Initial Study and Mitigated Negative Declaration

Glenarm BESS Project

Prepared for | City of Pasadena
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SECTION 1.0 INTRODUCTION

1.1 PURPOSE OF INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

The California Environmental Quality Act (CEQA) (*California Public Resources Code* §21000 et seq.) and the State CEQA Guidelines (*California Code of Regulations,* Title 14, §15000 et seq.) require that local government agencies, prior to taking action on projects requiring discretionary approval, consider the environmental consequences of such projects. Pursuant to Section 15367 of the State CEQA Guidelines, the City of Pasadena (City) is the Lead Agency for the Project. As the Lead Agency, the City has the principal responsibility for carrying out the Project and has the authority for approving the Project and its accompanying environmental documentation.

In accordance with CEQA, this Initial Study (IS) has been prepared as documentation to support a Mitigated Negative Declaration (MND) for the Glenarm BESS Project (Project) proposed by the City. This IS/MND includes a description of the Project; the location of the Project site; an evaluation of the potential environmental impacts of Project implementation; and recommended mitigation measures (MMs) to reduce or avoid impacts on the environment.

In addition to addressing the potential environmental impacts that would result from the proposed Project, this IS/MND serves as the primary environmental document for activities associated with the Project, including discretionary approvals requested or required for Project implementation. The Project proposes to install a 25-megawatt (MW) Battery Energy Storage System (BESS), using lithium-ion battery storage technology, to charge and store electricity within the City's existing Glenarm Power Plant, located at 72 East Glenarm Street, in the City of Pasadena, California.

As part of the evaluation of potential environmental impacts associated with Project implementation, the IS/MND identifies regulations applicable to the Project and sets forth MMs that would lessen or avoid significant impacts on the environment. The IS/MND concludes that, while implementation of the Project would have potentially significant environmental impacts, MMs have been incorporated that would reduce all identified impacts to levels considered less than significant (Section 15070 of the State CEQA Guidelines). Therefore, an IS/MND is the appropriate CEQA documentation. The reader is referred to the full text of this IS/MND and the technical appendices for a complete discussion and analysis of the Project's potential environmental effects.

As the Lead Agency, the City has commissioned the preparation of this IS/MND and has reviewed and revised, as necessary, all submitted drafts and technical studies to reflect its independent judgment, including reliance on City staff for the review of all technical subconsultant reports. Data for this IS/MND was obtained from on-site field observations; discussions with affected agencies; review of available technical studies, reports, guidelines, and data; and review of specialized environmental assessments prepared for the Project.

1.2 PROJECT SUMMARY

The City of Pasadena Water and Power (PWP) proposes to install a 25-MW utility-scale BESS on an approximately 0.59-acre site, located at 72 East Glenarm Street, in the City of Pasadena, California. BESS are devices that enable energy to be stored and then released when the power is needed. The Project would charge and store energy, with a minimum storage capability of four hours and would connect to the existing PWP electric transmission system to transfer power, as needed. The BESS would be constructed at PWP's existing Glenarm Power Plant.

A private entity would be selected to develop and maintain the BESS and sell the associated capacity and operational attributes to Pasadena under an Energy Storage Agreement (ESA). The

ESA would include an option for Pasadena to purchase the BESS at the Commissioned Operating Date (COD), the second year after COD, or the fifth year after COD and any succeeding years.

1.3 SUMMARY OF ENVIRONMENTAL IMPACTS

Section 1.0 of this IS/MND provides the purpose of the IS/MND and a summary of the Project's environmental impacts; Section 2.0 discusses the existing environmental setting, and Section 3.0 provides a discussion of the improvements proposed as part of the Project. Section 4.0 of this IS/MND evaluates the impacts that would occur with Project implementation. As analyzed, no impacts or less than significant impacts on Aesthetics, Agriculture and Forest Resources, Air Quality, Energy, Greenhouse Gas Emissions, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Recreation, Transportation, Utilities and Service Systems, and Wildfire would result with Project implementation.

To avoid and reduce other potentially significant Project impacts, MMs have been developed for Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Public Services, and Tribal Cultural Resources. With implementation of these MMs, the Project's potential impacts would be reduced to less than significant levels. The City will include these MMs in the Contractor Specifications, as appropriate, and verify their implementation as part of the Mitigation Monitoring and Reporting Program (MMRP) for the Project. These MMs are listed below.

Biological Resources

MM BIO-1 To the extent practical and feasible, Project construction shall be conducted between September 16 and January 31, which is outside the bird nesting season. Construction conducted within this period shall be considered in compliance with the conditions set forth in the Migratory Bird Treaty Act (MBTA) and *California Fish and Game Code* with methods approved by the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) to protect active bird/raptor nests. If the nature of the proposed construction activities requires that work be conducted during the breeding season for nesting birds (March 15–September 15) or nesting raptors (February 1–June 30), in order to avoid direct impacts on active nests, a pre-construction survey shall be conducted by a qualified Biologist for nesting birds and/or raptors within 3 days prior to any construction or disturbance activities (i.e., within 300 feet for nesting birds and within 500 feet for nesting raptors). If the Biologist does not find any active nests within or immediately adjacent to the impact area, the construction work shall be allowed to proceed. If a lapse of more than 3 days occurs between outdoor disturbance activities, the nesting bird survey will need to be repeated as nesting activities may potentially occur in that time frame. Results of the surveys will be provided to the CDFW.

If the Biologist finds an active nest within or immediately adjacent to the construction area and determines that the nest may be impacted or breeding activities substantially disrupted, the Biologist shall delineate an appropriate buffer zone (at a minimum of 25 feet) around the nest depending on the sensitivity of the species and the nature of the construction activity. Any nest found during survey efforts shall be mapped on the construction plans. The active nest shall be protected until nesting activity has ended. To protect any nest site, the following restrictions to construction activities shall be required until nests are no longer active, as determined by a qualified Biologist: (1) disturbance limits shall be established within a buffer around any occupied nest (the buffer shall be 25–100

feet for nesting birds and 300–500 feet for nesting raptors), unless otherwise determined by a qualified Biologist and (2) access and surveying shall be restricted within the buffer of any occupied nest, unless otherwise determined by a qualified Biologist. Encroachment into the buffer area around a known nest shall only be allowed if the Biologist determines that the proposed activity would not disturb the nest occupants. Construction can proceed when the qualified Biologist has determined that fledglings have left the nest, or the nest has failed.

Cultural Resources

MM CUL-1 **Historical Resources.** A project-specific avoidance and protection plan shall be required as part of the proposed Project to prevent the Glenarm Power Plant Building and the Pacific Electric Railway Company (PERC) Substation No. 2 from being physically damaged during demolition and construction activities. The protection plan should include, but not be limited to, the establishment of environmentally sensitive areas, physical barriers, worker education training, pre-construction survey, post-construction survey, and monitoring for groundborne vibration (if appropriate). A qualified architectural historian or historic preservation professional meeting the Secretary of the Interior's Professional Qualifications Standards should be retained to prepare the avoidance and protection plan.

MM CUL-2 Prior to commencement of ground-disturbing activities, the City shall retain a qualified Archaeologist for on-call services in the event of a discovery of cultural resources (i.e., archaeological sites) below the ground surface. The Archaeologist shall be present at the pre-construction conference, and shall establish, in cooperation with the Contractor, procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the artifacts. Should archaeological resources be found during ground-disturbing activities for the Project, the Archaeologist shall first determine whether it is a "unique archaeological resource" pursuant to the California Environmental Quality Act (CEQA, i.e., Section 21083.2[g] of the *California Public Resources Code*), a "historical resource" pursuant to Section 15064.5(a) of the State CEQA Guidelines. If the above-mentioned resources are found during ground-disturbing activities, the Archaeologist shall formulate a report and a mitigation plan in consultation with the City of Pasadena and tribal representatives that satisfies the requirements of the above-referenced sections. The report shall follow guidelines of the California Office of Historic Preservation, and s/he shall record the site and submit the recordation form to the City of Pasadena and the California Historic Resources Information System (CHRIS) at the South-Central Coastal Information Center (SCCIC) located at California State University, Fullerton. The disposition of the resources shall be subject to approval by the City. If resources are discovered, work may proceed in other areas of the site, subject to the direction of the Archaeologist.

Geology and Soils

MM GEO-1 Prior to commencement of ground-disturbing activities, the City shall retain a qualified Paleontologist for on-call services in the event of a discovery of paleontological resources below the ground surface. The Paleontologist shall be present at the pre-construction conference; and shall establish, in cooperation with the Contractor, procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the paleontological resources. Should these resources be found during ground-disturbing activities for the Project, the

Paleontologist shall first determine whether it is a "unique paleontological resource" pursuant to the California Environmental Quality Act (CEQA, i.e., Section 21083.2[g] of the *California Public Resources Code*), or a significant paleontologically sensitive rock formation. If the above-mentioned resources are found during ground-disturbing activities, the Paleontologist shall formulate a report and a mitigation plan in consultation with the City of Pasadena that satisfies the requirements of the above-referenced sections. The disposition of the resources shall be subject to approval by the City. If resources are discovered, work may proceed in other areas of the site, subject to the direction of the Paleontologist.

Hazards and Hazardous Materials

MM HAZ-1 At least 45 days prior to construction and delivery of the BESS components, an Emergency Response and Emergency Action Plan (EREAP) shall be prepared. The EREAP shall be prepared by the developer and/or operator in close coordination with the City of Pasadena Water and Power (PWP) and approved by the Pasadena Fire Department. The EREAP shall include, but not be limited to, the following Fire Safety Components, Emergency Response Procedures, and Emergency Evacuation Procedures:

Fire Safety Components

- BESS facility schematic drawings and technical specifications. The schematic drawings must identify the location of fire prevention, detection, and suppression features (if applicable). The technical specifications must include a description of the following:
    - Description of the battery management system;
    - Description of the flame detection system, including the location and type of detection system;
    - Availability of water for firefighting and compliance with Fire Department requirements for flow and availability; and
    - Fire suppression and/or other safety features/equipment located at the site.
- Guidelines for regular inspections of the BESS facility, including the frequency of inspections and the procedures for documentation and reporting of inspection findings. The inspection shall include the following:
    - Visual inspection- Inspect for any obvious signs of wear and tear, such as corrosion, damaged wiring, or loose connections;
    - Electrical System Evaluation- Inspect the integrity of the busbars, circuit breakers, and fuses. Test the system's grounding to ensure it meets safety standards;
    - Battery Health Assessment- Inspect battery terminals for any signs of swelling, leaking, or corrosion. Monitor the batteries' state of charge and state of health. Inspect the battery management system for proper functionality;
    - Thermal Management System Check- Inspect he cooling systems, including fans, heat exchangers, and coolant levels;

  - Control System Verification- Verify that all control systems (software and hardware components) are functioning correctly; and
  - Safety Systems Evaluation- Verify that all safety systems (fire suppression, emergency shut-off mechanisms, alarms) are fully operational.

- Type and placement of warning signs.
- Identification of emergency ingress and egress routes.
- Special safety measures to be implemented for battery installation and replacement, including disposal of replaced (discarded) equipment.
- Provisions and timing for updating the Plan to incorporate new or changed requirements.

Emergency Response Procedures

- Emergency contact information for the BESS system owner and BESS technology provider, including specific roles and associated responsibilities in an emergency.
- Procedures for safe shutdown, de-energizing, or isolation of equipment and systems under emergency situations to reduce the risk of fire, electric shock, and personal injuries, and for safe start-up following cessations of emergency conditions.
- Procedures to be followed in response to notifications of system alarms or out-of-range conditions that could signify potentially dangerous conditions, including shutting down equipment, summoning service or repair personnel, and providing agreed-upon notification to fire department personnel.
- Safety data sheet (SDS) that addresses response safety concerns and extinguishment
- Procedures for dealing with BESS equipment damaged in a fire or other emergency event, including contact information for personnel qualified to safely remove damaged ESS equipment from the facility.
- Other procedures as determined necessary by the Fire Department to provide for the safety of occupants, sensitive receptors, and emergency responders.
- Schedules for conducting drills of emergency procedures.

Emergency Evacuation Procedures. Emergency procedures to be followed in case of fire, explosion, release of liquids or vapors, damage to critical moving parts, or other potentially dangerous conditions include the following:

- Notification of local responders, BESS system owner, and BESS technology provider;
- Evacuation procedures for a minimum initial evacuation zone of 150 feet in the event of a thermal runaway and/or fire. The evacuation procedures shall include a list of all established uses within 150 feet that are included within this initial evacuation zone;
- Evacuation procedures for an emergency evacuation zone of 0.25 mile in the event of off-gassing. The evacuation procedures shall include a list of all

established uses within 0.25 mile that are included within this emergency evacuation zone;

- Establishment of shelter-in-place orders; and
- Establishment of road closures and notifications.

PWP shall coordinate with the Pasadena Fire Department to communicate the Emergency Evacuation Procedures to schools, businesses, residents, and transportation agencies located within the 0.25-mile emergency evacuation zone. PWP shall make the Emergency Evacuation Procedures publicly available and shall inform the public on how to access these procedures.

MM HAZ-2 In conformance with the recommendations contained in the proposed Project's Soil Management Plan (SMP), contained in Appendix E-5 of this IS/MND, recommendations shall include specifications for the following:

- Soil Excavation for Lead
- Soil Excavation for Total Petroleum Hydrocarbon Diesel Range Organics (TPH DRP)
- Soil Handling
  - Health and Safety
  - Training
  - Site Control
  - Excavation Procedures
  - Temporary Storage and Segregation
  - Decontamination Area
  - Dust Control
- Soil Characterization
  - Waste Characterization
  - Soil Confirmation Sample Collection Procedures
- Soil Reuse, Disposal, and Import
  - Onsite Soil Reuse
  - Soil Disposal
  - Backfill/Imported Fill Soil
- Notification, Documentation and Reporting
  - Notification
  - Documentation
  - Reporting

The SMP specifications shall be verified by Pasadena Water and Power prior to any earthwork conducted.

Public Services

MM PS-1 Construction of the BESS shall comply with the latest California Fire Code and NFPA 855 for the installation of lithium-ion battery systems. Adherence to NFPA 855 standards for installation will ensure that the BESS is designed and constructed in accordance with best practices and current industry safety standards at the cell, module, and rack levels to equip battery cells with the appropriate risk mitigation controls and fire barriers. The Project developer for the BESS must provide PWP with documentation that the final design of the BESS has been reviewed and approved by the Pasadena Fire Department prior to installation.

MM PS-2 At least 30 days prior to construction and delivery of the BESS components, the City of Pasadena Water and Power (PWP) shall provide training to the Pasadena Fire Department and to any other emergency responders that may be identified by PWP. The training shall include, but not be limited to:

- Information on the range of hazards present;
- Assessment of conditions inside the BESS and surrounding facility;
- Training fire staff on the methodology for handling hazardous materials and associated fire suppression tactics. The training must explicitly address explosion risks, indicating what gases may accumulate on site and how to detect and ventilate them;
- Training on specific steps to be taken to address hazardous conditions.

Additional trainings for new emergency response staff shall be provided upon request by the Pasadena Fire Department.

Tribal Cultural Resources

MM TCR-1 Prior to the commencement of earthwork activities, the City shall provide written notification to the Native American representatives from the Gabrieleño Band of Mission Indians – Kizh Nation indicating the date and time of the commencement of earthwork activities. The representatives from the Gabrieleño Band of Mission Indians – Kizh Nation ("tribal representative") shall be provided reasonable access to the Project site in a manner that does not interfere with the earthwork activities. Tribal representatives, at their own expense, and in a manner that does not interfere with earthwork activities, shall be allowed to monitor subsurface ground disturbing construction activities below the ground surface. If any tribal cultural resources are identified during the monitoring and evidence is presented that the discovery proves to be potentially significant under CEQA, as determined by City's consulting Project Archaeologist, it will collaborate with the Gabrieleño Band of Mission Indians – Kizh Nation ("tribal representative") and determine the appropriate actions (i.e. design and plan) for explorations and/or recovery. The City shall bear the cost of the design and plan.

MM TCR-2 In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found within the Project site, the County Coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains, and no less than 150 feet from the discovery, shall occur until the County Coroner has determined, within two working days of notification of the discovery, the

appropriate treatment and disposition of the human remains. To prevent any further disturbance, the remains shall be kept confidential and secure until treatment is complete. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she shall contact, by telephone the Native American Heritage Commission (NAHC) in Sacramento within 24 hours, and California Public Resources Code (PRC), Section 5097.98 shall be followed. In accordance with PRC 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendant (MLD) of the deceased Native American. Funerary objects, called associated grave goods in PRC 5097.98, are also to be treated according to this statute. The MLD shall complete his/her inspection within 48 hours of being granted access to the site. The designated MLD shall then determine, in consultation with the property owner, the disposition of the human remains. It is then at the MLD's discretion which Tribal entities are consulted with regarding the treatment of human remains.

SECTION 2.0 ENVIRONMENTAL SETTING

2.1 PROJECT LOCATION AND SETTING

The approximately 0.59-acre Project site is located at 72 East Glenarm Street in the City of Pasadena, California. As shown on Exhibit 1, Regional Location and Local Vicinity Map, the Project site is bordered by Glenarm Street to the north, the Arroyo Seco Parkway (State Route [SR]-110) to the east, the Metro Gold Line to the south and east, State Street to the south, and Fair Oaks Avenue to the west. The Gold Line Filmore Station is located approximately 0.5 mile to the north and the Mission Station is located approximately 0.8 mile to the southwest in the City of South Pasadena.

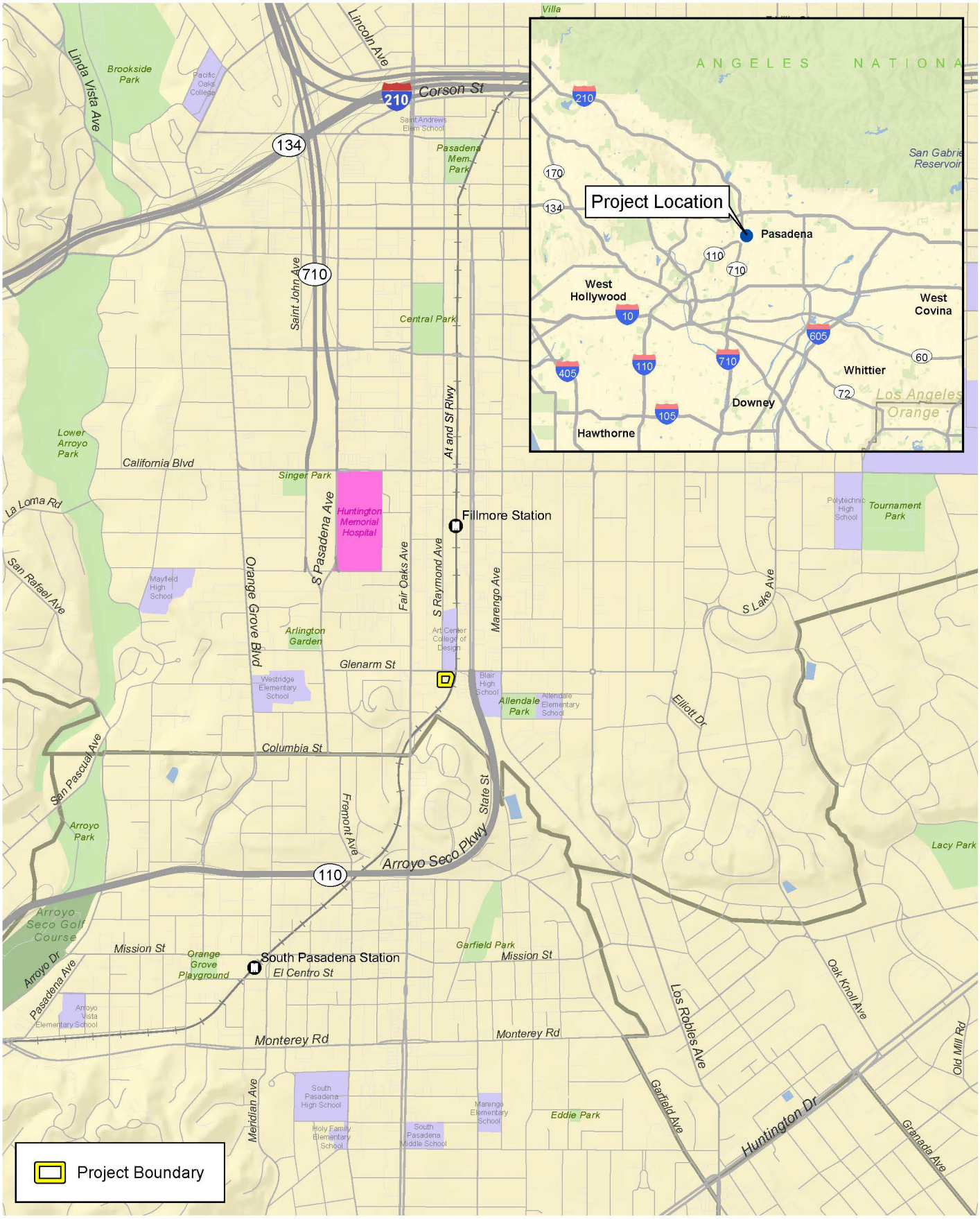
As depicted on Exhibit 2, Aerial Photograph, the surrounding area is generally urban and characterized by a diverse mix of industrial, commercial, office, residential, educational, and community uses. Directly to the north of the Project site at the intersection of South Raymond Avenue and Glenarm Street is PWP's dispatch and distribution station. Other uses on Glenarm Street include machinery repair, a car rental facility, surface parking lots, and a five-story office building occupied by Art Center College of Design at the corner of Glenarm Street and the Arroyo Seco Parkway. Additional buildings on South Raymond Avenue are also developed with facilities associated with Art Center College of Design's South Campus. Land uses south of the Project site include the Metro Gold Line tracks, a Southern California Edison (SCE) facility, and multi-family residential uses on Raymond Hill, all located within the City of South Pasadena. To the east, beyond the Arroyo Seco Parkway, is Pasadena Unified School District's Blair High School and Middle School and Allendale Elementary School, the Pasadena Public Library (Allendale Branch), and Allendale Park. To the west is South Fair Oaks Avenue, which is characterized by a mix of commercial, office, and industrial uses, transitioning to single-family homes to the northwest and southwest.

2.2 PROJECT BACKGROUND AND NEED

The City of Pasadena is an ethnically diverse community that is home to approximately 141,029 people. Pasadena is the ninth-largest city in Los Angeles County. It is one of the primary cultural centers of the San Gabriel Valley. The City covers approximately 22.5 square miles, with an average of 10 residents per acre. The median age of its residents is approximately 36.9 years. There are over 100,000 jobs in a wide variety of industries in the City of Pasadena (City of Pasadena 2022a).

Under its municipal charter, the City has operated a Water and Power Department since the early 20th century. Currently, PWP delivers about 1.1 million megawatt-hours (MWh) of energy annually to 65,000 retail customers, with a historical peak load of about 330 MW. PWP has assembled a portfolio of generating resources including gas-fired, large and small hydro, coal, nuclear, solar, wind, geothermal, and landfill gas; and holds partial shares of several of the resources to benefit from economies of scale and to share risks. PWP owns the gas-fired units at the Glenarm Power Plant, and a share of the Magnolia gas-fired unit in Burbank through an agreement with the Southern California Public Power Authority (SCPPA), while the other resources are purchased under long-term contracts. In addition, PWP has ownership and contract rights on various transmission lines, which were turned over to the California Independent System Operator (CAISO) in 2004 when Pasadena became a Participating Transmission Owner (PTO). Decisions of the Pasadena City Council over the last ten years have demonstrated a commitment to accelerate the shift of Pasadena's energy supply portfolio to low-carbon and renewable resources. As a result, PWP's 2023 Integrated Resource Plan (IRP) Update[1], 2018 IRP and 2021

[1] The 2023 IRP Update was submitted to the California Energy Commission in December 2023.



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Regional Location and Local Vicinity

Exhibit 1

Glenarm BESS Project

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Aerial Location

Exhibit 2

Glenarm BESS Project

N W E S

0 200 400 Feet

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IRP Update have led to Renewable Portfolio Standard (RPS) targets and greenhouse (GHG) reduction targets that exceed state mandates. Pasadena has also adopted a Climate Action Plan (CAP) and is a leader in promoting energy efficiency.

Following one of the recommendations identified in the 2021 IRP Update, PWP proposes to design, engineer, deploy, and operate a new, 4-hour, 25 MW (100 MWh) capacity BESS within its service area. When complete and fully operational, the proposed BESS would support critical resilience and reliability outcomes including improved islanding capabilities for PWP's system, black-start support, dispatchable power to support CAISO balancing, CAISO resource adequacy support, renewable power storage, and improved reliability and reduced congestion in a disadvantage community (DAC)[2] served by capacity-restricted feeder lines. The Project would also support multiple benefits to local communities, including reduced upward pressures on rates in comparison to bringing online new power generation or upgrading/replacing ageing transmission and distribution (T&D) infrastructure, as well as 25,641 metric tons of carbon dioxide equivalent emissions per year (MT CO2e/yr) in greenhouse gas (GHG) emissions, 2.28 tons/yr of nitrogen oxides (NOx), and 2.88 tons/yr of carbon monoxide (CO).

