State-certified asbestos containment contractor in accordance with the South Coast Air Quality Management District (SCAQMD) Rule 1403. Contractors performing asbestos abatement activities shall provide evidence of abatement activities to the City of Long Beach City Engineer.

HAZ-6 If paint is separated from building materials (chemically or physically) during demolition of the structures, the paint waste shall be evaluated independently from the building material by a qualified Lead Specialist. If lead-based paint is found, the project applicant shall retain a qualified Lead Specialist to conduct abatement prior to any activities that would create lead dust or fume hazard. Lead-based paint removal and disposal shall be performed in accordance with California Code of Regulation Title 8, Section 1532.1, which specifies exposure limits, exposure monitoring and respiratory protection, and mandates good worker practices by workers exposed to lead. Contractors performing lead-based paint removal shall provide evidence of abatement activities to the City of Long Beach City Engineer prior to any demolition activities associated with the project.

NOISE

NOI-1 Prior to Grading Permit issuance, the project applicant shall demonstrate, to the satisfaction of the City of Long Beach City Engineer, that the project complies with the following:

- Construction contracts specify that all construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and other state required noise attenuation devices.

- Property owners and occupants located within 100 feet of the project boundary shall be sent a notice, at least 15 days prior to commencement of construction of each phase, regarding the construction schedule of the proposed project. A sign, legible at a distance of 50 feet shall also be posted at the project construction site. All notices and signs shall be reviewed and approved by the City of Long Beach Development Services Department, prior to mailing or posting and shall indicate the dates and duration of construction activities, as well as provide a contact name and a telephone number where residents can inquire about the construction process and register complaints.

- Prior to issuance of any Grading or Building Permit, the contractor shall provide evidence that a construction staff member will be designated as a Noise Disturbance Coordinator and will be present on-site during construction activities. The Noise Disturbance Coordinator shall be responsible for responding to any local complaints about construction noise. When a complaint is received, the Noise Disturbance Coordinator shall notify the City within 24-hours of the complaint and determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall implement reasonable measures to resolve the complaint, as deemed acceptable by the City of Long Beach City Engineer. All notices that are sent to residential units immediately surrounding the construction site and all signs posted at the construction site

shall include the contact name and the telephone number for the Noise Disturbance Coordinator.

- Prior to issuance of any Grading or Building Permit, the project applicant shall demonstrate to the satisfaction of the City of Long Beach City Engineer that construction noise reduction methods shall be used where feasible. These reduction methods include shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging areas and occupied residential areas, and electric air compressors and similar power tools.

- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers.

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