PWP primarily seeks to make the system available for power output during 4pm to 8pm as primary targeted peak load discharge hours. However, during the 12-month demonstration and data collection period, PWP would test multiple use cases to support resiliency improvements that could occur at other times of the day. Moreover, dispatchable power to support CAISO balancing and resource adequacy may be called at times outside of the 4pm to 8pm primary targeted period.

2.3 GENERAL PLANNING LAND USE AND ZONING

The Project site is located within the SFO-IF HL-56 (South Fair Oaks Specific Plan, Industrial Flex) zoning district, and the General Plan Land Use Designation is R&D Flex Space (0.0-1.25 Floor Area Ratio [FAR]). The plan vision for the Industrial Flex subarea of the South Fair Oaks Specific Plan is to allow a range of light industrial, utility, and commercial uses for City use; and to ensure that future uses are compatible with existing public and industrial uses (City of Pasadena 2022c).

Adopted in October 2022, the Specific Plan is roughly bounded by Del Mar Boulevard on the north and the common municipal boundary for the cities of Pasadena and South Pasadena on the south. The Specific Plan area encompasses the entire power plant property, extending east to the Arroyo Parkway. Major utilities are permitted on the Project site with a Conditional Use Permit (CUP).

The site is zoned SFO-IF HL-56 (South Fair Oaks Specific Plan, Industrial Flex subarea, Height Limit Overlay 56 feet).

2.4 REGULATORY REQUIREMENTS APPLICABLE TO THE PROJECT

The industry standards and regulatory requirements for lithium-ion BESS are crucial for ensuring safety, performance, and reliability. The following are key requirements and guidelines. Additionally, compliance with local building and fire requirements is also essential.

2.4.1 SENATE BILL 38

The Senate Bill (SB) 38 is a piece of legislation in California that focuses on the safety and emergency response protocols for BESS and amends Section 761.3 of the California Public

[2] The DAC referenced in the grant application is located approximately two miles northwest of the Glenarm power plant.

Utilities Code. SB 38 requires the owner or operator of a battery storage facility to develop an emergency response and emergency action plan in close coordination with local emergency response agencies, to establish a notification and communication procedure, and to consider potential off-site impacts to the surrounding community and environment. Under SB 38, the owner or operator of the facility must coordinate with local emergency management agencies, unified program agencies, and local first responders to develop the plan and submit the plan to the county and, if applicable, the city where the facility is located.

2.4.2 NATIONAL FIRE PROTECTION ASSOCIATION 855

The National Fire Protection Association (NFPA) 855 is the second edition (2023) of the *Standard for the Installation of Stationary Energy Storage Systems*, which provides mandatory requirements for, and explanations of, the safety strategies and features of energy storage systems. NFPA 855 includes specific guidance for lithium-ion battery systems, including requirements to address fire detection and suppression, explosion control, exhaust ventilation, gas detection, and thermal runaway.

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SECTION 3.0 PROJECT DESCRIPTION

3.1 PROJECT COMPONENTS

3.1.1 BATTERY ENERGY STORAGE SYSTEMS

The City of Pasadena Water and Power proposes to install a 25-MW utility-scale BESS on an approximately 0.59-acre site, within PWP's existing Glenarm Power Plant, located at 72 East Glenarm Street in the City of Pasadena, California. As shown on Exhibit 3, Site Plan, the site is currently developed as a crushed gravel lot with a 140-square-foot concrete pad located in the northwest corner; it is vacant and does not contain any structures.

The Project, using lithium-ion battery storage technology, would charge and store electricity, with a minimum storage capability of four hours. The proposed Glenarm BESS would be composed of lithium-ion batteries, inverters, medium-voltage transformers, a switchyard, a collector substation, and other associated equipment to interconnect into the existing PWP electric transmission system. A general layout for the proposed BESS is shown on Exhibit 4, Proposed Site Layout. Design, construction, demolition/decommissioning, and maintenance of the BESS Project must adhere to all applicable local, State, and federal regulations and protocols.

A private entity would be selected to develop and maintain the BESS and sell the associated capacity and operational attributes to Pasadena under an Energy Storage Agreement (ESA). The ESA would include an option for Pasadena to purchase the BESS at the Commissioned Operating Date (COD), the second year after COD, or the fifth year after COD and any succeeding years.

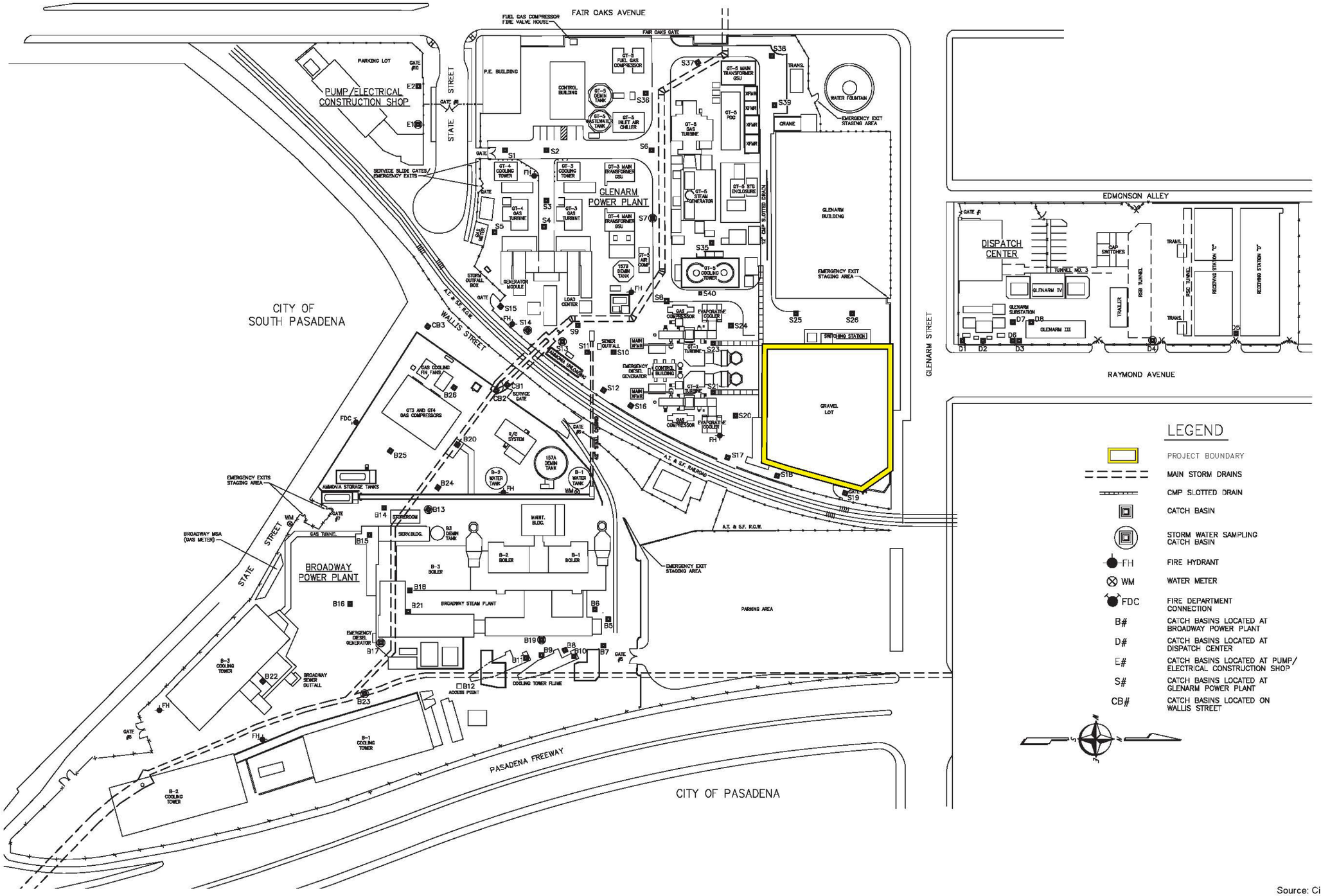
Lithium-Ion Batteries

Lithium-ion batteries are rechargeable batteries that use lithium compounds as one of their electrodes. As the most popular rechargeable battery chemistry, lithium-ion is used in many devices. In BESS, which are devices that enable energy to be stored and then released when the power is needed, the primary method of storing electrical energy is through lithium-ion batteries, due to their high energy density and ability to be recharged efficiently. Lithium-ion BESS balances supply and demand and provides backup power during outages. For large scale plants, such as Glenarm, lithium-ion batteries are currently the most suitable storage technology.

The lithium-ion BESS cycle includes energy collection (system collecting energy from various sources such as the grid); charging (converting alternating current [AC] from the power source to direct current [DC] and storing it in the lithium-ion batteries); storage (storing energy as chemical energy); discharging (discharging stored energy and converting CDDC back to AC); and energy use (supplying electricity to the grid during peak demand times).

Interconnection to PWP

Due to the characteristics of PWP's electric distribution system, and the need to maintain adequate voltage regulation and power quality, PWP would require interconnection of the Glenarm BESS Project to the Glenarm Receiving Station C at 34.5 kilovolts (kV). The proposed Project would be limited to a 25-MW, 100 MWh BESS system connected to PWP's distribution system. Voltage regulation and harmonic distortion would be in accordance with applicable Institute of Electrical and Electronics Engineers (IEEE) Standards and City of Pasadena PWP Regulations 21 and 23.



Source: City of Pasadena, 2022

Site Plan

Exhibit 3

Glenarm BESS Project

Map not to scale

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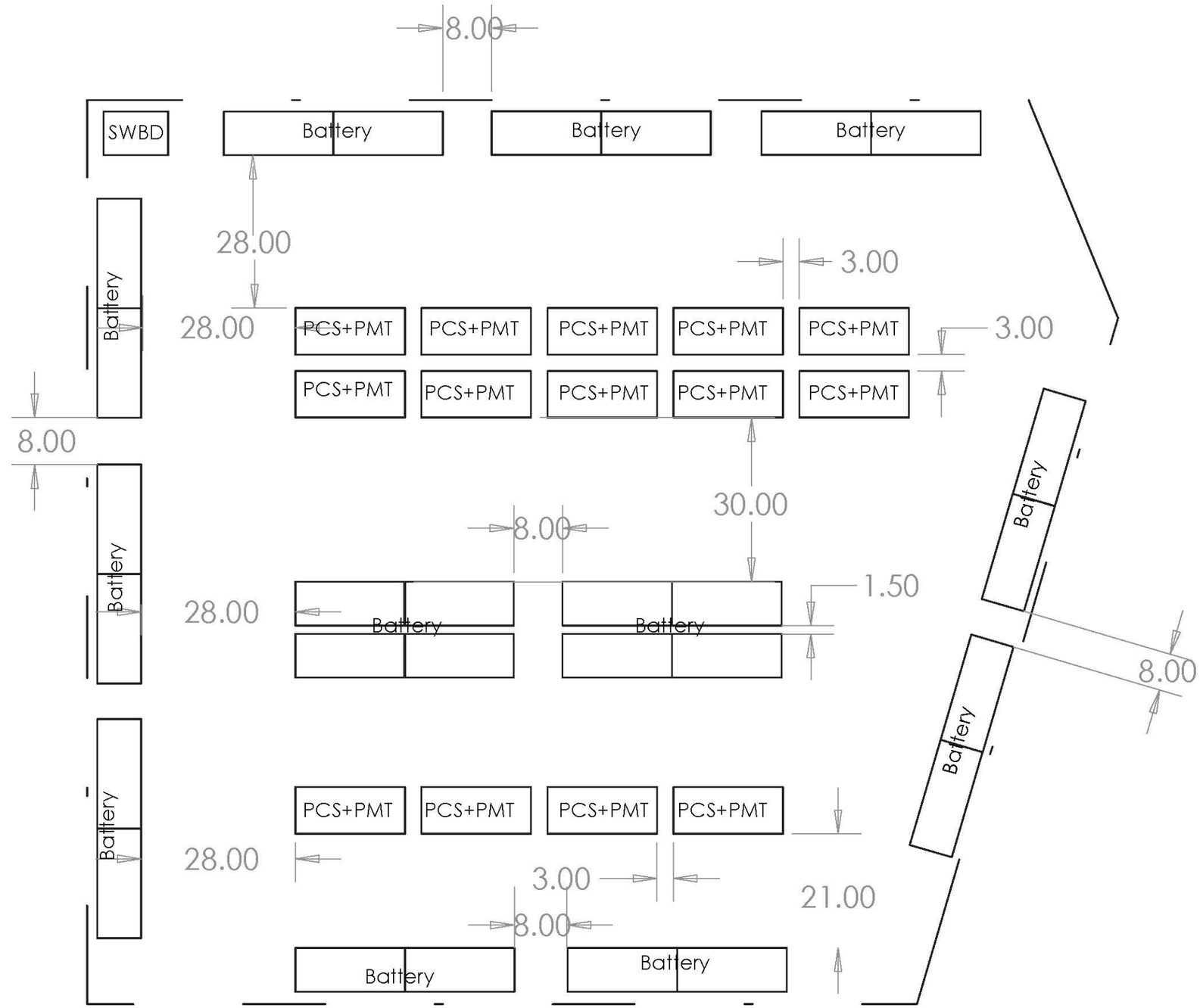

Source: City of Pasadena, 2024

Proposed Site Layout

Exhibit 4

Glenarm BESS Project

N W E S

Map not to scale

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Engineering and Construction

PWP would be responsible for engineering, procurement, and construction from Glenarm Receiving Station to the BESS' step-up transformer 34.5kV circuit breaker, which includes the following:

- Installation of civil infrastructure (vaults and conduits) in the public right-of-way and within Glenarm Receiving Station
- Installation of cabling from Glenarm Receiving Station to the BESS
- Installation of a 34.5-kV circuit breaker at Glenarm Receiving Station
- Metering, control, and protection at Glenarm Receiving Station

The Project developer would be responsible for the engineering, and procurement of all electrical facilities of the proposed BESS on the Project site per design submitted to, and approved by, PWP Engineering. This includes a system grounding grid, equipment concrete pads, metering, controls, battery equipment, switchgear and electrical protection equipment up to the Point of Interconnection.

The Project developer would be responsible for engineering and procuring the step-up transformer and 34.5-kV circuit breaker, as well as a spare parts inventory commensurate with Prudent Utility Practice. The Project Developer would also be responsible for safe operation, routine maintenance, commissioning, and testing of the BESS, including the operational plans, contingency plans, and all documents related thereto.

Grid Interconnection

PWP's electric delivery system is interconnected with California's high-voltage transmission grid through facilities owned by PWP but operated by SCE. The interconnection agreement between PWP and SCE specifies that coordination between PWP and SCE must occur before PWP interconnects certain electric power resources to PWP's electric distribution system.

3.2 PROJECT CONSTRUCTION

Implementation of the Project is anticipated to require approximately 9 months of engineering/site preparation and 12 months of construction activities. Construction of the Project is anticipated to begin in March 2025 and be completed in December 2026. Construction activities would generally occur 10 hours per day, 5 days a week. Construction phases include site preparation (demolition of the existing slab and soil remediation); grading/excavation (excavation for foundations and underground [U/G] electrical); BESS construction (install U/G, set equipment, pull/terminate wire, commissioning, and testing, foundation for the modules, switchgear, and control house); and paving (assume the site is asphalt paved). Construction equipment would include, but not be limited to a jackhammer, concrete roller, excavator, concrete pump, crane, forklift, and road roller/compactor as detailed in Table 3-1 below.

TABLE 3-1
PROPOSED CONSTRUCTION EQUIPMENT

Phase Name	Equipment Type	Number Per Day	Hours Per Day
Demolition	Concrete/Industrial Saws	1	10
Demolition	Rollers	1	10
Demolition	Excavators	1	10
Grading	Concrete/Industrial Saws	1	10
Grading	Rollers	1	10
Grading	Excavators	1	10
Building Construction	Cranes	1	10
Building Construction	Forklifts	2	10
Paving	Cement and Mortar Mixers	4	10
Paving	Pavers	1	10
Paving	Rollers	1	10
Demolition	Pumps	1	10
Grading	Pumps	1	10

Source: Psomas 2023.

Construction activities would generate new vehicular and truck trips. The generated trips will be associated with construction crews coming to and leaving the site, trucks transporting construction equipment to the site, trucks hauling building materials to the site and excavated soils and other debris from the site for off-site disposal. Also, construction equipment will be transported from the site after each construction phase, as construction activities for the Project would occur sequentially.

Construction workers' vehicles and construction trucks are expected to access the site via the Interstate (I) 210 or SR-134 at the Fair Oaks or Lake Avenue off-ramps in addition to utilizing non-contiguous portions of the SR-710 and SR-110. Trucks would access the site using Fair Oaks Avenue or Lake Avenue exits and designated roadways, in accordance with the Pasadena Municipal Code (PMC) Section 10.52, Truck Routes.

3.3 PROJECT OPERATION

Maintenance trips associated with operation of the proposed BESS would occur once every 3 to 12 months. Existing employees would maintain the site, and the number of employees would not increase with the operation of the BESS. Implementation of the Project would not result in any changes to the site. The existing chain link fence along the perimeter of the site would remain; no additional lighting would be installed.

3.4 DECOMMISSIONING AND DEMOLITION

The estimated life of the Project is approximately 15 years; however, the facility could stay online past the initial 15-year period if commercially optimal to continue operation.

A Decommissioning Plan prepared for the Project will provide a comprehensive guide to decommissioning the BESS, ensuring safety, compliance with regulations, and proper documentation throughout the process. Specific steps may vary depending on the type and size of the proposed BESS and local regulations. An example of information included in Decommissioning Plan is as follows: safety and preparatory phase; isolation and shutdown; removal and disassembly; post-decommissioning document and reporting; storage or disposal; final site inspection; and handover and records. BESS systems can be risky if not handled

properly; it is important to follow all safety procedures when working on a BESS system. Additionally, BESS systems contain hazardous materials, such as lithium batteries, as such it is important to dispose of these materials in accordance with applicable regulations.

Once the Project has completed its purpose, it will be decommissioned and the electrical connections to the TM Goodrich (TMG) Receiving Station will be terminated. Demolition would take approximately 12 months, during which time all Project above ground facilities and structures would be removed. PWP has not determined if the equipment added for this Project will remain or be removed.

Upon completion of decommissioning and demolition, the Project site would be returned to a state specified in relevant contracting for the design and construction of the Glenarm BESS and project approval conditions.

3.5 AGENCY APPROVALS AND PERMITS

This IS/MND is intended to serve as the primary environmental document, pursuant to CEQA, for the Glenarm BESS Project, including discretionary approvals requested or required to implement the Project. In addition, this is the primary reference document for the formulation and implementation of a mitigation monitoring and reporting program for the Project.

Pursuant to Section 15367 of the CEQA Guidelines, the City of Pasadena is the Lead Agency for the Project. As the Lead Agency, the City has the principal responsibility for adopting the IS/MND if it finds, on the basis of the whole record, that there is no substantial evidence that the Project would have a significant effect on the environment. Upon IS/MND adoption, and as Lead Agency, the City will approve and carry out the Project.

The City of Pasadena is seeking grant funding for the proposed Glenarm BESS Project from the California Energy Commission (CEC) Distributed Electricity Backup Assets (DEBA) Program. As such, CEC is considered a Responsible Agency for the proposed Glenarm BESS Project., with discretionary review and approval authority for the Project. Before issuing grant funds to the City and per CEQA Guidelines Section 15096(f), prior to reaching a decision on the Project, the CEC must consider the environmental effects of the Project as shown in the IS/MND. Per CEQA Guidelines Section 15096(a), the CEC will comply with CEQA by considering the IS/MND *"…prepared by the Lead Agency and by reaching its own conclusions on whether and how to approve the project involved."* As a Responsible Agency (CEQA Guidelines Section 15096(d), the CEC would use this IS/MND as the primary CEQA document upon which to make its own environmental findings and conclusions on whether to approve the grant funding for the Project. It should be noted that as a Responsible Agency, the CEC has reviewed a draft of the IS/MND and provided input on the overall content, project description, analysis, and associated mitigation.

This IS/MND is intended to cover all federal, State, local government, and quasi-government approvals, permits, and funding that may be needed to construct, implement, or maintain or decommission the Project. The Project would include the following actions:

- Adoption of the Glenarm BESS Project IS/MND,
- Approval of the Glenarm BESS Project,
- Approval of funding through CEC's DEBA Program,
- Award of contract for construction of the Glenarm BESS Project,
- Award of contract for the design of the Glenarm BESS Project and procurement of major equipment,

- Conditional Use Permit for the Glenarm BESS Project,
- Building Permit for the construction of the Glenarm BESS Project, and
- Other discretionary and ministerial permits and approvals that may be deemed necessary, including but not limited to, grading permit, construction permit, and building permit.

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SECTION 4.0 ENVIRONMENTAL ASSESSMENT

This section includes the completed CEQA Environmental Checklist Form, as provided in Appendix G of the State CEQA Guidelines, as well as substantiation and clarification for each checklist response. The checklist form is used to assist in evaluating the potential environmental impacts of the Glenarm BESS Project and identifies whether the Project is expected to have potentially significant adverse impacts.

1. **Project Title:** Glenarm BESS Project

2. **Lead Agency Name and Address:** City of Pasadena
   Water and Power Department
   150 South Los Robles Avenue, Suite 200
   Pasadena California 91101-4613

3. **Contact Person and Phone Number:** Bob Botkin
   (626) 744-4018

4. **Project Location:** 72 East Glenarm Street in Pasadena, California 91105

5. **Project Sponsor's Name and Address:** City of Pasadena
   Pasadena Water and Power
   150 South Los Robles Avenue, Suite 200
   Pasadena, California 91101

6. **General Plan Designation:** R&D Flex Space (0.0-1.25 FAR)

7. **Zoning:** SFO-IF HL-56 (South Oaks Specific Plan, Industrial Flex)

8. **Description of Project:** The Project proposes to install a 25-megawatt (MW) / 100 megawatt-hour (MWh) Battery Energy Storage System (BESS) that would charge and store electricity within the City's existing Glenarm Power Plant, located at 72 East Glenarm Street, in the City of Pasadena, California.

9. **Surrounding land uses and setting:** The Project site is bordered by Glenarm Street, State Street and the Metro Gold Line, Fair Oaks Avenue, and the Arroyo Seco Parkway (SR-110). There are no residential sensitive receptors adjacent to the Project site; the closest residential uses are approximately 600 feet west of the site. The nearest sensitive receptors include Blair High School and Middle School located approximately 455 feet to the east of the Project site, and medical uses located approximately 475 feet west of the Project site. Other land uses proximate to the Project site include retail, office, and utility uses.

10. **Other public agencies whose approval is required:** Refer to Section 3.4, Agency Approvals and Permits.

11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?** One tribe has requested government-to-government consultation, and the consultation process has begun.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that requires mitigation, as indicated on the following pages.

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

DETERMINATION:

On the basis of this initial evaluation:

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

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

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

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

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

Robert Botkin
Signature of Lead Agency Representative

12/16/2024
Date

Robert Botkin
Printed name

Pasadena Water and Power
Agency

Negative Declaration/Mitigated Negative Declaration adopted on: _____

Adoption attested to by: _____ _____
Printed name/Signature Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact' is appropriate if there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.

5) Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. See CEQA Guidelines Section 15063(c)(3)(D).

   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier documents and the extent to which address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) The explanation of each issue should identify:

   a) The significance criteria or threshold, if any, used to evaluate each question; and

   b) The mitigation measure identified, if any, to reduce the impact to less than significant.

4.1 AESTHETICS	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect on a scenic vista?	-	-	-	X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	-	-	-	X
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	-	-	X	-
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	-	-	X	-

4.1.1 EXISTING CONDITIONS

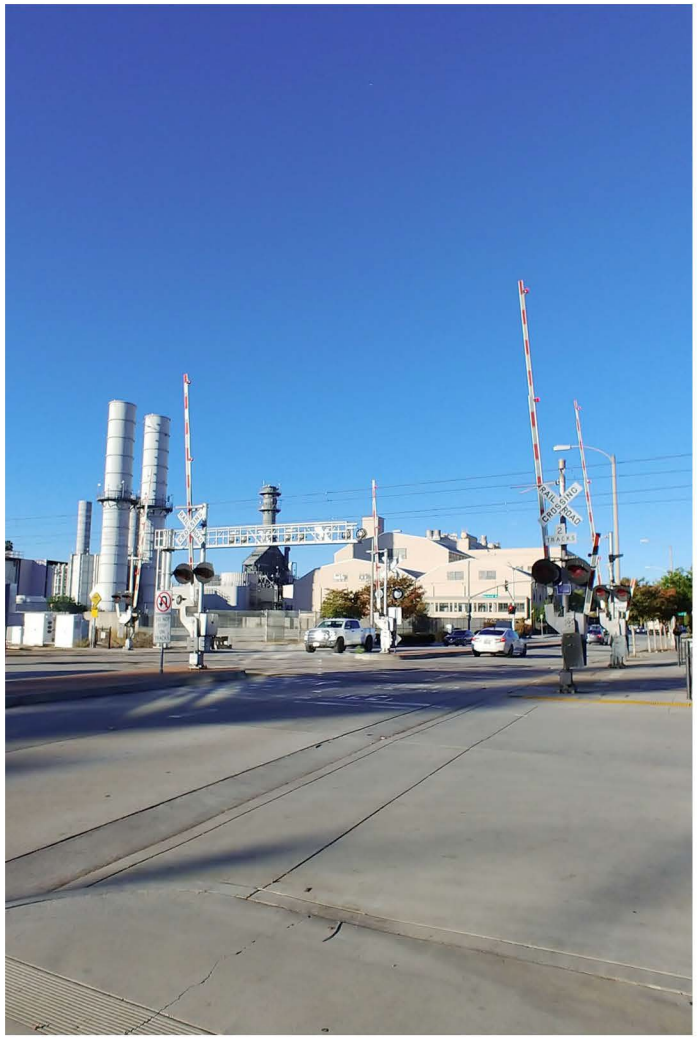
Visual Character

The Project site is in an area that offers distant views of the San Gabriel Mountains and San Rafael Hills from two north-south arterial roads, Arroyo Seco Parkway and Fair Oaks Avenue. The Project site is predominantly an empty paved lot enclosed in a well-established industrial facility containing numerous structures that define the visual character of the site. These structures include the decommissioned Broadway Steam Plant to the southeast, multiple generator stacks, and the original PWP facility to the west. The generator stacks are approximately 60 feet tall, while the original PWP facility is approximately 40 feet in height. The PWP facility and the adjacent electric fountain to the west, located at the corner of Glenarm Street and Fair Oaks Avenue, together are designated as a City of Pasadena historic monument.

Due to the surrounding aboveground structures, public views of the Project site are confined to viewers on nearby roads, schools, and PWP facilities. These viewers include motorists and bicyclists on Glenarm Street, Raymond Avenue, and Arroyo Seco Parkway with transitions to SR 110 heading south. Other public views are from the Art Center College of Design's South Campus to the northeast, Blair High School and Middle School to the east, and the adjacent Arroyo Tesla charging station to the east. The Project site is partially visible from some nearby residential areas to the southwest, though views are largely obscured by existing industrial structures and vegetation.

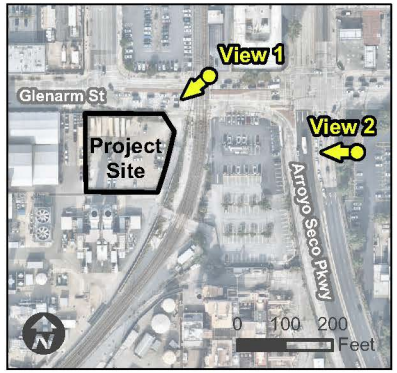
The existing visual character of the Project site and immediate surrounding areas is depicted in the site photographs provided on Exhibits 5a through 5c and are described below.

- **View 1: Art Center College of Design-Looking Southwest at the Project Site.** As shown on Exhibit 5a, this photograph was taken at the intersection of Glenarm Street and Arroyo Seco Parkway, in front of the Art College of Design South Campus. This is a view looking southwest toward the Project site. Vegetation is limited to trees lining Glenarm Street. As seen with the railroad crossing signs, the intersection is separated from the Project site by the Metro Gold line running to the east of the site. Behind the Project site



View 1: Art Center College of Design-Looking Southwest at the Project Site

View 2: Blair High School-Looking West at the Project Site



Site Photographs

Exhibit 5a

Glenarm BESS Project

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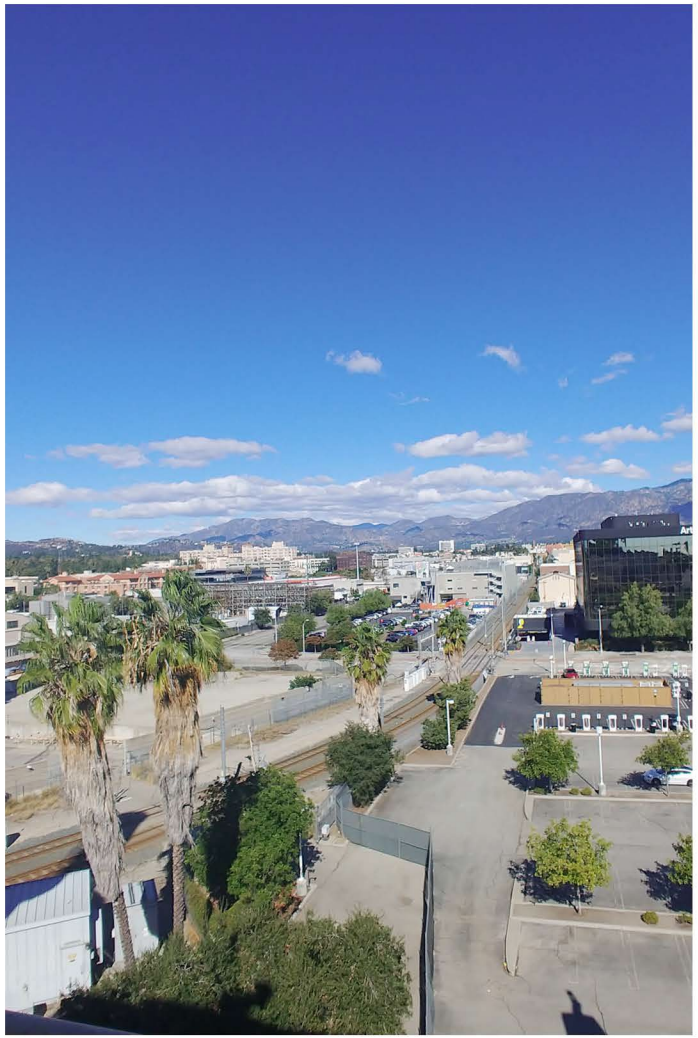
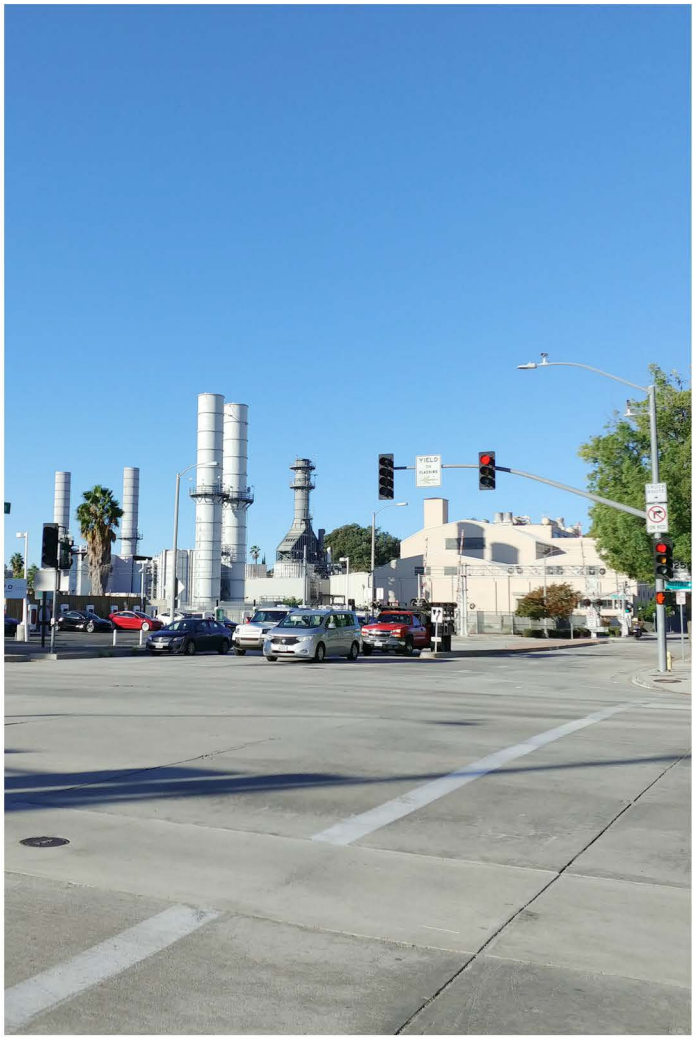
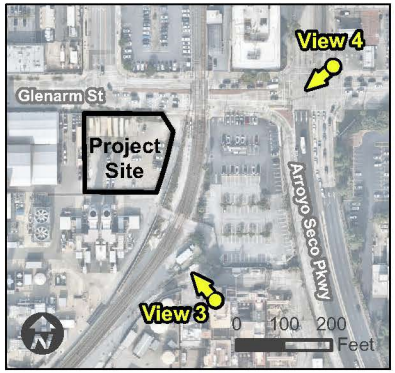


View 3: Broadway Steam Plant-Looking Northwest at the Project Site



View 4: Intersection of Glenarm Street and Arroyo Seco Parkway-Looking Southwest at the Project Site



Site Photographs

Exhibit 5b

Glenarm BESS Project

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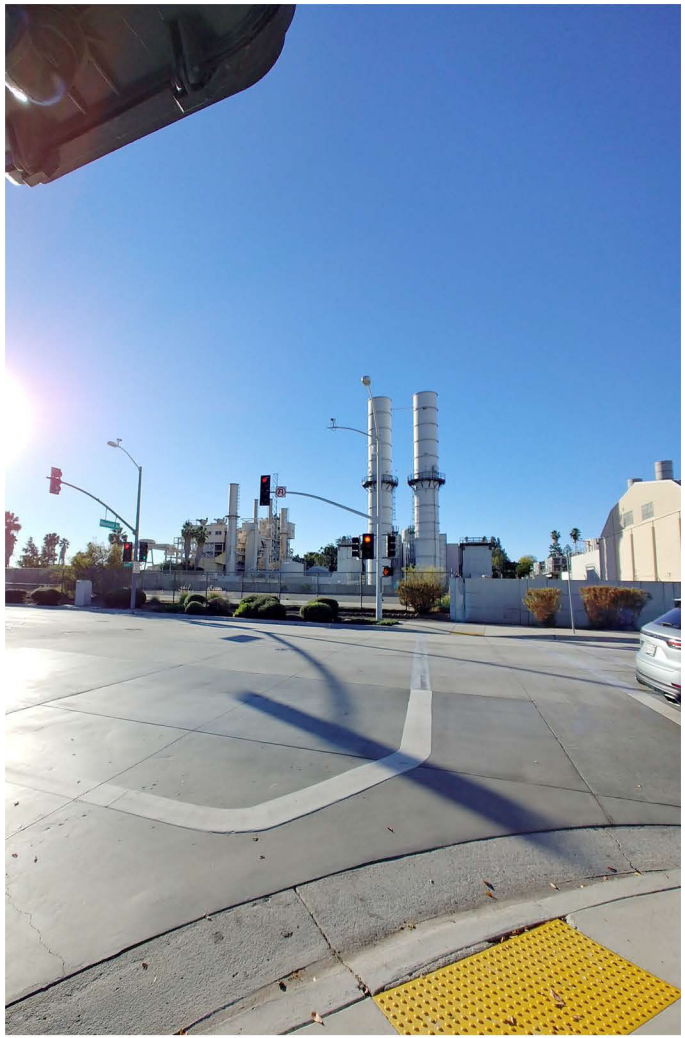
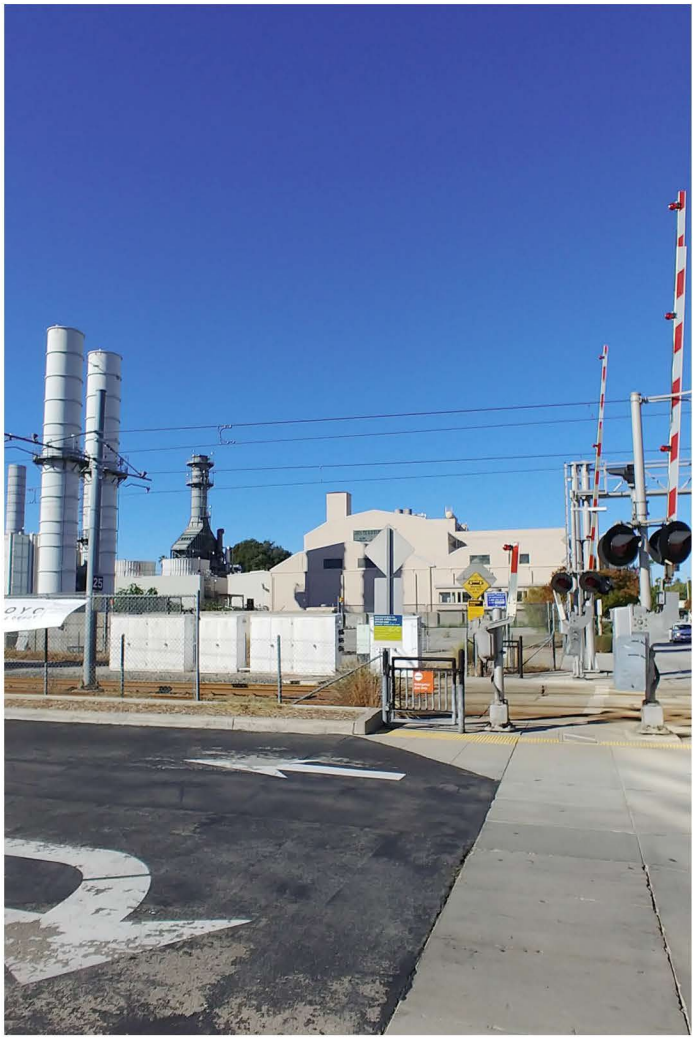
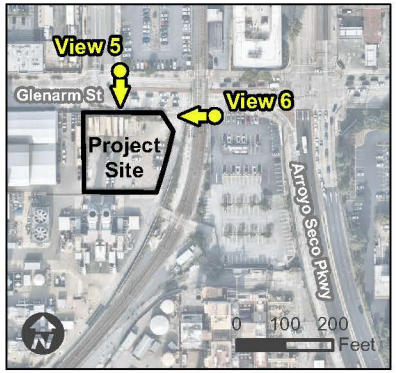


View 5: Intersection of Glenarm and Raymond-Looking South at the Project Site



View 6: Tesla Charging Station-Looking West at the Project Site



Site Photographs

Exhibit 5c

Glenarm BESS Project

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are other properties of PWP. To the left are generator towers, which serve as supplemental power (not always running). To the right is the original PWP facility building.

- **View 2: Blair High School and Middle School-Looking West at the Project Site.** As shown on Exhibit 5a, this photograph was taken in the parking lot of Blair High School and Middle School, which faces west toward the Project site. Views of the Project site are limited due to the parking lot being at a slightly lower elevation, as well as the northbound traffic from the SR-110 freeway. This is an area with moderate to heavy traffic. Other visible structures in this photograph include the PWP generator towers and the original PWP facility.
- **View 3: Broadway Steam Plant-Looking Northwest at the Project Site.** As shown on Exhibit 5b, this photograph was taken from the Broadway Steam Plant, part of PWP property, looking northwest toward the Project site. This photograph was taken at a higher elevation and shows the Project site to the west and Tesla charging station to the east, which are separated by the Metro Gold Line running north and south. The Art Center College of Design and its parking lot are located to the north and northeast of the Project site. Vegetation is limited to ornamental trees and shrubs in the Art Center parking lot and large palm trees along the Metro Gold Line track.
- **View 4: Intersection of Glenarm Street and Arroyo Seco Parkway.** As shown on Exhibit 5b, this photograph was taken at the intersection of Glenarm Street and Arroyo Seco Parkway, looking southwest toward the Project site. To the left of the photograph is the freeway entrance to the SR 110 South. Vegetation is limited to a few trees lining Glenarm Street and others located south of the Project site. Additional buildings in this photograph include generator towers and the original PWP facility.
- **View 5: Intersection of Glenarm Street and Raymond Avenue.** As shown on Exhibit 5c, this photograph was taken at the intersection of Glenarm Street and Raymond Avenue, looking south and southeast toward the Project Site. The Project site is currently bound by a chain link fence. Vegetation including low lying bushes can be seen along the northern perimeter of the site. Other structures notable in this photo are all property of PWP. The far-most left structure is the decommissioned Broadway Steam Plant, the center grey structures are generator towers, and the building on the far right is the original PWP facility.
- **View 6: Tesla Charging Station-Looking West and the Project Site.** As shown on Exhibit 5c, this photograph shows the view from the Tesla charging station, looking west toward the Project site. In between the charging station and the Project site is the Metro Gold Line track. The view of the Project site is limited given the existing perimeter fence. Other notable structures are the PWP generator towers and the original PWP facility.

Scenic Resources

The California Department of Transportation (Caltrans) manages the State Scenic Highway Program, which includes several freeways and highways as “Officially Designated Scenic Highways” or “Eligible State Scenic Highways”. The nearest Officially Designated Scenic Highway to the Project site is SR-2, which runs through the San Gabriel Mountains from I-210 in La Cañada Flintridge to the San Bernardino County line (Caltrans 2022). SR-2 is located approximately 4.6 miles west of the Project site at its nearest point but does not have views of the Project site due to distance and intervening buildings, slopes, and vegetation.

The California Scenic Highway Program also designates I-210 as an Eligible Scenic Highway from I-5 to SR-134 (Caltrans 2022). I-210 is located approximately 1.5-miles north of the Project site at its nearest point but does not have views of the Project site due to distance and intervening buildings, slopes, and vegetation.

4.1.2 IMPACT ANALYSIS

Impact Discussion

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

Construction, Operation, and Demolition

No Impact. A scenic vista is defined as a viewpoint that provides panoramic or focused views of a highly valued landscape or scenic resource for the benefit of the general public. The Environmental Impact Report (EIR) for the Pasadena General Plan provides the following description of the existing scenic features and visual resources in the City: "The City of Pasadena affords a variety of views of scenic landscapes and built environments. The San Gabriel Mountains, near the north City boundary, dominate the skyline from most of the City. The San Rafael Hills are along the western City boundary, and the Verdugo Mountains are further to the west. In addition, the Arroyo Seco corridor and Eaton Canyon traverse the western and eastern portions of the City, respectively. The City also offers scenic views of distinct architecture in the built environment, such as the Old Pasadena Historic District, Pasadena City Hall, Castle Green, St. Andrew Catholic Church bell tower, and Bungalow Heaven" (City of Pasadena 2015a).

The Project site is in an urbanized area and is not itself a scenic vista or scenic resource. There are no City-designated Scenic Corridors, and the unofficial Scenic Corridors on Huntington Drive, Highland Drive, and Linda Vista Avenue do not offer views of the Upper Arroyo Seco or the Project site. Distant views of the San Gabriel Mountains are available from certain positions at the Project site, as shown on View 3 of Exhibit 5b. These views are primarily available from elevated positions within the existing PWP facility and are not generally accessible to the public. The construction of the BESS, which would be the primary visible Project component, would lead to a minor change in visual character of the Project site. However, the Project would not block views of the San Gabriel Mountains or any other scenic vista in the City, to the public. The proposed BESS structures would be approximately 20 feet in height, which is significantly lower than the existing generator stacks (approximately 60 feet tall) and would not obstruct existing viewsheds. Therefore, given that the Project is not a scenic resource nor is it located within a scenic vista, there would be no impact, and no mitigation is required.

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

Construction, Operation, and Demolition

No Impact. The Project site is not located within the viewsheds of SR-2 (an Officially Designated Scenic Highway) or I-210 (an Eligible Scenic Highway), and the proposed BESS at the Project site would not be visible from SR-2 or I-210 (Caltrans 2022). Thus, no impacts on scenic resources along these scenic highways would occur. However, the Project site is located less than 0.1-mile west of the Arroyo Seco Parkway (Route 110) – a National Scenic Byway. To be designated as a National Scenic Byway, a byway must meet the criteria for at least one of six "intrinsic qualities": archeological, cultural, historic, natural, recreational, and scenic. The features contributing to the distinctive characteristics of the corridor's intrinsic quality are considered regionally significant. The Arroyo Seco Parkway is approximately 9.45 miles in length and connects Los Angeles and Pasadena through the historic Arts and Crafts landscape of the Arroyo Seco. The parkway is characterized by gentle curves, lush landscaping, and scenic vistas (FHA 2024). While the Project site may be partially visible from portions of the Arroyo Seco Parkway, the proposed BESS structures would be consistent with the existing industrial character of the site and would not

substantially alter views from the parkway. Therefore, there would be no impact on scenic byways as a result of Project implementation, and no mitigation is required.

There are no City-designated Scenic Corridors, and the unofficial Scenic Corridors on Huntington Drive, Highland Drive, and Linda Vista Avenue do not offer views of the Upper Arroyo Seco or the Project site. The Project would not affect unofficial scenic corridors or the City's traditional urban design form and historic character. Thus, there would be no impact on scenic resources as a result of Project implementation, and no mitigation is required.

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

Construction, Operation, and Demolition

Less than Significant Impact. During construction, the visual character of the Project site would be adversely affected by construction activities and the presence of construction equipment and materials. However, this would be a short-term and temporary impact, which would be restored upon completion of construction. Views of excavation equipment, construction materials, and battery storage equipment may be partially visible during the Project's 12-month construction, as the construction site would be buffered by a temporary construction screen. Further, construction is not proposed outside of daylight hours. Therefore, construction activities would be temporary and would not result in permanent adverse effects to the visual character of the site.

The Project site and surrounding area is generally urban and characterized by a diverse mix of industrial, commercial, office, residential, educational and community uses. During operation, the Glenarm BESS would feature multiple 20-foot-high battery storage structures, which are much smaller than the surrounding generator, the exhaust stacks, Broadway Steam Plant, and the original PWP facility. This view would be compatible and similar to the view of the existing PWP enclosure. As the proposed Project would be constructing a utility structure in an already developed industrial area, aesthetic impacts related to long term operation of the Glenarm BESS would be less than significant. Furthermore, the Project would not conflict with existing zoning and other regulations governing scenic quality. No mitigation is required.

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

Construction, Operation, and Demolition

Less than Significant Impact. The Project site is in an area that is subject to nighttime lighting from surrounding uses, including streetlights along Glenarm Street, Raymond Avenue, and Arroyo Seco Parkway, lighting from passing vehicles along these roadways, and lighting from surrounding commercial/office and industrial uses located northeast/west, south, and west of the Project site.

The proposed Project involves the construction of a lithium-ion battery system onsite that would not result in additional lighting or substantial lighting beyond the present levels at the site that would spill over onto surrounding uses. Construction is not proposed outside of daylight hours. The exterior of the BESS would be constructed of non-reflective materials and colors that would blend in with surrounding uses. Further, the Project would comply with the design guidelines outlined in the South Fair Oaks Specific Plan.

As stated previously, the Project site is in an urbanized area with vehicle lights, streetlights, and exterior building lights. Thus, lighting associated with the Project (if any) would not be new or a substantial increase over existing level of lighting in the area and would not adversely affect nighttime views. Any minimal security lighting installed as part of the Project would be downward-facing and properly shielded to prevent light spillover onto adjacent properties. Additionally, the Project would not include any surfaces that would create glare impacting the surrounding uses or motorists on the adjacent roadways. Therefore, the potential impacts would be less than significant, and no mitigation is required.

4.1.3 MITIGATION MEASURES

Impacts pertaining to aesthetics and light and glare during Project construction, operation, and demolition would be less than significant; therefore, no mitigation measures are required.

4.2 AGRICULTURE AND FOREST RESOURCES	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	-	-	-	X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	-	-	-	X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220[g]), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g])?	-	-	-	X
d) Result in the loss of forest land or conversion of forest land to non-forest use?	-	-	-	X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	-	-	-	X

4.2.1 EXISTING CONDITIONS

The California Department of Conservation administers the Farmland Mapping and Monitoring Program (FMMP) pursuant to Section 65570 of the *California Government Code.* Based on review of the Farmland Map, prepared by the California Department of Conservation, FMMP, there are no lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on or near the project site (FMMP 2022). The FMMP identifies the Project site as Urban and Built-Up Land. As such, there are no designated farmlands in or near the Project site. Also, there are no existing or ongoing agricultural activities in or near the Project site.

There are no forest lands, timberlands, or any Timberland Production zones in the City.

4.2.2 IMPACT ANALYSIS

Impact Discussion

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

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

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

Construction, Operation, and Demolition

No Impact. As discussed above, there are no designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the Project site or surrounding area. The FMMP identifies the Project site as Urban and Built-Up Land, confirming the absence of important farmland. As such the Project would not result in conversation of these resources to non-agricultural use. Additionally, the Project site is not zoned for agricultural use, and there are no Williamson Act contracts in the City (City of Pasadena 2022b). Therefore, the Project would not conflict with existing zoning for agricultural use. Also, there are no agricultural activities on the Project site, and no farmland conversion or impacts to agricultural uses would occur because of the Project. Furthermore, the Project would not indirectly affect any agricultural resources in the region due to its urban location and nature. Therefore, no impacts on agricultural resources would occur, and no mitigation is required.

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

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

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

Construction, Operation, and Demolition

No Impact. The Project site has a General Plan designation of R&D Flex Space (0.0-1.25 FAR) and is within the SFO-IF HL-56 (South Fair Oaks Specific Plan, Industrial Flex) zoning district (City of Pasadena 2022b, 2022d). There are no timberland or Timberland Production zones that have been identified in the City of Pasadena General Plan. Thus, the Project would not conflict with zoning for forest land and timberland and would not cause rezoning of such resources.

No loss of forest resources or conversion of forest land to non-forest use would occur with the Project. Long-term operation and maintenance activities at the Project site would not adversely affect forest resources. The Project's urban location precludes any direct or indirect impacts on forest resources in the region. Therefore, no impacts on forest resources would occur, and no mitigation is required.

4.2.3 MITIGATION MEASURES

There would be no impacts on agriculture and forest resources during Project construction, operation, and demolition activities; therefore, no mitigation measures are required.

4.3 AIR QUALITY	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less than Significant Impact**	**No Impact**
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	-	-	-	X
b Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?	-	-	X	-
c) Expose sensitive receptors to substantial pollutant concentrations?	-	-	X	-
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	-	-	X	-

4.3.1 EXISTING CONDITIONS

The Project site is located in the Los Angeles County portion of the South Coast Air Basin (SoCAB), and for air quality regulation and permitting, the site is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). Both the State of California (State) and the U.S. Environmental Protection Agency (USEPA) have established health-based Ambient Air Quality Standards (AAQS) for air pollutants, which are known as “criteria pollutants”. The AAQS are designed to protect the health and welfare of the populace within a reasonable margin of safety. The AAQS for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), inhalable particulate matter with a diameter of 10 microns or less (PM10), fine particulate matter with a diameter of 2.5 microns or less (PM2.5), and lead are shown in Table 4-1, California and National Ambient Air Quality Standards.

TABLE 4-1
CALIFORNIA AND NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant Averaging Time	California	Standards	Federal Standards	
			Primary[a]	Secondary[b]
O_3	1 Hour	0.09 ppm (180 µg/m^3)	–	–
	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	Same as Primary
PM10	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
-	AAM	20 µg/m^3	–	Same as Primary
PM2.5	24 Hour	–	35 µg/m^3	Same as Primary
-	AAM	12 µg/m^3	12.0 µg/m^3	15.0 µg/m^3
CO	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	–
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	–
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	–	–
NO_2	AAM	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
	1 Hour	0.18 ppm (339 µg/m^3)	0.100 ppm (188 µg/m^3)	–
SO_2	24 Hour	0.04 ppm (105 µg/m^3)	0.14 ppm (for certain areas)[c]	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m^3)
	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	–
Lead	30-day Avg.	1.5 µg/m^3	–	–
	Calendar Quarter	–	1.5 µg/m^3	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m^3	
Visibility Reducing Particles	8 hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	**No Federal Standards**	
Sulfates	24 Hour	25 µg/m^3		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)		

O_3: ozone; µg/m^3: micrograms per cubic meter; PM10: large particulate matter; AAM: Annual Arithmetic Mean; PM2.5: fine particulate matter; CO: carbon monoxide; mg/m^3: milligrams per cubic meter; NO_2: nitrogen dioxide; SO_2: sulfur dioxide; ppm: parts per million; km: kilometer; –: No Standard.

[a] *National Primary Standards:* The levels of air quality necessary, within an adequate margin of safety, to protect the public health.

[b] *National Secondary Standards:* The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[c] On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note: More detailed information in the data presented in this table can be found at the CARB website (www.arb.ca.gov).

Source: CARB 2016.

Regional air quality is defined by whether the area has attained State and federal air quality standards, as determined by air quality data from various monitoring stations. Areas that are considered in “nonattainment” are required to prepare plans and implement measures that will

bring the region into "attainment". When an area has been reclassified from nonattainment to attainment for a federal standard, the status is identified as "maintenance", and there must be a plan and measures established that will keep the region in attainment for the next ten years.

For the California Air Resources Board (CARB), an "unclassified" designation indicates that the air quality data for the area are incomplete and there are no standards to support a designation of attainment or nonattainment. Table 4-2, Designations of Criteria Pollutants in the South Coast Air Basin, summarizes the current attainment status of the SoCAB for the criteria pollutants.

TABLE 4-2
CRITERIA POLLUTANT DESIGNATIONS
IN THE SOUTH COAST AIR BASIN

Pollutant	State	Federal
O_3 (1-hour)	Nonattainment	No Standard
O_3 (8-hour)	Nonattainment	Nonattainment
PM10	Nonattainment	Attainment/Maintenance
PM2.5	Nonattainment	Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Attainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	Attainment	Nonattainment/Attainment[a]
Visibility-Reducing Particles	Unclassified[b]	No Standards
Sulfates	Attainment	
Hydrogen Sulfide	Unclassified	

O_3: ozone; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; CO: carbon monoxide; NO_2: nitrogen dioxide; SO_2: sulfur dioxide

[a] Los Angeles County is classified as nonattainment for lead; the remainder of the SoCAB is in attainment of State and federal standards.
[b] "Unclassified" designation indicates that the air quality data for the area are incomplete and do not support a designation of attainment or nonattainment.

Source: SCAQMD 2016, USEPA 2020.

O_3 is formed by photochemical reactions between nitrogen oxide (NOx) and volatile organic compounds (VOCs) rather than being directly emitted. O_3 is the principal component of smog. Elevated O_3 concentrations cause eye and respiratory infection; reduce resistance to lung infection; and may aggravate pulmonary conditions in persons with lung disease. O_3 is also damaging to vegetation and untreated rubber. The entire SoCAB is designated as a nonattainment area for the State one-hour O_3 standard.

CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, headaches, and fatigue. The SoCAB is designated as an attainment area for federal CO standards.

NO_2 (a "whiskey brown"-colored gas) and nitric oxide (NO) (a colorless, odorless gas) are formed from combustion. The sum of these compounds are referred to as NOx. NOx is a primary component of the photochemical smog reaction. The severity of health effects of NOx depends primarily on the concentration inhaled. Acute symptoms can include coughing, difficulty breathing, vomiting, headache, and eye irritation. Respiratory symptoms may also increase in severity after prolonged exposure.

SO_2 is a corrosive gas that is primarily formed from the combustion of fuels containing sulfur (e.g., from power plants) and heavy industry that uses coal or oil as fuel. SO_2 irritates the respiratory

tract and can result in lung disease and breathing problems for asthmatics. Atmospheric SO_2 also contributes to acid rain.

Lead is found in old paints and coatings, plumbing, and a variety of other materials including gasoline anti-knock additives. Once in the blood stream, lead can cause damage to the brain, nervous system, and other body systems. Children are highly susceptible to the effects of lead. However, lead emissions have significantly decreased due to the near elimination of the use of leaded gasoline.

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Respirable particulate matter (i.e., PM10) derives from a variety of sources including road dust from paved and unpaved roads; diesel soot; combustion products; tire and brake abrasion; construction operations; and fires. Fuel combustion and certain industrial processes are primarily responsible for fine particle (i.e., PM2.5) levels. PM10 can accumulate in the respiratory system and aggravate health problems such as asthma. PM2.5 can deposit itself deep in the lungs and may contain substances that are harmful to human health.

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness or that may pose a present or potential hazard to human health. TACs may be emitted from a variety of common sources, including motor vehicles, gasoline stations, dry cleaners, industrial operations, painting operations, and research and teaching facilities. TACs are different than the “criteria” pollutants previously discussed in that AAQS have not been established for them. TACs occurring at extremely low levels may still affect health, and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts on human health are described by having carcinogenic risk and being chronic (i.e., of long duration) or acute (i.e., severe but of short duration). Diesel particulate matter (diesel PM) is a TAC and is responsible for the majority of California’s known cancer risk from outdoor air pollutants.

The effects from air pollution can be significant, both in the short-term during smog alerts, but also from long-term exposure to pollutants. While the majority of the populace can overcome short-term air quality health concerns, selected segments of the population are more vulnerable to its effects. Specifically, young children, the elderly, and persons with existing health problems are most susceptible to respiratory complications.

There are no adjacent residential sensitive receptors to the Project site. The nearest sensitive receptors include Blair High School and Middle School located approximately 455 feet to the east of the Project site, medical uses located approximately 475 feet west of the Project site, and residential uses located approximately 600 feet west of the Project site. Other land uses proximate to the Project site include retail, office, and utility uses.

4.3.2 IMPACT ANALYSIS

Impact Discussion

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

Construction and Demolition

No Impact. The SCAQMD develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary. It is directly responsible for reducing emissions

from stationary (area and point), mobile, and indirect sources and has prepared an Air Quality Management Plan (AQMP) that establishes a program of rules and regulations directed at attaining the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS).

The current regional plan applicable to the Project is the SCAQMD's 2022 AQMP. The SCAQMD is responsible for ensuring that the SoCAB meets the NAAQS and CAAQS by reducing emissions from stationary (area and point), mobile, and indirect sources. To accomplish this goal, the SCAQMD prepares AQMPs in conjunction with the Southern California Association of Governments (SCAG), County transportation commissions, and local governments; develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary, as indicated above.

The 2022 AQMP was adopted on December 2, 2022, by the SCAQMD Governing Board. The 2022 AQMP evaluates integrated strategies and measures to meet the following NAAQS (SCAQMD 2022):

- 8-hour O_3 target of 80 parts per billion (ppb) by 2024, 75 ppb by 2032, 70 ppb by 2038;
- Annual PM2.5 (12 micrograms per cubic meter [µg/m^3]) by 2025;
- 1-hour O_3 (120 ppb) by 2023; and
- 24-hour PM2.5 (35 µg/m^3) by 2023.

The main purpose of an AQMP is to bring an area into compliance with the requirements of federal and State air quality standards. For a project to be consistent with the AQMP, the pollutants emitted from the project should not (1) exceed the SCAQMD CEQA air quality significance thresholds or (2) conflict with or exceed the assumptions in the AQMP. As shown in Threshold 4.3(b) below, pollutant emissions from the proposed Project would be less than the SCAQMD thresholds and would not result in a significant impact. The Project is allowed under the Zoning and General Plan Land Use designations for the site and is therefore consistent with the growth expectations for the region (City of Pasadena 2015a). The proposed Project would not directly result in population growth or development of new land uses that have not been anticipated in the AQMP. By supporting variable renewable energy generation, development of the proposed Project would be consistent with the PWP's Integrated Resource Plan, which provides a framework for meeting the State of California's GHG reduction goals as detailed in the Renewable Portfolio Standards. In addition to GHG reduction, the operation of the BESS would result in indirect reductions of criteria pollutant emissions by allowing the City to utilize more energy sourced from renewable resources, thereby reducing the City's dependence on energy derived from fossil fuels. The Project would provide a minimum storage capacity of four hours which would reduce the need for additional energy generation during hours of peak electricity demand. Because the Project would support the development of renewable energy and reduce the need to operate gas-fired generation units during peak periods, the proposed Project would not conflict with the 2022 AQMP; therefore, no impact is expected, and no mitigation is required.

b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?

Construction and Demolition

Less Than Significant Impact. The SCAQMD has adopted significance thresholds to assess the regional impact of air pollutant emissions in the SoCAB. Table 4-3, SCAQMD Regional Emissions Significance Thresholds, summarizes the SCAQMD's mass emissions thresholds, which are presented for both short-term construction and long-term operational emissions. A project with emissions rates below these thresholds is considered to have a less than significant effect on air quality.

TABLE 4-3
SCAQMD REGIONAL POLLUTANT SIGNIFICANCE THRESHOLDS
(LBS/DAY)

Criteria Pollutant	Construction	Operation
VOC	75	55
NO_x	100	55
CO	550	550
SO_x	150	150
PM10	150	150
PM2.5	55	55

SCAQMD: South Coast Air Quality Management District; lbs/day: pounds per day; VOC: volatile organic compounds; NOx: oxides of nitrogen; CO: carbon monoxide; SOx: oxides of sulfur; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less.

Source: SCAQMD 2022.

Regional Construction Impacts

The SCAQMD has established methodologies to quantify air pollutant emissions associated with construction activities, such as air pollutant emissions generated by operation of on-site construction equipment; fugitive dust emissions related to trenching and earthwork activities; and mobile (tailpipe) emissions from construction worker vehicles and haul/delivery truck trips. Emissions would vary from day to day, depending on the level of activity; the specific type of construction activity occurring; and, for fugitive dust, prevailing weather conditions.

A construction-period mass emissions inventory was compiled based on an estimate of construction equipment as well as scheduling and Project phasing assumptions. More specifically, the mass emissions analysis takes into account the following:

- Combustion emissions from operating on-site stationary and mobile construction equipment.
- Fugitive dust emissions from demolition and site preparation activities.
- Mobile-source combustion emissions and fugitive dust from worker commute and truck travel.

Emissions were calculated using the California Emissions Estimator Model Version 2022.1.1.4 (CalEEMod) emissions inventory model (CAPCOA 2023). CalEEMod is a model accepted by the SCAQMD that is used to estimate anticipated emissions associated with land development

projects in California. CalEEMod has separate databases for specific counties and air districts, and the Los Angeles County database was used for the proposed Project. Construction activities must be conducted in compliance with the SCAQMD's Rule 403, Fugitive Dust, which requires the implementation of best available control measures (BACM) for any activity or man-made condition capable of generating fugitive dust including, but not limited to, earth-moving activities, construction/demolition activities, disturbed surface area, or heavy- and light-duty vehicular movement. The BACMs include stabilizing soil; watering surface soils and crushed materials; covering hauls or providing freeboard; preventing track-out; and limiting vehicle speeds and wind barriers, among others. Consistent with the requirements of SCAQMD Rule 403, watering for dust control is assumed in the emissions calculations.

The regional emissions thresholds (see Table 4-3) are based on the rate of emissions (i.e., pounds of pollutants emitted per day). Therefore, the quantity, duration, and intensity of construction activities are important in ensuring analysis of worst-case (i.e., maximum daily emissions) scenarios. Project activities are identified by start date and duration. Each activity has associated off-road equipment (e.g., backhoes, bore drills, cranes) and on-road vehicles (e.g., haul trucks, concrete trucks, worker commute vehicles). Detailed construction assumptions and CalEEMod inputs and outputs can be found in Appendix A, Air Quality and Greenhouse Gas Emissions Modeling Data.

Maximum daily construction emissions during the peak workday are shown in Table 4-4, Estimated Maximum Daily Construction Emissions. If construction is delayed or occurs over a longer time period, emissions could be reduced because of (1) a more modern and cleaner-burning construction equipment fleet mix and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval). Construction of the Project would be required to comply with SCAQMD Rule 403, as discussed above. Additionally, in accordance with Section 2449(d)(3) of CARB's Regulation for In-Use Off-Road Diesel-Fueled Fleets, construction equipment and vehicles are required to limit idling times to no more than five consecutive minutes. As shown, all criteria pollutant emissions from Project construction would be less than their respective thresholds. Thus, regional construction impacts would be less than significant, and no mitigation is required.

TABLE 4-4
ESTIMATED MAXIMUM DAILY CONSTRUCTION EMISSIONS
(LBS/DAY)

Construction Year	VOC	NOx	CO	SOx	PM10	PM2.5
2024	2	20	19	<1	1	1
2025	2	17	18	<1	1	1
Maximum	2	20	19	**<1**	1	1
SCAQMD Daily Thresholds	***75***	***100***	***550***	***150***	***150***	***55***
Exceeds SCAQMD Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compound(s); NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; SCAQMD: South Coast Air Quality Management District.

Source: SCAQMD 2019 (thresholds). Emissions calculated by Psomas using CalEEMod 2022.1.1.4 (Appendix A, Air Quality and Greenhouse Gas Emissions Modeling Data)

Localized Construction Impacts

The localized effects from the on-site portion of daily emissions were evaluated at sensitive receptor locations that would be potentially impacted by the Project; these were evaluated according to the SCAQMD's localized significance threshold (LST) methodology, which utilizes

on-site mass emissions rate look up tables and Project-specific modeling, where appropriate. LSTs are applicable to the following criteria pollutants: NO_2, CO, PM10, and PM2.5.[3] LSTs represent the maximum emissions from a project that are not expected to cause or contribute substantially to an exceedance of the most stringent applicable federal or State ambient air quality standard. These are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor. For PM10 and PM2.5, LSTs were derived based on requirements in SCAQMD's Rule 403 regarding fugitive dust. For the LST CO and NO_2 exposure analysis, receptors who could be exposed for one hour or more are considered. For PM10 and PM2.5 exposure analysis, receptors who could be exposed for 24 hours are considered. The mass rate look-up tables were developed for each source receptor area and can be used to determine whether or not a project may generate significant adverse localized air quality impacts. The SCAQMD provides LST mass rate look-up tables (i.e., screening thresholds) for projects that are less than or equal to five acres. The use of a LST screening threshold based on one acre was used to assess the potential for localized construction air quality impacts associated with the Project.

When quantifying mass emissions for localized analysis, only emissions that occur on site are considered. Consistent with the SCAQMD's LST methodology guidelines, emissions related to off-site delivery/haul truck activity and employee trips are not considered in the evaluation of localized impacts.

As shown in Table 4-5, Maximum Localized Construction Pollutant Emissions, localized construction emissions were evaluated for the maximum localized onsite emissions for NO_x, CO, PM10, and PM2.5. Emissions occurring at the Project site would be less than their respective SCAQMD LST screening thresholds. Thus, construction impacts related to air pollutant exposure to sensitive receptors proximate to the Project site would be less than significant, and no mitigation is required.

TABLE 4-5
MAXIMUM LOCALIZED CONSTRUCTION POLLUTANT EMISSIONS
(LBS/DAY)

Maximum Emissions	NO_x	CO	PM10	PM2.5
Maximum Construction Emissions	20	19	1	1
SCAQMD LST Screening Threshold	69	535	4	3
Exceeds SCAQMD Screening Thresholds?	**No**	**No**	**No**	**No**

lbs/day: pounds per day; NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; SCAQMD: South Coast Air Quality Management District; LST: Local Significance Threshold; SRA: Source Receptor Area.

Thresholds are for 1-acre site with receptors located within 25 meters in Source Receptor Area (SRA) 8, West San Gabriel Valley.

Source: SCAQMD 2009 (LSTs). Emissions from Psomas calculated with CalEEMod 2020 (Appendix A).

Long-Term Operational Impacts

Operational emissions are comprised of area, energy, and mobile source emissions. There would be no additional vehicle trips for monitoring and maintenance of the proposed BESS, although some emissions may occur related to maintenance of the site and landscaping. Estimated peak daily net operational emissions are shown in Table 4-6, Peak Daily Net Operational Emissions. As shown in Table 4-6, Peak Daily Net Operational Emissions, the Project's net operational emissions would be less than the SCAQMD CEQA significance thresholds for all criteria pollutants.

[3] NO_2 impacts are addressed by evaluating nitrogen oxide (NOx) emissions.

TABLE 4-6
PEAK DAILY NET OPERATIONAL EMISSIONS

Source	Emissions (lbs/day)					
	VOC	NO_x	CO	SO_x	PM10	PM2.5
Total Operational Emissions*	**<1**	**<1**	**1**	**<1**	**<1**	**<1**
SCAQMD Significance Thresholds (Table 4-3)	***55***	***55***	***550***	***150***	***150***	***55***
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compounds; NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District.

* Some totals do not add due to rounding.

Note: CalEEMod model data sheets are included in Appendix A.

Source: Psomas 2020.

Cumulative Impacts

The SCAQMD, in their White Paper on Regulatory Options for Addressing Cumulative Impacts from Air Pollution Emissions (presented to the Board on September 5, 2003), identifies that impacts that are less than significant on a Project level are also considered to be less than significant on a cumulative basis. The AQMD uses the same significance thresholds for project-specific and cumulative impacts analyzed in an Environmental Assessment (EA) or EIR, except for the Hazard Index for toxic air contaminant emissions (SCAQMD 2003). Any projects that are found to result in less than significant impacts on a project level are not considered to be cumulatively considerable and consequently would not result in a considerable contribution to cumulative impacts. Using this rationale, since Project emissions would not exceed the SCAQMD's regional thresholds, criteria pollutant emissions generated would not result in a cumulatively considerable net increase of any criteria pollutant. As such, cumulative impacts would be less than significant, and no mitigation is required.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Construction and Demolition

Less than Significant Impact. Exposure of sensitive receptors is addressed for the following situations: CO hotspots; criteria pollutants from on-site construction; and TACs from on-site construction.

Carbon Monoxide Hotspot

A CO hotspot is an area of elevated CO concentrations that is caused by severe vehicle congestion on major roadways, typically near intersections. If a project substantially increases average delay at signalized intersections that are operating at Level of Service (LOS) E or F or causes an intersection that would operate at LOS D or better without the project to operate at LOS E or F with the Project, there is a potential for a CO hotspot. The Project site is located in the SoCAB which is in a CO attainment area; additionally, the SoCAB has been in attainment for CO for over two decades and its "continued attainment" has been verified (CARB 2005).

The proposed Project would not generate vehicle traffic from daily worker trips associated with the monitoring and maintenance of Project facilities. As such, the Project would not have the potential to substantially change the average LOS at nearby intersections and consequently would not contribute to the potential for the formation of a CO hotspot.

Criteria Pollutants from On-Site Construction

Exposure of persons to NO_2, CO, PM10, and PM2.5 emissions is discussed in the LST analysis, under Threshold 4.3b. As discussed, there would be a less than significant impact.

Toxic Air Contaminants Impacts

The greatest potential for TAC emissions during construction would be related to diesel particulate emissions associated with heavy equipment operations during site demolition and grading activities. The SCAQMD does not consider diesel-related cancer risks from construction equipment to be an issue due to the short-term nature of construction activities. Construction activities associated with the proposed Project would be short term (12 months). The assessment of cancer risk is typically based on a 30 to 70-year exposure period. The nearest sensitive receptor is Blair High School and Middle School, located approximately 455 feet east of the Project site. In addition, the Project would not involve a substantial number of construction equipment nor be located close to sensitive land uses. As such, construction of the proposed Project is not anticipated to result in an elevated cancer risk to exposed persons. Consequently, Project-related TAC impacts during construction would be less than significant, and no mitigation is required.

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

Construction, Operation, and Demolition

Less than Significant Impact. According to the SCAQMD's *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 (SCAQMD 1993). The Project does not propose any of these land uses and would not otherwise produce objectionable long-term operational odors. The Project would include development of electrical infrastructure (i.e., a BESS) and would not result in any onsite airborne emissions.

Short-term construction equipment and activities would generate odors, such as diesel exhaust emissions from construction equipment and paving activities. There may be situations where construction activity odors would have an olfactory presence, but these odors would not be unfamiliar or necessarily objectionable. The odors would be temporary and would dissipate rapidly from the source with an increase in distance. The Project use is also regulated from nuisance odors or other objectionable emissions by SCAQMD Rule 402. Rule 402 prohibits discharge from any source of air contaminants or other material, which would cause injury, detriment, nuisance, or annoyance to people or the public. Therefore, the impacts would be short-term; would not be objectionable to a substantial number of people; and would be less than significant requiring no mitigation. All Project-related odors are construction related and short term in nature; no long-term operational odors would result. As such, the proposed Project would have less than significant impact pertaining to other emissions, and no mitigation is required.

4.3.3 MITIGATION MEASURES

There would be no significant impacts related to air quality during Project construction, operation, and demolition activities; therefore, no mitigation measures are required.

4.4 BIOLOGICAL RESOURCES	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modification, 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?	-	-	-	X
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?	-	-	-	X
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	-	-	-	X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	-	X	-	-
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	-	-	-	X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	-	-	-	X

4.4.1 EXISTING CONDITIONS

The Glenarm site and Broadway site have been developed as power plants for over 110 years and 65 years, respectively, and they are industrial uses located in an established urbanized area. No candidate, sensitive, or special status species identified by the California Department of Fish and Wildlife (CDFW) or the U.S. Fish and Wildlife Services (USFWS) in local or regional plans, policies, or regulations are present on or near the Project site. On-site flora consists predominantly of non-native species that are generally located in the northwestern corner of the site (i.e., landscaping surrounding the Glenarm Building's electric foundation), on the western Project site perimeter along Fair Oaks Avenue, and along State Street. No riparian or other sensitive natural communities exist on the Project site or in the immediate vicinity. Additionally, no discernable drainage courses, inundated areas, wetland vegetation, or hydric soils exist on the site or adjacent properties. No wildlife corridors or native wildlife nursery sites are present on or adjacent to the site. Furthermore, because of the urbanized nature of the Project area, the potential of native resident or migratory wildlife species moving through the site is very low. No trees would be removed from the site as a result of the Project. Lastly, there are no adopted Habitat Conservation or Natural Community Conservation Plans (HCP/NCCP) within the City of Pasadena or in the Project vicinity.

4.4.2 IMPACT ANALYSIS

Impact Discussion

a) Would the project have a substantial adverse effect, either directly or through habitat modification, 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?

Construction, Operation and Demolition

No Impact. The Project site is located within an urban area and surrounded by a diverse mix of industrial, commercial, office, residential, educational, and community uses. As a result of urbanization of the land, the entire Project site and immediate surrounding areas are developed and no longer support undeveloped land. Native plant communities were removed from the site several decades ago as a result of development of the property. On-site flora consists predominantly of non-native species that are generally located in the northwestern corner of the site (i.e., landscaping surrounding the Glenarm Building's electric foundation), on the western Project site perimeter along Fair Oaks Avenue, and along State Street.

No fish, amphibian, or hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs) that would provide suitable habitat for fish or amphibians are at the Project site. Therefore, no fish or amphibians are expected to occur and are presumed absent from the Project site. Due to the high level of anthropogenic disturbances on-site, and surrounding development, no special-status reptilian species are expected to occur within the Project site. The site provides minimal foraging habitat for bird or mammal species that have adapted to human disturbance. The existing landscaping provides potential habitats for common animal species that are typically found in urban areas, such as small mammals, birds, small reptiles, and insects. However, the site does not provide natural habitats for sensitive plant and animal species.

Review of the USFWS' Critical Habitat for Threatened and Endangered Species shows there are no designated critical habitat areas on or near the site (USFWS 2022). The nearest critical habitat is located in the Monrovia Wilderness Preserve, more than 8 miles northeast of the Project site.

Since there are no natural or sensitive biological resources on the Project site, the proposed Project would not impact any candidate, sensitive, or special status species, as identified in the local or regional plans, policies, or regulations by the CDFW or USFWS. There would be no impact on sensitive species, and no mitigation is required.

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

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

Construction, Operation and Demolition

No Impact. The Project site is currently developed and does not contain riparian habitat or sensitive natural vegetation communities identified by CDFW and USFWS. There would be no impact to riparian habitats or sensitive natural vegetation communities, and no mitigation is required. No discernible jurisdictional drainage features such as wetlands occur within the Project

site disturbance area. Therefore, no impacts on jurisdictional drainages would occur, and no mitigation is required.

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

Construction, Operation and Demolition

Less than Significant With Mitigation. The Project site is developed and is surrounded by roads, commercial, and industrial uses on all sides. The Project site is isolated from regional wildlife corridors and linkages, and there are no riparian corridors, creeks, or useful patches of steppingstone habitat (natural areas) within or connecting the Project site to any identified wildlife corridors or linkages. As such, movement through the area would likely be limited to species that are ubiquitous within the urban landscape and not dependent on connectivity through the Project area. As a result, the Project site would not be considered a vital component to the function of this area for wildlife movement. There may be indirect effects on local wildlife movement (e.g., increased noise or dust), but these would be considered negligible and unlikely to negatively affect existing wildlife movement. Therefore, impacts would be considered less than significant, and no mitigation would be required.

As a result, implementation of the proposed Project would not disrupt or have any adverse effects on any migratory corridors or linkages in the surrounding area. The Project would not affect the movement of any native resident or migratory fish or wildlife species or established native resident or migratory wildlife corridors, as the Project is part of none.

Nesting birds are protected under the provisions of the Migratory Bird Treaty Act (MBTA) and *California Fish and Game Code*. The USFWS periodically publishes the list of migratory birds covered by the provisions of this statute, but essentially all naturally occurring bird species in North America are considered to be migratory and are included on the list. The Project site provides very limited potential for nesting birds; however, adjacent areas support potentially suitable nesting habitat for migratory birds, which could be impacted indirectly by construction of the Project. Increased levels of noise and activity near an active nest could result in nest failure. The loss of an active nest may be considered potentially significant; therefore, mitigation measure (MM) BIO-1, regarding seasonal avoidance of Project construction activities is proposed to reduce the potential impact. MM BIO-1 requires that construction activities occur between September 16 and January 31 of the following year, which is outside the bird nesting season. However, if construction must occur between February 1 and September 15, which is within the bird nesting season, a pre-construction survey for nesting birds (including raptors) is required within 3 days prior to any construction or disturbance activities (i.e., within 300 feet for nesting birds and within 500 feet for nesting raptors), and any active nests must be protected to reduce potentially significant impacts to a level of less than significant. Therefore, with implementation of MM BIO-1, impacts would be less than significant with mitigation.

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

Construction, Operation and Demolition

No Impact. The City of Pasadena tree protection ordinance states that all public trees are afforded protection, and it is a violation to prune, remove, injure, or plant a public tree without a City permit. Disturbance in the root zone of a protected tree may be considered a potential injury. No regulated

trees occur within the Project disturbance area; therefore, no trees would be removed from the site as a result of the Project. No impacts would occur, and no mitigation is required.

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

Construction, Operation and Demolition

No Impact. There is no adopted HCP/NCCP, or other approved State, regional, or local habitat conservation plans that would apply to the Project site. No impacts would occur, and no mitigation is required.

4.4.3 MITIGATION MEASURE

MM BIO-1 To the extent practical and feasible, Project construction shall be conducted between September 16 and January 31, which is outside the bird nesting season. Construction conducted within this period shall be considered in compliance with the conditions set forth in the Migratory Bird Treaty Act (MBTA) and *California Fish and Game Code* with methods approved by the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) to protect active bird/raptor nests. If the nature of the proposed construction activities requires that work be conducted during the breeding season for nesting birds (March 15–September 15) or nesting raptors (February 1–June 30), in order to avoid direct impacts on active nests, a pre-construction survey shall be conducted by a qualified Biologist for nesting birds and/or raptors within 3 days prior to any construction or disturbance activities (i.e., within 300 feet for nesting birds and within 500 feet for nesting raptors). If the Biologist does not find any active nests within or immediately adjacent to the impact area, the construction work shall be allowed to proceed. If a lapse of more than 3 days occurs between outdoor disturbance activities, the nesting bird survey will need to be repeated as nesting activities may potentially occur in that time frame. Results of the surveys will be provided to the CDFW.

If the Biologist finds an active nest within or immediately adjacent to the construction area and determines that the nest may be impacted or breeding activities substantially disrupted, the Biologist shall delineate an appropriate buffer zone (at a minimum of 25 feet) around the nest depending on the sensitivity of the species and the nature of the construction activity. Any nest found during survey efforts shall be mapped on the construction plans. The active nest shall be protected until nesting activity has ended. To protect any nest site, the following restrictions to construction activities shall be required until nests are no longer active, as determined by a qualified Biologist: (1) disturbance limits shall be established within a buffer around any occupied nest (the buffer shall be 25–100 feet for nesting birds and 300–500 feet for nesting raptors), unless otherwise determined by a qualified Biologist and (2) access and surveying shall be restricted within the buffer of any occupied nest, unless otherwise determined by a qualified Biologist. Encroachment into the buffer area around a known nest shall only be allowed if the Biologist determines that the proposed activity would not disturb the nest occupants. Construction can proceed when the qualified Biologist has determined that fledglings have left the nest, or the nest has failed.

4.5 CULTURAL RESOURCES	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	-	X	-	-
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	-	X	-	-
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	-	-	X	-

Information in this section is based on the California Historical Resources Inventory Database for the City of Pasadena (CHRID), the Built Environment Resource Directory (BERD), and the 2022 results from records searches and literature reviews of information available from the California Historical Resources Information System (CHRIS), South-Central Coastal Information Center (SCCIC), and the Native American Heritage Commission (NAHC). The information provided below also includes archival research that was conducted as part of the proposed Project. All documentation is compiled as Appendix B to this IS/MND. Additionally, due to the disturbed nature of the Project site, a field survey was not warranted.

4.5.1 EXISTING CONDITIONS

South-Central Coastal Information Center Cultural Resources Records and Literature Review

A cultural resources records search was conducted by the SCCIC on November 3, 2022, at California State University, Fullerton. The SCCIC is a designated branch of the CHRIS and houses records regarding archaeological and historical resources recorded in San Bernardino, Los Angeles, Orange, and Ventura Counties. The 2022 review consisted of an examination of the U.S. Geological Survey's 7.5-minute Anaheim Quadrangle to determine if any sites are recorded or if any cultural resources studies have been conducted on or within a ½-mile radius of the Project site. Data sources consulted at the SCCIC include archaeological records, Archaeological Determinations of Eligibility, historic maps, and the Historic Property Data File (HPDF) maintained by the Office of Historic Preservation (OHP). The HPDF contains listings for the California Register of Historical Resources (CRHR) and/or the National Register of Historic Places (NRHP), California Historical Landmarks, and California Points of Historical Interest.

The records search and literature review conducted for the proposed Project revealed that 15 cultural resource studies have been conducted within ½-mile of the Project site. Refer to Table 4-7, Cultural Resources Studies Within ½-mile of the Project Site. The first study, LA-10209, is a Finding of Effect Report for the Raymond Avenue to SR-110 Connector Project, Los Angeles County, California. The second study, LA-4909 (OR-2200), includes a Cultural Resources Investigation for the Netlink Fiber Optic Project, Los Angeles and Orange Counties, California.

TABLE 4-7
CULTURAL RESOURCES STUDIES WITHIN 1/2-MILE OF THE PROJECT SITE

Report No.	Year	Author(s)	Affiliation	Type of Study	Title of Study
LA-00115	1974	Clewlow, William C. Jr.	University of California, Los Angeles Archaeological Survey	Archaeological, Field study	Evaluation of the Archaeological Resources and Potential Impact of Proposed Extension of the Long Beach Freeway (Route 7) North from Valley Boulevard to Route 210 (Colorado Freeway)
LA-03446	1996	Demcak, Carol R.	Archaeological Resource Management Corp.	Archaeological, Field study	Report of Archaeological Survey for LA Cellular Site #777.7, 1900 East 15th Street Los Angeles, Los Angeles County
LA-04216	1900	Holmes, William Henry	The Smithsonian Institute	Other research	Report of the US National Museum Under the Direction of the Smithsonian Institute for the Year Ending June 30, 1900
LA-04359	1981	Anonymous	--	Other research	Historic Property Survey Reconstruction of Damaged Improvements on Marengo Avenue from Cordova Street to Glenarm Street City of Pasadena County of Los Angeles
LA-04386	1993	Anonymous	Caltrans	Architectural/historical	Cultural Resources Overview Los Angeles County Metropolitan Transportation Authority's Interstate Commerce Commission Abandonment Exemption Pasadena-Los Angeles Light Rail Transit Project
LA-04451	1983	Anonymous	Caltrans	Management/planning	Route 7 Environmental Impact Statement Supplement
LA-04890	2000	Storey, Noelle	Caltrans District 7	Literature search	Negative Archaeological Survey Report, Highway Project Description
LA-04909	2000	Atchley, Sara M.	Jones & Stokes	Archaeological, Field study	Cultural Resources Investigation for the Nextlink Fiber Optic Project, Los Angeles and Orange Counties, California
LA-05163	2000	Duke, Curt	LSA Associates, Inc.	Literature search	Cultural Resource Assessment for Pacific Bell Mobile Services Facility La 963-09, County of Los Angeles, California
LA-05421	2000	Sylvia, Barbara	Caltrans District 7	Literature search	Negative Archaeological Survey Report: 07-la-110-07-174-965120
LA-06362	1994	Borg, Roger	Caltrans District 7	Other research	Finding of Effect on Historic Properties Arroyo Seco Parkway and Four Level Interchange
LA-07918	2006	Wlodarski, Robert J.	Cellular, Archaeological Resource, Evaluations	Archaeological, Field study	Record Search and Field Reconnaissance for the Proposed Royal Street Communications Wireless Telecommunications Site La0107a (SBC T-Mobile Raymond) Located at 901 S. Raymond Avenue, Pasadena, California 91105

Report No.	Year	Author(s)	Affiliation	Type of Study	Title of Study
LA-10209	2004	English, John	Myra L. Frank & Associates, Inc	Management/planning	Finding of Effect Report for the Raymond Ave. To SR110 Connector Project, Los Angeles County, CA
LA-10576	2004	Greenwood, David	Myra L. Frank & Associates, Inc.	Other research	Historic Property Survey Report for the Raymond Avenue to SR 110 Connector Project for the Raymond Avenue to SR 110 Connector Project
LA-11554	2000	Lee, Portia	California Archives	Architectural/historical, Evaluation	Historic Resources Evaluation Report and Finding of No Adverse Effect for Oaklawn Bridge, City of South Pasadena Seismic Retrofit and Historic Restoration Project

Source: SCCIC 2022

Fifteen cultural resources were identified within the ½-mile search radius of the proposed Project; one of which is located within the Project area. Refer to Table 4-8, Cultural Resources Within ½-mile of the Project Site. Of these fifteen resources, four are within or immediately adjacent to the Project site: Glenarm Power Plant (P-19-188766), Broadway Power Plant (P-19-188767), Pacific Electric Railway Co., Substation No. 2 (P-19-184720), Arroyo Seco Parkway (P-19-179645) and are described in more detail below. The remaining resources include four historic districts: the Stimson (P-19-150075), Avoca Avenue (P-19-150122), Pasadena Avenue (P-19-184979), and Markham Place Historic Districts (P-19-180320); two residential properties: 12408 Lakewood Boulevard (P-19-186948) and 12011 Washington Boulevard (P-19-191844); two commercial properties: Gerlach's Drive-In Liquor (P-19-184723) and Fair Oaks Body and Paint (P-19-184719); two industrial properties: Precision Components (P-19-184722) and Pasadena Light & Power Dispatching Center (P-19-188719); and the Oaklawn Bridge & Waiting Station (P-19-179486).

TABLE 4-8
CULTURAL RESOURCES WITHIN 1/2-MILE OF THE PROJECT SITE

Resource No.	Year	Author(s)/ Affiliation	Resource Name	Resource Type	Age
P-19-150075	1994	D. Kane Caltrans	Stimson Historic District	District	Historic
P-19-150122	1994	D. Kane Caltrans	Avoca Avenue Historic District	Building, District	Historic
P-19-179486	1972 2000 2001 2001	M L Fey South Pasadena Cultural Heritage Commission Daniel Abeyta OHP Dan Peterson Avila Tom Architects Glen Duncan South Pasadena Cultural Heritage Commission	Oaklawn Bridge & Waiting Station	Building, Structure, Element of district	Historic
P-19-179645	1982 2003 2008	Snyder, John W. Caltrans David Greenwood, Myra L. Frank & Associates Janice Calpo Caltrans	Arroyo Seco Parkway Historic District	Structure, District --	Historic
P-19-180320	2013	--	Markham Place Historic District	District	Historic
P-19-184719	1990 2003	D. Richey Urban Conservation Department David Greenwood, Myra L. Frank & Associates	Fair Oaks Auto Body/Doggone Grooming	Building	Historic
P-19-184720	1990	D. Richey Urban Conservation	Pacific Electric Railway Co, Substation #2	Building	Historic
P-19-184722	1990	D. Richey Urban Conservation	Precision Components	Building	Historic
P-19-184723	1990 2003	D. Richey Urban Conservation Department David Greenwood, Myra L. Frank & Associates	Gerlach's Drive-In Liquor	Building	Historic
P-19-184979	1983 1994	S. Mikesell Diane Kane Caltrans	Pasadena Ave District	District	Historic
P-19-186948	2003	A. Tomes EDAW	--	Building	Historic
P-19-188719	1996 2003	Lauren Weiss Bricker David Greenwood, Myra L. Frank & Associates	Pasadena Light & Power Dispatching Center	Building	Historic

Resource No.	Year	Author(s)/ Affiliation	Resource Name	Resource Type	Age
P-19-188766	1995 2003	Christy J. McAvoy Historic Resources Group David Greenwood, Myra L. Frank & Associates, Inc.	Glenarm Power Plant	Building	Historic
P-19-188767	1996 2003	Lauren Weise Bricker David Greenwood, Myra L. Frank & Associates	Broadway Steam Plant	Structure	Historic
P-19-191844	2010	Meghan Potter ICF	12011 Washington Blvd	Building	Historic

Source: SCCIC 2022

Glenarm Power Plant (P-19-188766) is located at 72 East Glenarm Street. The building was constructed in 1928 and 1932. The property was previously evaluated in 1995 and 2003. In 2007 the Glenarm Power Plant was nominated for local designation under NRHP Criteria A and C, and CRHR Criteria 1 and 3 as a regionally significant example of "monumental electrical power-generating plant, executed in the Georgian Revival and Moderne architectural styles" (Johnson 2007). The nomination was successful, and the property was officially designated at the local level in 2008 (Pasadena 2024).

Broadway Power Plant (P-19-188767) is located at 85 East State Street. The property was previously evaluated in 1996, 2003, and 2015. As part of the current study the property was revaluated for historical significance as part of the *Historical Resources Technical Report, Broadway Demolition Project, Pasadena, California,* prepared by South Environmental in December 2023. The property was found not eligible under all NRHP, CRHR, and City Designation Criteria.

Arroyo Seco Parkway (P-19-179645) was determined eligible in 1982 by the Department of Transportation under NRHP Criteria A and C at the State level with the original six-mile segment representing a prototype freeway in California. In 2008, the Parkway was found eligible for the NRHP as a Historic District under Criteria A, B, and C, for its association with transportation planning, its principal engineer and political advocate Llyod Aldrich, and its bridge and tunnel architecture, with a period of significance from 1938-1953. The Parkway was officially designated and listed in the NRHP in 2011.

Pacific Electric Railway Company Substation No. 2 (P-19-184720) is located on the same parcel as the Glenarm Power Plant and was locally designated in 2007 under NRHP Criterion A for its role in the development of the electric car railway system, and NRHP Criterion C for representing a brick warehouse building from the late 19th century.

City of Pasadena Historical Resources Inventory Database (CHRID)

In addition to the CHRIS records search, the City of Pasadena CHRID was used to identify additional properties within a ½-mile search radius of the proposed Project site. The following historic districts were identified within the search radius: Marguerita Lane NRHP Historic District, Magnolia Landmark District, and South Oakland Landmark District. In addition to the historic districts, two local landmark properties were also identified: 1205 South Oakland Avenue and 1365 South Oakland Avenue.

Native American Heritage Commission Sacred Lands File Search

Psomas submitted a request to the NAHC on November 2, 2022, to review the Sacred Lands File database regarding the possibility of Native American cultural resources and/or sacred places in

the Project vicinity that are not documented on other databases. The results from the NAHC were received on November 29, 2022. The result of the Sacred Lands File (SLF) search conducted through the NAHC was positive. The NAHC recommended contacting the Gabrieleno Band of Mission Indians – Kizh Nation for more information. The NAHC also recommended that the lead agency contact tribes that are traditionally and culturally affiliated with the geographic area to comply with both Section 106 of the NRHP of 1966 and Assembly Bill (AB) 52. The City subsequently contacted the tribes listed on the City's AB 52 consultation list. The consultation results are discussed in Section 4.18, Tribal Cultural Resources.

4.5.2 IMPACT ANALYSIS

Impact Discussion

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

Construction and Demolition

Less Than Significant Impact with Mitigation. A significant impact and/or adverse effect could occur if the Project were to disturb historical resources that presently exist within the Project site. Section 15064.5 of the CEQA Guidelines generally defines a historic resource as a resource that is (1) listed in or determined to be eligible for listing in the CRHR; (2) included in a local register of historical resources (pursuant to Section 5020.1(k) of the PRC); or (3) identified as significant in a historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code). Additionally, any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR. The CRHR automatically includes all properties listed in the NRHP and those formally determined to be eligible for listing in the NRHP.

There are four previously recorded resources located within or immediately adjacent to the Project site: Glenarm Power Plant (P-19-188766), Broadway Power Plant (P-19-188767), Pacific Electric Railway Company, Substation No. 2 (P-19-184720), and Arroyo Seco Parkway (P-19-179645). As a result of this study the Broadway Power Plant (P-19-188767) was found not eligible at the local, State, or federal level and is therefore not a historical resource for the purposes of CEQA.

The remaining adjacent properties: Glenarm Power Plant (P-19-188766), Broadway Power Plant (P-19-188767), Pacific Electric Railway Company, Substation No. 2 (P-19-184720), and Arroyo Seco Parkway (P-19-179645) are considered historical resources for purposes of CEQA. Although the Project does not propose any changes or direct impacts to these resources that would impair major character-defining features, the proximity of these resources to the Project is considered a potentially significant impact due to the potential risk of fire and explosion associated with BESS facilities. However, as detailed in Section 4.9, Hazards and Hazardous Materials, to reduce the potential impact from risk of fire to a less than significant level, MM HAZ-1 pertaining to an Emergency Response/Action is proposed. MM HAZ-1 would require an Emergency Response and Emergency Action Plan that addresses installation of fire prevention and detection equipment, procedures for regular inspections of equipment and safety systems, and emergency response procedures. With implementation of MM HAZ-1, the potential impacts would be less than significant.

Implementation of recommended mitigation measure MM CUL-1 would provide an appropriate level of protection for the Glenarm Power Plant, the Arroyo Seco Parkway, and the Pacific Electric Railway Company Substation No. 2. The avoidance and protection plan would prevent all adjacent historical resources from being physically damaged during demolition and construction activities. With implementation of MM CUL-1, impacts to these adjacent historical resources would be less than significant with mitigation.

Operation

No Impact. The proposed Project's operational and maintenance activities do not include any ground-disturbing actions. Impacts on historical resources are therefore not anticipated during operation and maintenance of the proposed Project.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Construction

Less Than Significant with Mitigation. There are no known prehistoric and/or historic-era archaeological resources within approximately ½-mile of the Project site, and no documented archaeological resources have been recorded on the Project site. It is likely that Native American populations travelled through the Project site in prehistoric times. However, the Project site and surrounding area have been developed through significant landscaping and hardscaping. As discussed in Section 4.9, Hazards and Hazardous Materials, surficial deposits mapped at the site include young Holocene alluvial deposits, generally consisting of unconsolidated floodplain deposits of silt, sand, and gravel. The site is currently developed as a crushed gravel lot. During the field investigation for the Soil Management Plan (SMP), the surface was covered by a thin layer of gravel approximately 2 to 4 inches thick. Underlying the gravel was generally a silty sand layer with up to approximately 5 percent coarse gravel. The gravel content typically decreased as sand content increased with depth (Group Delta 2023a). As such, potentially significant archaeological resources buried beneath the site are likely to be heavily disturbed and no longer retain archaeological context. Nevertheless, there is a possibility that intact buried archaeological resources could exist on the Project site, and if present, could be damaged by drilling activities during Project construction, which would represent a significant impact.

To avoid impacts to archaeological resources during demolition and grading activities, MM CUL-2 requires that a qualified Archaeologist (a cross-trained Archaeologist/Paleontologist is acceptable) be retained for on-call services in the event of the discovery of archaeological resources during ground-disturbing activities. Any discovered resources would be evaluated for significance by the Archaeologist and if needed, a mitigation plan would be developed to mitigate impacts to an archaeological resource. With implementation of MM CUL-2, impacts on archaeological resources would be less than significant with mitigation.

Operation

No Impact. The proposed Project's operational and maintenance activities do not include any ground-disturbing actions. Impacts on unique archaeological resources are therefore not anticipated during operation and maintenance of the proposed Project.

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

Construction

Less Than Significant Impact. There are no known human remains within the Project site. In the unlikely event of an unanticipated encounter with human remains, the *California Health and Safety Code* and the *California Public Resources Code* require that any activity in the area of a potential find be halted, and the Los Angeles County Coroner be notified (PRC §5097.98). The Coroner is required to determine whether the remains are of forensic interest. If the Coroner, with the aid of an Archaeologist, determines that the remains are prehistoric, she/he is required to contact the NAHC. The NAHC is responsible for designating the most likely descendant (MLD), who is responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the California Health and Safety Code. The MLD is required to make her/his recommendation within 48 hours of being granted access to the site. The MLD's recommendation is required to be followed if feasible and may include scientific removal and nondestructive analysis of the human remains and any items associated with Native American burials (California Health and Safety Code §7050.5). If the landowner rejects the MLD's recommendations, the landowner is required to rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (PRC §5097.98). Compliance with these regulations would ensure that impacts to human remains would be less than significant, and no mitigation is required.

Operation

No Impact. The proposed Project's operational and maintenance activities do not include any ground-disturbing actions. Impacts on human remains are therefore not anticipated during operation and maintenance of the proposed Project.

4.5.3 MITIGATION MEASURES

MM CUL-1 **Historic Resources.** A project-specific avoidance and protection plan shall be required as part of the proposed Project to prevent the Broadway Power Plant and Pacific Electric Railway Company (PERC) Substation No. 2 from being physically damaged during demolition and construction activities. The protection plan should include, but not be limited to, the establishment of environmentally sensitive areas, physical barriers, worker education training, pre-construction survey, post-construction survey, and monitoring for groundborne vibration (if appropriate). A qualified architectural historian or historic preservation professional meeting the Secretary of the Interior's Professional Qualifications Standards should be retained to prepare the avoidance and protection plan.

MM CUL-2 Prior to commencement of ground-disturbing activities, the City shall retain a qualified Archaeologist (or cross-trained Archaeologist/Paleontologist) for on-call services in the event of a discovery of cultural resources (i.e., archaeological sites) below the ground surface. The Archaeologist shall be present at the pre-construction conference, and shall establish, in cooperation with the Contractor, procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the artifacts. Should archaeological resources be found during ground-disturbing activities for the Project, the Archaeologist shall first determine whether it is a "unique archaeological resource" pursuant to the California Environmental Quality Act (CEQA, i.e., Section 21083.2[g] of the *California Public Resources Code*) or a "historical resource" pursuant to Section 15064.5(a) of the State CEQA Guidelines. If the above-mentioned resources are found during ground-disturbing activities, the Archaeologist shall formulate a report and a mitigation plan in consultation with the City of Pasadena and tribal representatives that satisfies the requirements of the above-referenced sections. The report shall follow guidelines of the California Office of Historic

Preservation, and she/he shall record the site and submit the recordation form to the City of Pasadena and the California Historic Resources Information System (CHRIS) at the South-Central Coastal Information Center (SCCIC) located at the California State University, Fullerton. The disposition of the resources shall be subject to approval by the City. If resources are discovered, work may proceed in other areas of the site, subject to the direction of the Archaeologist.

4.6 ENERGY	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	-	-	X	-
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	-	-	-	X

Energy calculations for the following analysis can be found in Appendix C, Energy Data, of this IS/MND.

4.6.1 EXISTING CONDITIONS

The Project site is a crushed gravel lot with a 140-square-foot concrete pad located in the northwest corner; it is currently vacant and does not contain structures.

4.6.2 IMPACT ANALYSIS

Impact Discussion

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

Construction, Commissioning, and Demolition

Less than Significant Impact.

Construction Energy Use

Project construction would require the use of construction equipment for demolition of an existing slab, excavation for foundations and utilities, installation of BESS infrastructure and paving of the site with asphalt. Construction would also include the vehicles of construction workers and vendors traveling to and from the Project site and on-road haul trucks for the export of demolition materials.

Off-road construction equipment use was calculated from the equipment data (vehicle types, hours per day, horsepower, load factor) provided in the CalEEMod construction output files included in Appendix A of this IS/MND. The total horsepower hours for construction equipment used for the Project was then multiplied by fuel usage rates to obtain the total fuel usage for off-road equipment.

Fuel consumption from construction worker, vendor, and delivery/haul trucks was calculated using the trip rates and distances provided in the CalEEMod construction output files. Total vehicle miles traveled (VMT) was then calculated for each type of construction-related trip and divided by the fuel consumption factor from CARB's EMission FACtors (EMFAC) 2017 model. EMFAC provides the total annual VMT and fuel consumed for each vehicle type. Construction vendor and delivery/haul trucks were assumed to be heavy-duty diesel trucks. As shown in Table 4-9, Energy

Use During Construction, the Project would consume a total of 6,099 gallons of gasoline and 7,243 gallons of diesel fuel during construction.

TABLE 4-9
ENERGY USE DURING CONSTRUCTION

Source	Gasoline Fuel (gallons)	Diesel Fuel - (gallons)
Off-road Construction Equipment	3,879	6,899
Worker commute	1,960	10
Vendors	259	5
On-road haul	0	329
Total	**6,099**	**7,243**

Sources: Psomas 2022 based on data from CalEEMod (Appendix B), Offroad and EMFAC2017 (Appendix F).

Note: Totals may be off due to rounding.

Fuel energy consumed during construction would be temporary in nature and would not represent a significant demand on energy resources. Furthermore, there are no unusual Project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than comparable equipment at construction sites in other parts of the State. Construction contractors would be required to comply with applicable CARB regulations regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other toxic air contaminants. Compliance with these regulations would further reduce fuel consumption and emissions. Therefore, the proposed construction activities would not result in inefficient, wasteful, or unnecessary fuel consumption.

Operation

Less than Significant Impact. The Project would have minimal new energy demands. A limited amount of energy would be required in order to operate various components of the BESS, including the ventilation, thermal management, and security systems. Nevertheless, the Project's energy demands would be negligible and up to 86 percent of the Project's energy consumption can be accommodated by the Project itself, as BESS' have an average round-trip efficiency of 86 percent (NREL 2022)[4]The residual 14 precent can be accommodated through existing supplies. No additional vehicle trips would occur related to monitoring and maintenance of the facility since it is provided by existing workers at the Glenarm Power Plant. Additionally, energy storage supports the use of renewable energy generation such as photovoltaic panels. The BESS provides a minimum storage capacity of four hours which would reduce the need to use additional energy generation during hours of peak electricity demand. The BESS would improve overall energy efficiency by storing excess energy during off-peak hours and releasing it during peak demand periods, thereby reducing the need for additional power generation and associated fuel consumption. For these reasons, construction and operational energy use would not be considered wasteful or inefficient. There would be a less than significant impact related to wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation, and no mitigation is required.

[4] Round trip efficiency describes the ratio between the energy supplied to an energy storage system and the energy obtained from the storage system.

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

Construction, Operation, and Demolition

No Impact. The City's Energy Element of the 1983 General Plan was replaced by the City's Open Space and Conservation Element in 2012 (City of Pasadena 2012). The purpose of the Open Space and Conservation Element is to develop policies that promote the conservation of energy, air, water, and natural resources to enhance the overall quality of life in Pasadena. In terms of energy, the City seeks to improve energy conservation, expand renewable energy production, and promote sustainability. As discussed in the "Existing Utility Conditions and Urban Planning" Section of this Element, the City will increase conservation, efficiency, and sustainability. The Project would support renewable energy generation and is consistent with these goals, as discussed, below.

PWP has developed Power Integrated Resource Plans (IRPs) as Pasadena's long-range blueprints for supplying reliable, cost-effective and environmentally responsible electricity to the City. The latest version of the IRP is the 2023 IRP, which the Pasadena City Council approved on December 11, 2023 (PWP 2023). Building on the analyses and conclusions of the 2018 IRP and the 2021 IRP Update, the 2023 IRP pushes the resource planning horizon to the year 2050 and accounts for new laws, evolving regulations, updated energy market forecasts, and developments in energy generation and storage technologies. The main objectives of the 2023 IRP are:

- Meeting PWP's forecasted peak and energy loads
- Meeting the latest capacity planning standards and reliability criteria in California
- Reaching and surpassing California's latest Renewable Portfolio Standards
- Reducing carbon emissions to zero by the end of 2045 at the latest, and (as a policy goal of Pasadena City Council Resolution 9977) planning multiple approaches to transition to sourcing 100% carbon-free electricity supply to Pasadena by the end of 2030

Accomplishing all of the above while maintaining stable, competitive and affordable retail electricity rates

The 2023 IRP found that PWP needs at least 305 MW of energy storage, and that locating as much of this storage as possible within Pasadena would improve PWP's supply-side reliability and resilience. Among other uses, internal energy storage (of which this Project is an example) would ease pressure on Goodrich Receiving Station (Pasadena's electrical "city gate") and could optimize internal clean energy generation by storing any excess up to the capacity of 25 MW system and then re-delivering it, as needed, to serve PWP's retail load.

In these ways, developing a BESS inside Pasadena would support renewable and zero-carbon energy generation and thereby support the above IRP goals, making the Project consistent with PWP's IRP.

Measure H of the City's Climate Action Plan provides the framework for meeting PWP's Greenhouse Gas (GHG) reduction goals by incorporating renewable energy generation into PWP's resource planning process. Renewable energy generation reduces GHG in particular, and air pollution in general, by providing an alternative to using fossil fuels as a generation source -- especially during periods of peak demand. Development of the Project supports renewable energy generation and, therefore, is consistent with the City's energy goals of increasing conservation, efficiency, and sustainability. Additionally, the Project aligns with California's

broader energy goals, including Senate Bill 100, which requires 100 percent of retail electricity sales to come from renewable and zero-carbon resources by 2045. By facilitating the integration of renewable energy sources and improving grid reliability, the BESS project supports these State-level objectives.

As such, the proposed Project would have no impact related to obstruction of a State or local plan for renewable energy or energy efficiency, and thus no mitigation is required.

4.6.3 MITIGATION MEASURES

There would be no significant impacts pertaining to energy during Project construction, operation, and demolition activities; therefore, no mitigation measures are required.

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

The paleontological analysis is based on the results of a literature review and records search conducted through the Natural History Museum of Los Angeles County (LACM), an online search of localities listed on the Paleobiology Database (paleobiodb.org), and a review of geologic maps and aerials. Dr. Alyssa Bell, of the Paleontological department of the LACM, conducted a records search on December 11, 2022, to explore any previously documented nearby resources within the geologic formations underlying the Project site. The paleontological record search can be found in Appendix D of this IS/MND.

4.7.1 EXISTING CONDITIONS

The Project site is not located within an identified potential fault rupture zone. The closest mapped fault zone, the Raymond (Hill) Fault, is approximately ½-mile south of the Project site. Nonetheless, the Project site is located in a seismically active area that would be subject to ground shaking, similar to most of Southern California. PWP is required to submit a soils report to the Building Division for review and approval and must also submit Project plans for review and

approval, showing compliance with seismic engineering standards and requirements, including a grading plan prior to beginning of construction.

Liquefaction generally occurs in saturated, loose to medium dense, granular soils and in saturated, soft to moderately firm silts when spaces between individual particles are completely filled with water following strong seismic shaking. Due to the low groundwater level and generally dense to very dense, Pleistocene age granular deposits encountered below the Project site, the potential for soil liquefaction at the site is considered to be very low.

The Project site is relatively flat, does not contain slopes, and is not within a Landslide Hazard Zone.

4.7.2 IMPACT ANALYSIS

Impact Discussion

a) Would the directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

ii) Strong seismic ground shaking?

Construction, Operation and Demolition

No Impact. The Project site is not located within an identified potential fault rupture zone. The closest mapped fault zone is the Raymond (Hill) fault, which is approximately 0.5-mile south of the Project site. Consistent with its location in a seismically active region, the site may be subject to strong ground shaking resulting from a major earthquake on one or more faults in the area within the lifetime of the Project. Seismic ground shaking from major earthquakes in the region is not anticipated to be greater than at any other sites in Southern California. The potential for strong ground shaking is an existing seismic hazard that affects the site, and the Project would not exacerbate this condition. Also, the Project would not involve construction of habitable structures or structures whose height, mass, or materials would pose a hazard in the event of an earthquake. In addition, the Project would be designed in compliance with applicable building code regulations. Grading, excavation, and construction is required to comply with the City's Building Code (Title 14 of the PMC, which incorporates the California Building Code), as they relate to site preparation and construction; alteration; moving; demolition; repair; use and occupancy of buildings; structures and building service equipment within the City. There would be no impacts due to exposure to substantial adverse effects from seismic ground shaking, and no mitigation is required.

a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

iii) Seismic-related ground failure, including liquefaction?

iv) Landslides?

Construction, Operation and Demolition

Less Than Significant Impact. According to the Seismic Hazard Zones Map for the Pasadena Quadrangle prepared by the California Geological Survey (CGS), the Project site is not within a zone identified as susceptible to liquefaction or landslides (CGS 2021). Additionally, the Project does not include any habitable structures or structures whose height, mass, or materials would pose a hazard in the event of an earthquake. The Project would be designed in compliance with applicable building code regulations (Title 14 of the PMC, which incorporates the California Building Code, as described above), which would ensure that the structural integrity of the proposed Project can withstand seismic-related hazards, including liquefaction and landslides. Through compliance with applicable regulations, impacts related to seismic hazards would be less than significant, and no mitigation is required.

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

Construction and Demolition

Less than Significant Impact. The largest source of erosion and topsoil loss, particularly in a developed environment, is uncontrolled drainage during construction. Since the Project site would have less than one acre of ground disturbance, compliance with the State Water Resources Control Board's (SWRCB's) National Pollutant Discharge Elimination System (NPDES) Construction General Permit[5] would not be required. Site preparation activities would disturb the on-site soil during construction; however, compliance with the applicable local regulations regarding dust control and erosion would ensure that impacts regarding soil erosion or the loss of topsoil are less than significant.

Implementation of the Project would result in a slight increase in impervious surface area associated with the new BESS. The proposed units would be containerized; however, the containers are standalone and not within a building or structure. Therefore, operation of the Project would not increase erosion of superficial soils. There would be a less than significant impact related to soil erosion and loss of topsoil, and no mitigation is required.

Operation

Less than Significant. No ground disturbing activities would occur during Project operation, therefore, soil erosion from Project operation and maintenance activities would be less than significant.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

[5] Order No. 2009-0009-DWQ, NPDES No. CAS000002, adopted by the SWRCB on September 2, 2009 (effective for all project sites on July 1, 2010) and most recently amended by Order No. 2012-0006-DWQ on July 17, 2012.

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

Construction, Operation and Demolition

Less than Significant Impact. Liquefaction and landslides are addressed under Thresholds 4.7(a)(iii) and 4.7 (a)(iv) above and there would be a less than significant impact associated with these conditions.

Lateral spreading is a liquefaction-related phenomenon defined as the horizontal movement of ground towards the free-face or downslope of the liquefaction of shallow underlying soil deposits. Liquefaction primarily occurs as a result of earthquake shaking of loose sands and soils; therefore, the above analysis in Threshold 4.7(a)(iii) would also apply to lateral spreading. Subsidence can be defined as a gradual settling or sudden sinking of the Earth's surface due to subsurface movement of earth materials, typically caused by oil or fluid withdrawal. The U.S. Geological Survey (USGS) Areas of Land Subsidence in California map illustrates that the City of Pasadena, including the Project site, is not located within an area identified as having recorded historical or current subsidence (USGS 2024). Therefore, less than significant impacts would be associated with Threshold 4.7(c). Expansive soils are soils that swell when they absorb water and shrink as they dry, such as pure clay soils and claystone. The hazard associated with expansive soils is that they can overstress and cause damage to the foundation of buildings set on top of them. The Project does not include any habitable structures or structures whose height, mass, or materials would pose a hazard in the presence of unstable geologic materials, it and would be constructed in compliance with applicable building code requirements (Title 14 of the PMC, which incorporates the California Building Code). Therefore, there would be a less than significant impact related to the potential presence of unstable geologic units, and no mitigation is required.

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

Construction, Operation, and Demolition

No Impact. There are no proposed sanitary facilities associated with the Project. Therefore, no impacts related to the use of septic tanks or alternative wastewater disposal systems would occur with the Project, and no mitigation is required.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Construction and Demolition

Less than Significant with Mitigation. As stated above, this paleontological analysis is based on the results of a literature review and records search conducted through the LACM, an online search of localities listed on the Paleobiology Database (paleobiodb.org), and a review of geologic maps and aerials. The records search did not identify any previously recorded paleontological resources within the Project site. However, there are documented fossil localities near the Project site from the same sedimentary deposits including the La Habra Formation (Pleistocene; sandy silt shot through with caliche) (lacustrine silt with caliche and plant detritus), Alluvium (Pleistocene), and Terrace deposits (Pleistocene) that occur in the proposed Project site, either at the surface or at depth. Examples of fossils that have been recovered from the area include bison (*Bison*), camel (*Camelops*), horse (*Equus*), mammoth (*Mammuthus*), mastodon (*Mamut*),

elephant clade (*Proboscidea*), dire wolf (*Canis dirus*), coyote (*C. latrans*), deer (*Odocoileus*), dwarf pronghorn (*Capromeryx*), sheep *(Ovis*), unidentified artiodactyl; sea duck (*Chendytes*).

The BESS containers would likely be supported on steel pilings that are either hammered or screwed into the ground. However, the BESS containers could also be supported with concrete foundations. This would be determined by the engineering and soil conditions at the site. It is anticipated that soil excavations of up to 5-foot deep would occur in a variety of locations at the site. Additionally, steel pilings would be installed at a depth of 20 or 30 feet. In light of this, to avoid significant impacts to paleontological resources, MM GEO-1 requires that a qualified Paleontologist be retained for on-call services in the event of the discovery of paleontologically sensitive rock formations (i.e., bedrock) during ground disturbing activities. Any discovered resources would be evaluated for significance by the monitor, and appropriate exploration, salvage, and curation of significant paleontological resources, if necessary, would also be conducted, and a mitigation plan would be developed. Impacts on paleontological resources would be less than significant with implementation of MM GEO-1.

Operation

No Impact. No ground disturbance is anticipated during Project operation, therefore there would be no impacts to paleontological resources or unique geological features.

4.7.3 MITIGATION MEASURES

MM GEO-1 Prior to commencement of ground-disturbing activities, the City of Pasadena (City) shall retain a qualified Paleontologist for on-call services in the event of a discovery of paleontological resources below the ground surface. The Paleontologist shall be present at the pre-construction conference; and shall establish, in cooperation with the Contractor, procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the paleontological resources. Should these resources be found during ground-disturbing activities for the Project, the Paleontologist shall first determine whether it is a “unique paleontological resource” pursuant to the California Environmental Quality Act (CEQA, i.e., Section 21083.2[g] of the California Public Resources Code), or a significant paleontologically sensitive rock formation. If the above-mentioned resources are found during ground-disturbing activities, the Paleontologist shall formulate a report and a mitigation plan in consultation with the City that satisfies the requirements of the above-referenced sections. The disposition of the resources shall be subject to approval by the City. If resources are discovered, work may proceed in other areas of the site, subject to the direction of the Paleontologist.

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

4.8.1 EXISTING CONDITIONS

Climate change refers to any significant change in temperature, precipitation, or wind patterns over a period of time. Climate change may result from natural factors, natural processes, and human activities that change the composition of the atmosphere and alter the surface and features of the land. Significant changes in global climate patterns have recently been associated with global warming, which is an average increase in the temperature of the atmosphere near the Earth's surface; this is attributed to an accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere which, in turn, increases the Earth's surface temperature. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through fossil fuel combustion in conjunction with other human activities are closely associated with global warming.

GHGs, as defined under California's AB 32, include CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). General discussions on climate change often include water vapor, ozone, and aerosols in the GHG category. Water vapor and atmospheric ozone are not gases that are formed directly in the construction or operation of development projects, nor can they be controlled in these projects. Aerosols are not gases. While these elements have a role in climate change, they are not considered by regulatory bodies, such as CARB, or climate change groups, such as the Climate Registry, as gases to be reported or analyzed for control. Therefore, no further discussion of water vapor, ozone, or aerosols is provided.

GHGs vary widely in the power of their climatic effects; therefore, climate scientists have established a unit called Global Warming Potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO_2. For example, since CH_4 and N_2O are approximately 28 and 265 times more powerful than CO_2, respectively, in their ability to trap heat in the atmosphere, they have GWPs of 28 and 265, respectively (CO_2 has a GWP of 1). Carbon dioxide equivalent (CO_2e) is a quantity that enables all GHG emissions to be considered as a group despite their varying GWPs. The GWP of each GHG is multiplied by the prevalence of that gas to produce CO_2e. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 4-10, Global Warming Potentials and Atmospheric Lifetimes.

TABLE 4-10
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES

Greenhouse Gas (ppt)	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO_2)	50.0–200.0	1
Methane (CH_4) (ppb)	12.4	28
Nitrous Oxide (N_2O) (ppb)	121.0	265
HFC-134a	13.4	1,300
PFC-14 Tetrafluoromethane (CF_4)	50,000.0	6,630
PFC-116 Hexafluoroethane (C_2F_6)	10,000.0	11,100
Sulfur Hexafluoride (SF_6)	3,200.0	23,500

HFC: hydrofluorocarbons; PFC: perfluorocarbons; ppt: parts per trillion; ppb: parts per billion
Source: IPCC 2013.

State of California Regulations and Legislation

Assembly Bill 32 – the California Global Warming Solutions Act of 2006 (AB 32) recognizes that California is the source of substantial amounts of GHG emissions. The statute states that:

> Global warming poses a serious threat to the economic wellbeing, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

To avert these consequences, AB 32 establishes a State goal of reducing GHG emissions to 1990 levels by the year 2020, which is a reduction of approximately 16 percent from forecasted emission levels, with further reductions to follow (CARB 2011). Executive Order B-30-15 establishes an interim GHG reduction goal of 40 percent less than 1990 levels by the year 2030. Executive Order S-3-05 establishes a GHG reduction goal of 80 percent less than 1990 levels by the year 2050.

California Executive Order B-30-15 (April 29, 2015) sets an “interim” statewide emission target to reduce GHG emissions to 40 percent below 1990 levels by 2030 and directed State agencies with jurisdiction over GHG emissions to implement measures pursuant to statutory authority to achieve this 2030 target and the 2050 target of 80 percent below 1990 levels.

On September 8, 2016, Governor Edmund G. “Jerry” Brown signed Senate Bill (SB) 32 to codify the GHG reduction goals of EO B-30-15, requiring the State to reduce GHG emissions by 40 percent below 1990 levels by 2030 (Health and Safety Code Section 38566). This goal is expected to keep the State on track to meeting the goal set by EO S-3-05 of reducing GHG emissions by 80 percent below 1990 levels by 2050. SB 32’s findings state that CARB will “achieve the state’s more stringent greenhouse gas emission reductions in a manner that benefits the state’s most disadvantaged communities and is transparent and accountable to the public and the Legislature.”

Established in 2002 under SB 1078, accelerated in 2006 under SB 107, and again in 2011 under SBX1-2, California’s RPS requires retail sellers of electric services to increase procurement from

eligible renewable energy resources to 33 percent of total retail sales by 2020. Initially, the Renewable Portfolio Standard provisions applied to investor-owned utilities, community choice aggregators, and electric service providers. SBX1-2 added, for the first time, publicly owned utilities to the entities subject to RPS. SB 350 increased the renewable energy generation requirement from 33 percent to 50 percent while SB 100 requires renewable energy and zero-carbon resources to supply 100 percent of electric retail sales to end-use customers and 100 percent of electricity procured to serve state agencies by December 31, 2045. This policy requires the transition to zero-carbon electric systems that do not cause contributions to increase GHG emissions elsewhere in the western electricity grid.

Local

The City of Pasadena has prepared and adopted a CAP (City of Pasadena 2018). The City's CAP includes the following components: a summary of existing State and local initiatives addressing climate change; community wide GHG inventory and emissions forecasts; GHG reduction goals, measures, and actions; plans of implementation and monitoring of the plan; and adaptation strategies and climate change preparedness. The CAP builds upon the City's existing sustainability efforts, such as the Green City Action Plan and provides a framework to further reduce GHG emissions throughout the City (City of Pasadena 2018). It is accepted as very unlikely that any individual project such as the size and character of the proposed Project would have GHG emissions of a magnitude to directly impact global climate change; therefore, any impact would be considered on a cumulative basis. As part of the City's CAP, a Consistency Checklist was adopted to assess climate change impacts from new community development projects, such as commercial or residential uses, to demonstrate consistency with the CAP. However, because the Project would develop electrical infrastructure, it is not considered to be subject to the City's CAP Consistency Checklist. Therefore, the analysis of the Project's impacts is based on consistency with applicable GHG reduction plans, regulations, and programs, as discussed below.

4.8.2 IMPACT ANALYSIS

Impact Discussion

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

Less than Significant Impact.

Construction and Demolition

Construction GHG emissions are generated by vehicle engine exhaust from construction equipment, on-road hauling trucks, vendor trips, and worker commuting trips. Construction GHG emissions were calculated by using CalEEMod version 2022.1.1.4 (CAPCOA 2023). The model and construction assumptions are described in Section 4.3, Air Quality, and are included in Appendix A. The results are output in metric tons of carbon dioxide equivalent ($MTCO_2e$) for each year of construction.

GHG emissions generated from construction activities are finite and occur for a relatively short-term period. Unlike the numerous opportunities available to reduce a project's long-term GHG emissions through design features, operational restrictions, use of green-building materials, or other methods, GHG-reduction measures for construction equipment are relatively limited. Therefore, SCAQMD staff recommends that construction emissions be amortized over a 30-year project lifetime so that GHG-reduction measures will address construction GHG emissions as part

of the operational GHG-reduction strategies (SCAQMD 2008). Additionally, per the City's CAP, the City also recommends amortization of construction emissions over 30 years. As shown in Table 4-11, GHG Emissions from Project Implementation, the 30-year amortized construction emissions of the Project would be 10 $MTCO_2e$/yr.

TABLE 4-11
GHG EMISSIONS FROM PROJECT IMPLEMENTATION

Year	Emissions ($MTCO_2e$)
2024	139
2025	146
Total Construction Emissions	**285**
Amortized Emissions[1]	10
Operational Emissions	2
Total Annual Emissions[2]	**12**

$MTCO_2e$: metric tons of carbon dioxide equivalent

[1] Combined total amortized over 30 years.
[2] Combined amortized emissions with operational emissions.

Source: Appendix A, Air Quality and Greenhouse Gas Emissions Modeling Data.

Operation

Less Than Significant Impact. Operational GHG emissions for the proposed Project would be minimal since there would not be additional vehicle trips associated with the monitoring and maintenance of the proposed facility. The Project is electrical infrastructure so there would be minimal energy needs for the facility itself. Reductions in GHG emissions would occur relative to the existing conditions by facilitating reduced power production by natural gas-fired units operating in the baseline. Analysis completed by PWP for the Project indicates that peak power production from natural gas-fired units would be offset by operating the proposed BESS. The BESS system would directly offset demand for natural gas during peak times, resulting in a net GHG emissions reduction of 25,641 MTCO2e per year (512,820 MTCO2e over the system's 20-year lifetime).

Emissions associated with the Project would be below the SCAQMD's adopted significance threshold of 10,000 $MTCO_2e$/yr for industrial uses. As such, the Project would not exceed the SCAQMD's significance threshold and would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Therefore, there would be a less than significant impact, and no mitigation is required.

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

Construction, Operation, and Demolition/Decommissioning

Less than Significant Impact. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020, and the goal of SB 32 is the 40 percent reduction in 1990 levels by 2030. Plans and regulations (e.g., GHG emissions standards for vehicles and the Low Carbon Fuel Standard) are being implemented at the Statewide level and are aimed at reducing GHG emissions from major sources. The City's CAP incorporates the emissions reductions associated with PWP's IRP, which provides the framework for meeting the GHG reduction goals by incorporating renewable energy generation. Renewable energy generation reduces GHG emissions by providing an alternative to using fossil fuels as a fuel source. The battery supply

would provide energy storage for the renewable energy generated such as from photovoltaic panels. The BESS provides a minimum storage capacity of four hours, which would reduce the need to use additional energy generation during hours of peak electricity demand. This would support the first of five GHG reduction strategies identified in the City's CAP, identified below:

- Minimize energy consumption, create high performance buildings, and transition to carbon neutral sources by enhancing energy performance requirements for new construction and energy efficiency retrofits for existing buildings, increasing use of carbon-neutral and renewable energy, and improving community energy management.

Additionally, these elements would support Measure E-4, Residential and Commercial Carbon-Neutral Energy, of the City of Pasadena CAP, identified below:

- Measure E-4: 100% Renewable Retail Rate Option: Encourage use of renewable energy by providing customers a 100% renewable supply retail rate option and promoting through outreach. The 100% renewable retail rate option could be used as a substitute to on-site, carbon-neutral requirement.

Because the Project supports renewable energy generation, it would support implementation of the City's CAP and PWP's IRP strategy and would help the City in meeting its GHG reduction targets. Therefore, implementation of the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. There would be a less than significant impact, and no mitigation is required.

4.8.3 MITIGATION MEASURES

There would be no significant impacts related to GHG emissions during Project construction, operation, and demolition activities; therefore, no mitigation measures are required.

4.9 HAZARDS AND HAZARDOUS MATERIALS	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	-	X	-	-
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	-	X	-	-
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter-mile of an existing or proposed school?	-	X	-	-
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	-	X	-	-
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	-	-	-	X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	-	-	X	-
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	-	-	-	X

Information in this section is based primarily on the following sources, which are included as Appendices E-1 to E-5:

- Supplemental Subsurface Investigation Report, Former Glenarm Power Plant Tank Farm Demolition, 72 East Glenarm Street, Parcel B, Pasadena, California, dated September 2008 and prepared by Pacific Environmental Company
- Environmental Data Resources (EDR) Radius Map™ Report with Geocheck® for the Glenarm BESS Project, dated October 2022 and prepared by Environmental Data Resources, Inc.
- Phase I Environmental Site Assessment (ESA), dated December 2022 and prepared by Group Delta Consultants, Inc.
- Phase II ESA, dated November 2023 and prepared by Group Delta Consultants
- Soil Management Plan (SMP), dated November 2023 and prepared by Group Delta, Consultants, Inc.

4.9.1 EXISTING CONDITIONS

The Project site is a level graded lot at an approximate elevation of 747 feet above mean sea level (msl). The site is currently vacant with no structures. A concrete pad is located on the northeast corner of the lot and the rest of the lot is covered with crushed gravel. A chain link fence is installed at the perimeter of the property.

The Project site is located east of the intersection of Fair Oaks Avenue and East Glenarm Street in Pasadena. The site is in an urban environment with residential, commercial, and light industrial uses nearby. In addition, Blair High School and Middle School are located east of the site within 0.25 mile of the site.

The existing power plant consists of two groups of generating facilities bisected by the Metro Gold Line tracks: the Glenarm site to the west of the Gold Line and the Broadway site to the east. The Metro Gold Line Light Rail currently operates weekday service as often as every five minutes in both directions and trains may operate, in and out of revenue service, 24 hours a day, seven days a week, adjacent to the proposed Project site.

The Glenarm Plant is approximately 6.52 acres and is developed with the Glenarm Steam Plant Building and Electric Fountain and Pacific Electric Railway Company Substation No. 2. The power plant operates 24 hours per day to produce electricity for customers using the five gas turbines. The gas turbines are each equipped with a selective catalytic reduction (SCR) system to reduce nitrogen oxide (NOx) emissions by injecting aqueous ammonia into the flue gas. The power plant has been using aqueous ammonia safely since it was first used on-site in 1994. Since that time, there have been no reportable releases of aqueous ammonia.

Site Geology

The Project site is located within the Peninsular Ranges geomorphic province which is characterized by a series of ranges separated by northwest trending valleys, subparallel to faults branching from the San Andreas Fault. The trend of topography is similar to the Coast Ranges, but the geology is more like the Sierra Nevada, with granitic rock intruding the older metamorphic rocks. The Peninsular Ranges extend into lower California and are bound on the east by the Colorado Desert. The Los Angeles Basin and the island group (Santa Catalina, Santa Barbara, and the distinctly terraced San Clemente and San Nicolas Islands), together with the surrounding continental shelf (cut by deep submarine fault troughs), are included in this province.

A Regional Geologic Map of the area shows the surficial deposits mapped at the site as young Holocene alluvial deposits, generally consisting of unconsolidated floodplain deposits of silt, sand, and gravel. During the field investigation, the surface was covered by a thin layer of gravel approximately 2 to 4 inches thick, where present. Underlying the gravel was generally a silty sand with up to approximately 5 percent coarse gravel. The gravel content typically decreased as sand content increased with depth (Group Delta 2023a).

Site Hydrology

The Project site lies within the Raymond Groundwater Basin. The Raymond Basin and the San Gabriel Basin, to the southeast, have been extensively utilized for groundwater resources. Water wells drilled in both basins have produced good aquifer data for groundwater depth and flow direction. The Raymond Fault to the south forms a very effective groundwater barrier, causing groundwater to cascade over the fault and fall approximately 200 feet. The reported highest groundwater depth at the site proximity was approximately 50 feet below ground surface (bgs). Perched groundwater was not encountered to the depth explored at the site (60 feet bgs). Depths

of groundwater to the north of the site, north of the San Rafael Fault, were much deeper (approximately 136 feet).

The Arroyo Seco is located approximately 0.92 mile west of the site. According to the USGS 1994 topographic map of the site and vicinity and the nearby closed Leaking Underground Storage Tank (LUST) case (125 East California Boulevard), groundwater is anticipated to flow to the southeast and is expected to be encountered at approximately 145 feet below ground surface (Group Delta 2022). The Project site is not located within a Very High Fire Hazard Severity Zone (VHFHSZ) at the local, State, or federal designation (CALFIRE 2011).

Groundwater

No groundwater was encountered during Phase II ESA to a maximum depth of 5 feet bgs. According to a review of the SWRCB Geotracker website, a former Arco gas station located approximately 0.5 mile north of the site, had an open environmental case with the RWQCB that closed in December 2004. Based on the latest groundwater monitoring report for this case, dated January 15, 2005, depth to water ranged from 146 to 147 feet bgs and is anticipated to flow to the southeast.

4.9.2 IMPACT ANALYSIS

Impact Discussion

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

Construction and Demolition/Decommissioning

Less than Significant Impact. During construction, the contents of the lithium-ion battery would be transported to the site on trucks that meet the U.S. Department of Transportation (DOT) safety regulations, including but not limited to *Hazardous Materials Regulations* and the *Lithium Battery Guide for Shippers* (Updated October 2024) – a compliance resource prepared to assist a shipper to safely package lithium cells and batteries for transport by all modes according to the latest regulatory requirements. This publication directs readers to scenario-based shipping guides that outline the requirements to ship packages of lithium cells and batteries in various configurations. Each distinct shipping guide refers to the regulatory requirements for a specific lithium cell/battery type, configuration, or size.

As discussed previously, there are no adjacent residential sensitive receptors to the Project site. The nearest sensitive receptors include Blair High School and Middle School located approximately 455 feet to the east of the Project site, medical uses located approximately 475 feet west of the Project site, and residential uses located approximately 600 feet west of the Project site. Other land uses proximate to the Project site include the Metro Gold Line tracks, retail, office, and utility uses. Additionally, the City met with representatives of the Los Angeles County Metropolitan Transit Authority (MTA) and they provided guidelines for approval of the Project, including review of the final design and construction documents for the BESS.

Aside from the contents of the lithium-ion battery, only a minimal amount of hazardous material (i.e., petroleum products) would be used during construction/demolition. No solvents would be used/stored on the site. All construction vehicles used for transport, grading, and trenching would be re-fueled off-site; no on-site fuel depot would be used. Additionally, no chemical weed control would be used on the site. Only water or approved dust suppressants (e.g., calcium, magnesium

and sodium chloride dry salts or brines) would be utilized during construction activities. Therefore, impacts would be less than significant.

Operation

Less than Significant with Mitigation. As noted in Section 2.0, there are a number of regulatory requirements and guidelines in place that ensure lithium-ion BESS and their installations are safe, efficient, and reliable. However, BESS can also pose risks that need to be carefully managed, including thermal runaway, fire and explosion, and toxic gas release. Thermal runaway is considered a severe risk associated with lithium-ion batteries. This process occurs when a battery cell overheats and triggers a chain reaction, leading to the release of flammable and toxic gases, causing fires and/or explosions. This can occur due to defects in a battery cell, exposure to heat from external sources, being overcharged, or a malfunction of the battery management system. To reduce the potential impact from risk of fire to a less than significant level, MM HAZ-1 pertaining to an Emergency Response/Action is proposed. MM HAZ-1 would require an Emergency Response and Emergency Action Plan that addresses installation of fire prevention and detection equipment, procedures for regular inspections of equipment and safety systems, and emergency response procedures. With implementation of MM HAZ-1, the potential impacts would be less than significant.

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

Construction and Demolition/Decommissioning

Less than Significant with Mitigation.

Current Use of the Site

As stated above, the Project site is currently a vacant lot with no structures. A concrete pad is located on the northeast corner of the lot and the rest of the lot is covered with crushed gravel. A chain link fence borders the perimeter of the site.

Current Uses of Adjacent Properties

As depicted on Exhibit 2, Aerial Photograph, the surrounding area is generally urban and characterized by a diverse mix of industrial, commercial, office, residential, educational, and community uses. Directly to the north of the Project site at the intersection of South Raymond Avenue and Glenarm Street is PWP's dispatch and distribution station. Other uses on Glenarm Street include machinery repair, a car rental facility, surface parking lots, and a five-story office building occupied by Art Center College of Design at the corner of Glenarm Street and the Arroyo Seco Parkway. Additional buildings on South Raymond Avenue are also developed with facilities associated with Art Center College of Design's South Campus. Land uses south of the Project site include the Metro Gold Line tracks, a SCE facility, and multi-family residential uses on Raymond Hill, all located within the City of South Pasadena. To the east, beyond the Arroyo Seco Parkway, is Pasadena Unified School District's Blair High School and Middle School and Allendale Elementary School, the Pasadena Public Library (Allendale Branch), and Allendale Park. To the west is South Fair Oaks Avenue, which is characterized by a mix of commercial, office, and industrial uses, transitioning to single-family homes to the northwest and southwest. Nearby historical resources include Glenarm Power Plant (P-19-188766), Broadway Power Plant (P-19-188767), Pacific Electric Railway Company, Substation No. 2 (P-19-184720), and Arroyo Seco Parkway (P-19-179645).

Summary of Previous Environmental Reports

Supplemental Subsurface Investigations

In September 2008, Pacific Environmental Company (Pacific) conducted a Supplemental Subsurface Investigation (SI) to assess the subsurface soil gas and soil conditions following removal of the three former aboveground storage tanks (ASTs). The two northern-most ASTs had capacities of 20,000 barrels (bbl), equivalent to 840,000 gallons, each, while the southern AST had a capacity of 22,000 bbl (Pacific 2008).

The SI examined the presence of VOCs, metals, and petroleum hydrocarbons. Pacific collected soil gas samples from 13 sample locations and soil samples from 21 soil boring locations. Total petroleum hydrocarbon (TPH) diesel range organics (DRO) exceeded the Los Angeles RWQCB SSLs of 1,000 mg/kg) in 11 soil samples to a depth of 40 feet bgs in the southeastern corner of the site. The DRO concentrations exceeding the RWQCB SSL ranged from 1,750 mg/kg to 11,300 mg/kg.

Sixteen soil samples were analyzed for metals in 10 borings (B1 through B9, and B11). Lead concentrations ranged from 5.0 to 71.3 mg/kg, except for sample B9-3, which reported a concentration of lead (840 mg/kg) at 3 feet bgs. This concentration exceeds all current commercial/industrial screening levels used by the USEPA Regional Screening Level (RSL) of 800 mg/kg, the Department of Toxic Substances Control (DTSC) Screening Level (SL) of 500 mg/kg, and the RWQCB Environmental Screening Level (ESL) of 320 mg/kg. Solubility testing for waste characterization and disposal purposes was not conducted.

On December 9, 2008, the Pasadena Fire Department (PFD) issued a no further action (NFA) letter for the AST removal following completion of the SI (PFD 2008). The NFA letter stated the current conditions were not in compliance with the NFA letter, including covering the site with an impervious surface. However, the NFA did grant conditional closure to the former three petroleum ASTs with the following terms:

- The site needs to be covered and maintained with an impervious cover to preclude infiltration of water or other materials that could facilitate migration of the remaining contamination on site.
- Any project proposals for the site should be evaluated to ensure that the specific project will not impact the health of workers at the site, off-site members of the community, water quality, or have other environmental impacts.
- Plans for the impervious cover and future redevelopment shall be submitted to the PFD for review and reconsideration prior to applying for building or grading permits.

Phase I Environmental Site Assessment

A Phase I ESA was performed for the site in accordance with ASTM Practice E1527-21 (Group Delta 2022). The Phase I ESA identified the following Recognized Environmental Conditions (RECs) associated with the property:

- The documented TPH, VOC, and metals contamination from historical power plant site uses, including the former three petroleum ASTs on site from 1977 to 2008, represents a REC to the site.

- The historical power plant operations, including the use of aboveground and below grade petroleum storage, at the adjoining properties to the south and west for approximately 112 years (1910 to 2022) represents a REC to the site.
- The historical oil company operations, including the use of aboveground and below grade petroleum storage, at the adjacent property to the east for approximately 33 years (1931 to 1964) represents a REC to the site.

Phase II Environmental Site Assessment

The objective of the Phase II ESA was to evaluate soil conditions within the proposed Project footprint for soil disturbing activities based on the current conceptual Project design. Ten soil borings were advanced for the collection of 20 soil samples to assess concentrations of Title 22 metals, TPHs, and VOCs in accordance with the Phase II ESA Work Plan (Group Delta 2023b). One soil sample was collected at 1.0-foot bgs and the second sample was collected at either 3, 4, or 5 feet bgs in each boring.

The results indicated that concentrations of TPH and lead were below the respective soil screening levels for industrial land use (i.e., USEPA RSLs, DTSC SLs, and San Francisco Bay RWQCB ESLs). In addition, the only constituent that exceeded its respective soil hazardous waste criteria levels was lead, which exceeds the Soluble Threshold Limit Concentration (STLC) California Waste Extraction Test (CA-WET) concentration of 5 mg/L in 3 samples.

Based upon the distribution of lead throughout the site, exceedances of hazardous waste criteria in some areas, and the lack of an apparent point source, a statistical analysis was performed on lead concentrations to evaluate alternative methodologies of soil management that remain protective of human health but avoid significant off-site disposal of material. The 95 percent upper confidence limit (UCL) analysis conducted for the site utilized laboratory provided data to calculate a 95 percent UCL for total lead and estimated the 95 percent UCL for the CA-WET data through data correlation using the best fit line.

UCL calculations were performed using the soil sampling results collected by Pacific and Group Delta in 2008 and 2023, respectively. The results determined that soil excavated from above 6 feet bgs can be statistically classified as non-hazardous waste and reused on-site, following removal of the outlier soil sample collected by Pacific (Sample B9-3 with a concentrations of 840 mg/kg).

TABLE 4-12
95 PERCENT UPPER CONFIDENCE LIMIT RESULTS FOR LEAD

Evaluated Depth (feet)	Total Lead Mean (mg/kg)	Total Lead UCL* (mg/kg)	CA-WET UCL (mg/L)	Waste Class	UCL Adjusted
Individual Depth Intervals					
1.0-3.0	39.29	66.6	3.94	Non-Hazardous Residential	95% Adjusted Gamma UCL
4.0-6.0	33.15	58.47	3.46	Non-Hazardous Residential	95% Adjusted Gamma UCL
Combined Depth Intervals					
1.0-6.0	36.58	61.08	3.62	Non-Hazardous Residential	95% H-UCL
CA Non-RCRA Hazardous Waste Threshold					
-	1,000	1,000	5	-	-

Group Delta 2023a.

Group Delta concluded that it is safe to redevelop the site based on industrial screening criteria, as long as appropriate risk management actions, outlined in a SMP, are implemented during site development. At a minimum, engineering and administrative controls should be implemented to protect construction workers if pockets of lead-impacted soils are located within their work area. Precautions could include, but are not limited to, preparation of a Health and Safety Plan (HASP) and/or additional targeted soil sampling ahead of construction activities or future earthwork activities following Project completion. In addition, it is recommended that known or discovered soils containing lead at concentrations higher than 500 mg/kg be segregated and off hauled from the site to an appropriate landfill.

Soil Management Plan

The purpose of the SMP is to provide guidance to the earthwork construction contractor for the proper handling and management of petroleum and lead contaminated soil identified at specified areas of the site during construction. The SMP will describe the proper protocol for each of the following activities:

- Monitoring and handling of excavated soils;
- Temporary storage and segregation of contaminated soils;
- Best Management Practices (BMPs);
- Soil profiling including required laboratory analyses and manifesting, and;
- Loading and transport of export soil to appropriate disposal facilities.

To avoid hazardous exposure to lead-impacted soils, MM HAZ-2 requires that construction activities adhere to the SMP's specifications for proper handling and management of contaminated soil. Implementation of MM HAZ-2 will ensure that impacts from hazardous materials remain less than significant.

Operation

PWP plans to lease the site to a third-party company, who would install a BESS at the site. Plans for the BESS development should be designed and approved under PFD oversight. In order to reduce the potential impact from risk of fire, the project would implement MM HAZ-1 pertaining to the development of an Emergency Response and Emergency Action Plan. Additionally, implementation of MM HAZ-2 provides guidance for proper handling and management of petroleum and lead contaminated soil identified at specific areas of the site during construction in conformance with the recommendations contained in the proposed Project's SMP. With implementation of MMs HAZ-1 and HAZ-2, the proposed Project would have less than significant impacts related to the release of hazardous materials into the environment.

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

Construction, Operation, Demolition/Decommissioning

Less than Significant with Mitigation. There are two schools or similar facilities located within approximately 0.25-mile of the Project site:

- Blair High School and Middle School, located at 1200 and 1201 South Marengo Avenue, Pasadena, approximately 0.25 mile east of the Project site.
- Art Center College of Design, located at 950 South Raymond Avenue, Pasadena, approximately 0.2 mile north of the Project site.

As discussed under Thresholds 4.9(a) and (b), the transport and use of hazardous materials, including lithium-ion batteries, during Project construction and demolition/decommissioning activities would be conducted in accordance with all applicable local, State, and federal laws and maintenance of the Project would not involve the handling of hazardous materials/wastes. Additionally, to reduce the potential impact from risk of fire, MM HAZ-1 pertaining to an Emergency Response/Action is proposed. MM HAZ-1 would require an Emergency Response and Emergency Action Plan that requires installation of fire prevention and detection equipment and discusses procedures for regular inspections of equipment and safety systems, and emergency response procedures. With implementation of MM HAZ-1, the potential impacts would be less than significant.

As discussed in Section 4.3, Air Quality, construction and maintenance of the Project, including associated truck trips, would not generate hazardous emissions and would not expose any nearby sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant, and no mitigation is required.

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

Construction and Demolition/Decommissioning

Less than Significant With Mitigation. An EDR Radius Map™ with Geocheck® Report was prepared for the Project by Environmental Data Resources, Inc. (EDR 2022). Search parameters were based on a one-mile radius of the Project site and consisted of a search of federal, State, local, tribal, and other databases. The complete list of databases and additional information can

be found in Appendix E-3. Table 4-13 includes a list of all the sites located within ¼-mile of the Project site.

One of these sites identified as the Pasadena Power Plant Upgrade, located at 52 East Glenarm Street, is within the existing power plant boundaries. This is a cluster of two sites listed within the California Integrated Water Quality System (CIWQS), California Environmental Reporting System (CERS), Facility Index System (FINDS), and Enforcement and Compliance History Online (ECHO) databases. The regulatory measure status under the CIWQA database is noted as "Terminated." Additionally, the Facility Registry Service (FRS) Facility Detail Report identified the Glenarm facility (USEPA Registry ID: 110031277669) as a USEPA Facility of Interest. The Glenarm facility is also listed in the Emissions & Generation Resource Integrated Database (interest type: electric power generation [gas based]), Clean Air Markets Division (CAMB) Business Systems (interest type: air program), and Energy Information Administration-860 (EIA-860) Database (interest type: electric generator).

TABLE 4-13
HAZARDOUS SITES LISTED WITHIN ONE-QUARTER MILE OF THE PROJECT SITE

Site Name	Address	Database	Distance	Status
Garfield Substation	1200 Railroad St.	RCRA NONGEN / NLR	0.055 mi	No violations
Professional Electrical Construction Services	1200 Railroad St.	RCRA NONGEN / NLR	0.055 mi	No violations
American Oil Co Service Station 11014	1150 S. Fair Oaks Ave.	EDR HIST AUTO	0.057 mi	No violations
New England Dry Cleaning & Hand Laundry	1170 S. Fair Oaks Ave.	EDR HIST CLEANER	0.062 mi	No violations
Smith S E & Sons	1129 S Fair Oaks Ave.	EDR HIST AUTO	0.080 mi	No violations
Pasadena City Landfill-Glenarm	1000 S Glenarm 500 W Arroyo	WMUDS/SWAT	0.082 mi	No violations
City Of Pasadena Dept of W & P	72 W Glenarm St.	SWEEPS UST/EMI/LOS ANGELES CO. HMS	0.100 mi	Facility and permit terminated
City of Pasadena Water And Power	45 E. Glenarm St	RCRA-LQG	0.109 mi	No violations
The White House	18 E Glenarm St	DRYCLEANERS	0.112 mi	--
Broadway & Glenarm Steam Plant	72 Glenarm Ave East	ENVIROSTOR/LUST/VCP/CORTESE/HIST CORTESE/NPDES/CIWQS/CERS	0.126 mi	Completed-Case Closed, NPDES terminated
Elya G *: Eskaf	1050 S Fair Oaks	HIST UST	0.141 mi	No violations
Eunice Howe	51 West State St	RCRA NONGEN / NLR	0.141 mi	No violations
Shell Oil Co	1050 S Fair Oaks	RCRA-SQG	0.141 mi	No violations
Pasadena Advanced Surgery Institute	1044 S Fair Oaks Ave # 110	CERS HAZ WASTE/CERS	0.151 mi	9 violations, returned to compliance
Robert Curry	1621 Raymond Hill Rd	RCRA NONGEN / NLR	0.165 mi	No violations

Site Name	Address	Database	Distance	Status
Gas S/S ##2158	155 Glenarm St East	LUST/CHMIRS/CORTESE/HIST CORTESE/CERS	0.175 mi	Completed-Case Closed
City Of Pasadena Dept of W & P	85 East State Street	RCRA-LQG	0.178 mi	No violations
City of Pasadena Dept of W & P General Plant	85 E State St Gate 7	CERS HAZ WASTE/CERS TANKS/CERS/AST	0.178 mi	6 violations in cluster, returned to compliance
Union Oil Service Station #215	155 E Glenarm St	CERS HAZ WASTE/HIST UST/CERS TANKS/CERS	0.180 mi	32 violations in cluster, returned to compliance
BMB Oil	155 E Glenarm	RCRA NONGEN / NLR/UST	0.180 mi	Violations found (Union Oil Cluster above)
Tosco #30427	155 E Glenarm St	UST	0.180 mi	No violations
Parkway Chiropractic	1111 S Arroyo Parkway #490	RCRA-SQG/CERS HAZ WASTE/FINDS/ECHO/CERS	0.181 mi	11 violations in cluster, returned to compliance
Art Center College of Design	1111 S Arroyo Parkway	RCRA NONGEN/NLR	0.181 mi	No violations
La Dysphagia Solutions and Speech Pathology Inc	226 Fair Oaks Ave Apt I	RCRA NONGEN/NLR	0.194 mi	No violations
City Of Hope/South Pasadena	209 Fair Oaks Ave	RCRA NONGEN/NLR	0.196 mi	No violations
South Pasadena City Dump	1201 S Marengo Blvd.	SWF/LF/LOS ANGELES CO LF METHANE	0.197 mi	Site closed
Blair High School	1201 S Marengo Ave	RCRA NONGEN/NLR/HWTS/CERS HAZ WASTE/HAZNET	0.197 mi	8 violations in cluster, returned to compliance
The White House Cleaners	185 E Glenarm St	RCRA-SQG FINDS/RCRA NONGEN/ NLR/CERTS HAZ WASTE/DRYCLEANERS/EMI/CERS	0.202 mi	11 violations in cluster, returned to compliance
Panda Warehouse	1010 S Arroyo Pkwy	SWEEPS UST	0.214 mi	No violations
Optum	988 S Fair Oaks Ave	RCRA NONGEN/NLR	0.215 mi	No violations
Jason Austin	87 Columbia St	RCRA NONGEN/NLR	0.217 mi	No violations
Art Center College of Design	950 S Raymond Ave	RCRA NONGEN/NLR	0.222 mi	No violations
Adloff & King Plating Co, Inc	965 S Fair Oaks Ave	RCRA-SQG/FINDS/ECHO	0.229 mi	No violations

Source: EDR 2022.

As discussion previously, the Supplemental Subsurface Investigation Report concluded that conventional excavation is not a realistic option because of the depth and extent of the contaminant mass and the abutting railroad property and underground utilities. The contamination appears to be from something other than the tanks that were removed. Groundwater is over 70 feet from the bottom of the contamination, and the source of the contamination no longer exists. There were no pipelines or connections in the affected area associated with the large tanks and the area beyond the property line cannot be evaluated to determine the full extent or potential source of contamination. Because of the utilities in the driveway and the Metro Gold Line tracks,

it is not likely that contamination beyond the property line can ever be excavated (Pacific 2008). Project construction and implementation is not anticipated to go deep into soils such that it would disturb any potential contamination. However, MM HAZ-2 has been included to provide guidance for proper handling and management of petroleum and lead contaminated soil identified at specific areas of the site during construction, in conformance with the recommendations contained in the proposed Project's SMP. With the implementation of MM HAZ-2, impacts would be mitigated to a less than significant level.

Operation

No Impact. Operation and maintenance activities would not involve excavation activities and would therefore have no impact.

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

Construction, Operation, Demolition/Decommissioning

No Impact. There are no public airports or public use airports within two miles of the Project site. The nearest airport is the San Gabriel Valley Airport, which is located approximately 7.3 miles southeast of the Project site. The Project would not involve the construction of high-rise structures or involve activities that could pose a safety hazard to helicopter or aircraft operations or airport activities, nor would it conflict with an airport land use plan. There would be no impact to airports or airstrips from the Project, and no mitigation is required.

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

Construction and Demolition/Decommissioning

Less than Significant Impact. Construction of the proposed Project is not anticipated to physically interfere with an adopted emergency response plan or evacuation plan because all construction activities and staging areas would be within the Project boundaries. Implementation of the Project would involve installation of a 25-MW BESS that would charge and store electricity within the City's existing Glenarm Power Plant and would not alter traffic conditions or modify the local or regional circulation system. Additionally, should an emergency occur at the proposed Project site, the internal street systems of the Glenarm Power Plant site would provide access to the outlying arterial roadway system. Therefore, impacts related to the adopted emergency response or evacuation plans would be less than significant, and no mitigation is required.

Operation

No Impact. Maintenance trips associated with operation of the proposed BESS would occur once every 3 to 12 months. Existing employees would maintain the site, and the number of employees would not increase with the operation of the BESS. There would be no impact on an adopted emergency response plan or emergency evacuation route.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Construction, Demolition/Decommissioning

No Impact. According to the *Fire and Resource Assessment Program Very High Fire Hazard Severity Zones in LRA As Recommended by CALFIRE* map for the City of Pasadena, the Project site is not located within or near any areas designated as a VHFHSZ in either a Local Responsibility Area (LRA) or a State Responsibility Area (SRA). The nearest VHFHSZ-designated area is located approximately 0.5 mile west of the Project site (CALFIRE 2011). As such, the Project would not expose people or structures, directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. Therefore, there would be no impact, and no mitigation is required. The Project site is currently developed and does not contain vegetation. The Project site would be maintained as such throughout construction and during demolition/decommissioning. This would reduce the risk of wildfire from vehicles, construction, or demolition/decommissioning tools/equipment.

Operation and Maintenance

Less than Significant with Mitigation Incorporated. As previously discussed under Threshold 4.9 (a), MM HAZ-1 pertaining to an Emergency Response/Action is proposed to reduce the potential impact from risk of fire. MM HAZ-1 would require an Emergency Response and Emergency Action Plan that addresses installation of fire prevention and detection equipment, procedures for regular inspections of equipment and safety systems, and emergency response procedures. Therefore, impacts associated with wildland fires would be less than significant with mitigation.

4.9.3 MITIGATION MEASURES

MM HAZ-1 At least 45 days prior to construction and delivery of the BESS components, an Emergency Response and Emergency Action Plan (EREAP) shall be prepared. The EREAP shall be prepared by the developer and/or operator in close coordination with the City of Pasadena Water and Power (PWP) and approved by the Pasadena Fire Department. The EREAP shall include, but not be limited to, the following Fire Safety Components, Emergency Response Procedures, and Emergency Evacuation Procedures:

Fire Safety Components

- BESS facility schematic drawings and technical specifications. The schematic drawings must identify the location of fire prevention, detection, and suppression features (if applicable). The technical specifications must include a description of the following:
    - Description of the battery management system;
    - Description of the flame detection system, including the location and type of detection system;
    - Availability of water for firefighting and compliance with Fire Department requirements for flow and availability; and
    - Fire suppression and/or other safety features/equipment located at the site.
- Guidelines for regular inspections of the BESS facility, including the frequency of inspections and the procedures for documentation and reporting of inspection findings. The inspection shall include the following:
    - Visual inspection- Inspect for any obvious signs of wear and tear, such as corrosion, damaged wiring, or loose connections;

  - Electrical System Evaluation- Inspect the integrity of the busbars, circuit breakers, and fuses. Test the system's grounding to ensure it meets safety standards;
  - Battery Health Assessment- Inspect battery terminals for any signs of swelling, leaking, or corrosion. Monitor the batteries' state of charge and state of health. Inspect the battery management system for proper functionality;
  - Thermal Management System Check- Inspect he cooling systems, including fans, heat exchangers, and coolant levels;
  - Control System Verification- Verify that all control systems (software and hardware components) are functioning correctly; and
  - Safety Systems Evaluation- Verify that all safety systems (fire suppression, emergency shut-off mechanisms, alarms) are fully operational.
- Type and placement of warning signs.
- Identification of emergency ingress and egress routes.
- Special safety measures to be implemented for battery installation and replacement, including disposal of replaced (discarded) equipment.
- Provisions and timing for updating the Plan to incorporate new or changed requirements.

Emergency Response Procedures

- Emergency contact information for the BESS system owner and BESS technology provider, including specific roles and associated responsibilities in an emergency.
- Procedures for safe shutdown, de-energizing, or isolation of equipment and systems under emergency situations to reduce the risk of fire, electric shock, and personal injuries, and for safe start-up following cessations of emergency conditions.
- Procedures to be followed in response to notifications of system alarms or out-of-range conditions that could signify potentially dangerous conditions, including shutting down equipment, summoning service or repair personnel, and providing agreed-upon notification to fire department personnel.
- Safety data sheet (SDS) that addresses response safety concerns and extinguishment
- Procedures for dealing with BESS equipment damaged in a fire or other emergency event, including contact information for personnel qualified to safely remove damaged ESS equipment from the facility.
- Other procedures as determined necessary by the Fire Department to provide for the safety of occupants, sensitive receptors, and emergency responders.
- Schedules for conducting drills of emergency procedures.

Emergency Evacuation Procedures

Emergency procedures to be followed in case of fire, explosion, release of liquids or vapors, damage to critical moving parts, or other potentially dangerous conditions include the following:

- Notification of local responders, BESS system owner, and BESS technology provider;
- Evacuation procedures for a minimum initial evacuation zone of 150 feet in the event of a thermal runaway and/or fire. The evacuation procedures shall include a list of all established uses within 150 feet that are included within this initial evacuation zone;
- Evacuation procedures for an emergency evacuation zone of 0.25 mile in the event of off-gassing. The evacuation procedures shall include a list of all established uses within 0.25 mile that are included within this emergency evacuation zone;
- Establishment of shelter-in-place orders; and
- Establishment of road closures and notifications.

PWP shall coordinate with the Pasadena Fire Department to communicate the Emergency Evacuation Procedures to schools, businesses, residents, and transportation agencies located within the 0.25-mile emergency evacuation zone. PWP shall make the Emergency Evacuation Procedures publicly available and shall inform the public on how to access these procedures.

MM HAZ-2 In conformance with the recommendations contained in the *Soil Management Plan, Glenarm Power Plant Battery Energy Storage System, Pasadena Water and Power, 72 East Glenarm Street, Parcel B, Pasadena, California* (SMP) prepared by Group Delta Consultants, Inc. in November 2023, and contained in Appendix E-5 of this IS/MND, the Contractor shall refer to the following specifications in the SMP for the proper handling and management of petroleum and lead contaminated soil at the Project site during earthwork construction:

- Soil Excavation for Lead
- Soil Excavation for Total Petroleum Hydrocarbon Diesel Range Organics (TPH DRP)
- Soil Handling
  - Health and Safety
  - Training
  - Site Control
  - Excavation Procedures
  - Temporary Storage and Segregation
  - Decontamination Area
  - Dust Control
- Soil Characterization
  - Waste Characterization
  - Soil Confirmation Sample Collection Procedures

- Soil Reuse, Disposal, and Import
  - Onsite Soil Reuse
  - Soil Disposal
  - Backfill/Imported Fill Soil
- Notification, Documentation and Reporting
  - Notification
  - Documentation
  - Reporting

The SMP specifications shall be verified by Pasadena Water and Power (PWP) prior to any earthwork conducted.

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

4.10.1 EXISTING CONDITIONS

The Raymond Groundwater Basin is situated on an alluvial valley that covers approximately 40 square miles and is bordered by the San Gabriel Mountains on the north; the San Rafael Hills on the west; and the Raymond Fault on the south and east. The general east-west trend of the San Gabriel Mountains, the north-south trend of the San Rafael Hills, and northeast trend of the Raymond Fault result in the basin having a triangular form. The Raymond Groundwater Basin is divided into the Monk Hill Subbasin to the west, the Santa Anita Subbasin to the east, and the Pasadena Subbasin in the central portion; these designations are based on differences in elevation and groundwater flow. The Raymond Groundwater Basin is recharged by the Arroyo Seco, a tributary to the Los Angeles River, and by Eaton Wash, Santa Anita Wash, and other streams in the watershed (DWR 2004). Pumping rights to the Raymond Groundwater Basin are adjudicated and the Raymond Basin Management Board administers the provisions of the adjudication decree. The Board coordinates the pumping rights and the groundwater storage accounts of public and private water agencies, including the PWP.

The Project site is currently developed, and there are no natural or channelized drainage features occurring within the Project area.

The Project site is in Zone X (areas determined to be outside the 0.2 percent annual chance floodplain) and is deemed an "Area of Minimal Flood Hazard" (FEMA 2022). Zone X is located outside of the special flood hazard areas subject to inundation by the one percent annual chance of flood (100-year floodplain). In addition, according to the City's Dam Failure Inundation Map (Plate P-2 of the Safety Element), the Project site is not located in a dam inundation area (City of Pasadena 2002b). The City is located inland and is not subject to tsunami (sea waves) hazards.

4.10.2 IMPACT ANALYSIS

Impact Discussion

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

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

Construction and Demolition

No Impact. As discussed in Section 4.7, Geology and Soils, because the Project site has less than one acre of ground disturbance, and no grading would occur as a result of the Project, compliance with the NPDES Construction General Permit would not be required. Best management practices (BMPs) for storm water control, such as straw wattles or filter socks, will prevent sediment-laden runoff from areas of ground disturbance. As such, no substantial pollutants would be introduced into storm water runoff, including sediment, during construction of the Project, and no mitigation is required.

Operation

Operation of the Project would not violate any water quality standards. The Project would neither conflict with nor obstruct implementation of the Los Angeles Regional Water Quality Control Board's (LARWQCB's) Water Quality Control Plan. The Raymond Basin, PWP's source of groundwater, is defined by the California Department of Water Resources (DWR) as very-low priority pursuant to the 2014 Sustainable Groundwater Management Act (DWR 2024). As such, there is currently no sustainable groundwater management plan applicable to the Project site. There would be no impact, and no mitigation is required.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Construction and Demolition

Less than Significant Impact. The proposed Project would not deplete groundwater supplies or substantially interfere with groundwater recharge. A substantial portion of the site is covered with impervious surface, and this condition would not change with implementation of the Project. This limits its current ability to contribute to groundwater recharge. Therefore, impacts related to groundwater recharge would be less than significant, and no mitigation is required.

Operation

No Impact. There will be no delivery of water by trucks to the BESS during its operational life. No impact would occur, and no mitigation is required.

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

i) result in substantial erosion or siltation onsite or offsite?

ii) substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or offsite?

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

iv) impede or redirect flood flows?

Construction and Demolition

Less than Significant Impact. With respect to existing drainage patterns and the potential for the Project to generate stormwater pollutants, the Project site is currently developed with buildings, power generation facilities, hardscape including paved parking, the Glenarm Building's decorative plaza and electric fountain, and ornamental landscaping. Development of the site would not substantially alter stormwater and dry weather runoff drainage patterns on-site or in the surrounding area and runoff would continue to be conveyed to the City's storm drain system. The required approval of a site drainage plan by the Building Division and the Public Works Department ensures that the proposed drainage plan is appropriately designed and that the proposed runoff would not exceed the capacity of the City's storm drain system. For these reasons, the proposed Project would not result in significant erosion or siltation impacts stemming from changes to drainage patterns. Further, complying with the City's SUSMP and incorporating existing BMPs into construction and operation would ensure that the proposed Project would not result in significant erosion or siltation impacts due to the changes in drainage patterns and ensure stormwater pollutants from operation of the proposed Project would not degrade water quality. While the Project has the potential to generate short-term water pollutants during construction including trash, construction materials, and equipment fluids, it is required to comply with the applicable regulatory requirements including Section 303 of the Clean Water Act, the RWQCB SQMP and NPDES, and the County-wide MS4, and therefore construction is anticipated to result in less than significant water quality impacts, and no mitigation is required.

Operation

Less than Significant Impact: The proposed Project site will undergo minimal grading, and access roads would not be impacted. The Project is not expected to increase runoff. It would not alter drainage patterns, absorption rates, or the rate and volume of surface runoff. Although unlikely, if needed, erosion control measures would be implemented in accordance with local, State, and federal regulations. Therefore, impacts related to on- or offsite erosion or siltation during project operation and maintenance would be less than significant.

d) Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Construction and Operation

No Impact. With respect to floodplains, no portions of the City of Pasadena are within a 100-year floodplain identified by the Federal Emergency Management Agency (FEMA) and the Project does not propose any housing. In addition, according to the City's Dam Failure Inundation Map (Plate P-2, of the adopted 2006 Safety Element of the City's General Plan) the Project is not located in a dam inundation area. Moreover, the City of Pasadena is not located near inland bodies of water or the Pacific Ocean to be inundated by either a seiche or tsunami. Therefore, no impacts related to release of pollutants due to inundation by flood, tsunami, or seiche would occur, and no mitigation is required.

4.10.3 MITIGATION MEASURES

There would be no significant impacts pertaining to hydrology and water quality during Project construction, operation, and demolition activities; therefore, no mitigation measures are required.

4.11 LAND USE AND PLANNING	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	-	-	-	X
b) Cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	-	-	-	X

4.11.1 EXISTING CONDITIONS

The Project site is located within the SFP-IF HL-56 (South Oaks Specific Plan, Industrial Flex) zoning district, and the General Plan Land Use Designation is R&D Flex Space (0.0-1.25 FAR). The plan vision for the Industrial Flex subarea of the South Fair Oaks Specific Plan is to allow a range of light industrial, utility, and commercial uses for city use; and to ensure that future uses are compatible with existing public and industrial uses.

Adopted in October 2022, the Specific Plan is roughly bounded by Del Mar Boulevard to the north and the common municipal boundary for the cities of Pasadena and South Pasadena to the south. The Specific Plan area encompasses the entire power plant property, extending east to the Arroyo Parkway. Major utilities are permitted on the Project site with a CUP.

The site is zoned as SFO-IF HL-56 (South Fair Oaks Specific Plan, Industrial Flex subarea, Height Overlay 56 feet).

4.11.2 IMPACT ANALYSIS

Impact Discussion

a) Would the project physically divide an established community?

Construction, Operation, and Demolition

No Impact. As shown in the aerial photograph provided in Exhibit 2, the Project site and surrounding area is generally urban and characterized by a diverse mix of industrial, commercial, office, residential, educational and community uses. As proposed, the Project involves installation of a 25-MW BESS that would charge and store electricity within the City's existing Glenarm Power Plant. Development would be similar to and a part of the existing power plant facilities. Additionally, the proposed Project would not result in the displacement of existing residences. Therefore, the Project would not divide an established community. There would be no impact, and no mitigation is required.

b) Would the project cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Construction, Operation, and Demolition

No Impact. As indicated above, the General Plan Land Use designation for the Project site is R&D Flex Space (0.0-1.25 FAR). The R&D Flex Space Land Use Designation is characterized by a wide range of industrial uses such as light manufacturing, research and development, creative

office and incubator industries, and limited ancillary commercial and office uses. The plan vision of the Industrial Flex subarea of the South Fair Oaks Specific Plan is to allow a range of light industrial, utility, and commercial uses for City use; and to ensure that future uses are compatible with existing public and industrial uses.

Major utilities are permitted on the Project site with a CUP. The development standards for the Project site in the Specific Plan are consistent with those presented in the City's Zoning Code and Zoning Map, which together implement the Land Use Element and its policies. The development standards applicable to the South Fair Oaks Specific Plan included in Chapter 17.35, *South Fair Oaks Specific Plan*, of the Zoning Code. Implementation of the proposed Project would not change the use of the site. Thus, the Project would be compatible with the other existing land uses on the site and the land use and zoning designations. As no changes to the land use would occur with the Project, no inconsistency with the South Fair Oaks Specific Plan and General Plan policies would result. There would be no impact, and no mitigation is required.

4.11.3 MITIGATION MEASURES

There would be no impacts related to land use and planning therefore, no mitigation measures are required.

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

4.12.1 EXISTING CONDITIONS

Mineral resources are naturally occurring chemicals, elements, or compounds such as bituminous rock, gold, sand, gravel, clay, crushed stone, limestone, diatomite, salt, borate, potash, geothermal, petroleum, and natural gas resources. Construction aggregate refers to sand and gravel (natural aggregates) and crushed stone (rock) that are used as Portland-cement-concrete aggregate, asphaltic-concrete aggregate, road base, railroad ballast, riprap, fill, and the production of other construction materials.

The California Geological Survey (CGS) has identified deposits of regionally significant aggregate resources in the State in accordance with the Surface Mining and Reclamation Act (SMARA). The Project site is not located within an area that has important mineral resources (CGS 2015).

Review of maps prepared by the California Department of Conservation shows that there are no oil, gas, or geothermal fields in or near the Project area (DOC 2022). Additionally, there are no active or idle oil wells in or near the Project area. The nearest well is an idle oil and gas well located approximately 2.71 miles southwest of the Project site (CalGEM 2022).

The Project site is located in an urbanized area and has been previously developed. The site is currently a crushed gravel lot with a small concrete pad, indicating that any potential mineral resources would have been made inaccessible by previous development activities.

4.12.2 IMPACT ANALYSIS

Impact Discussion

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

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

Construction, Operation, and Demolition

No Impact. The City's General Plan does not identify any mineral recovery sites within the City. Furthermore, there are no mineral resource recovery sites shown in the 1999 "Aggregate Resources in the Los Angeles Metropolitan Area" map published by the California Department of Conservation, Division of Mines and Geology. No active mining operations exist in the City of Pasadena and mining is not currently allowed within any of the City's designated land uses. There

are two areas in Pasadena that may contain mineral resources. These two areas are Eaton Wash, which was formerly mined for sand and gravel, and Devil's Gate Reservoir, which was formerly mined for cement concrete aggregate. The Project is not located near these areas. The Project site is not classified as a Mineral Resource Zone (MRZ) by the CGS, further confirming the absence of valuable mineral resources at the site. Additionally, given the Project site's location in an urbanized area and its current state as a developed lot, it is highly unlikely that mineral extraction activities would be feasible or desirable at this location, regardless of the presence or absence of mineral resources (CGS 2015). Therefore, the proposed Project would result in no impacts to mineral resources, and no mitigation is required.

4.12.3 MITIGATION MEASURES

There would be no significant impacts related to mineral resources, and no mitigation measures are required.

4.13 NOISE	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less than Significant Impact**	**No Impact**
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	-	-	X	-
b) Generation of excessive groundborne vibration or groundborne noise levels?	-	-	X	-
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	-	-	-	X

Information pertinent to this Section can be found in Appendix F, Noise Data and Calculations, of this IS/MND.

4.13.1 EXISTING CONDITIONS

Noise Concepts

"Sound" is a vibratory disturbance created by a moving or vibrating source and is capable of being detected. "Noise" is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance; interference with speech communication; sleep disturbance; and, in the extreme, hearing impairment (Caltrans 2013).

Sound pressure levels are described in units called the decibel (dB). Decibels are measured on a logarithmic scale. A doubling of the energy of a noise source (such as doubling of traffic volume) would increase the noise level by 3 dB. The human ear is not equally sensitive to all frequencies within the sound spectrum. To accommodate this phenomenon, the A-scale was devised; the A-weighted decibel scale (dBA) approximates the frequency response of the average healthy ear when listening to most ordinary everyday sounds and is used in this analysis.

Human perception of noise has no simple correlation with acoustical energy. Due to subjective thresholds of tolerance, the annoyance of a given noise source is perceived very differently from person to person. The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at 3 feet is approximately 60 dBA, while loud jet engine noises at 1,000 feet equate to 100 dBA, which can cause serious discomfort. Table 4-14, Noise Levels For Common Events shows the relationship of various noise levels in dBA to commonly experienced noise events.

TABLE 4-14
NOISE LEVELS FOR COMMON EVENTS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet fly-over at 300 m (1,000 ft)	100	
Gas lawn mower at 1 m (3 ft)	90	
Diesel truck at 15 m (50 ft) at 80 km/hr (50 mph)	80	Food blender at 1 m (3 ft); garbage disposal at 1 m (3 ft)
Noisy urban area, daytime gas lawn mower at 30 m (100 ft)	70	Vacuum cleaner at 3 m (10 ft)
Commercial area, heavy traffic at 90 m (300 ft)	60	Normal speech at 1 m (3 ft)
Quiet urban daytime	50	Large business office, dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime	30	Library
Quiet rural nighttime	20	Bedroom at night, concert hall (background)
	10	Broadcast/recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing

dBA: A-weighted decibels; m: meter; ft: feet; km/hr: kilometers per hour; mph: miles per hour
Source: Caltrans 2013.

Two noise sources do not “sound twice as loud” as one source. As stated above, a doubling of noise sources results in a noise level increase of 3 dBA. It is widely accepted that (1) the average healthy ear can barely perceive changes of a 3 dBA increase or decrease, (2) a change of 5 dBA is readily perceptible, and (3) an increase (decrease) of 10 dBA sounds twice (half) as loud (Caltrans 2013).

From the source to the receiver, noise changes both in the level and frequency spectrum. The most obvious change is the decrease in noise level as the distance from the source increases. Sound from a small, localized source (approximating a “point” source) radiates uniformly outward as it travels away from the source in a spherical pattern. For point sources, such as heating, ventilation, and air conditioning (HVAC) units or construction equipment, the sound level attenuates (or drops off) at a rate of 6 dBA for each doubling of distance (i.e., if the noise level is 70 dBA at 25 feet, it is 64 dBA at 50 feet). Vehicle movement on a road makes the source of the sound appear to emanate from a line (line source) rather than a point when viewed over some time interval. The sound level attenuates or drops off at a rate of 3 dBA per doubling of distance for line sources.

A large object in the path between a noise source and a receiver can significantly attenuate noise levels at that receiver location. The amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain or landform features as well as man-made features (e.g., buildings and walls) can significantly alter noise exposure levels. For a noise barrier to work, it must be high enough and long enough to block the view from the receiver to a road or to the noise source. Effective noise barriers can reduce outdoor noise levels at the receptor by up to 15 dBA.

Several rating scales (or noise “metrics”) exist to analyze effects of noise on a community. These scales include the equivalent noise level (L_{eq}), including L_{max} and L_{min}, which are respectively the highest and lowest A-weighted sound levels that occur during a noise event, and the Community Noise Equivalent Level (CNEL). Average noise levels over a period of minutes or hours are usually expressed as dBA L_{eq}, which is the equivalent noise level for that period of time. The

period of time averaging may be specified; for example, $L_{eq(3)}$ would be a three-hour average. Noise of short duration (i.e., substantially less than the averaging period) is averaged into ambient noise during the period of interest. Thus, a loud noise lasting many seconds, or a few minutes may have minimal effect on the measured sound level averaged over a one-hour period.

To evaluate community noise impacts, CNEL was developed to account for human sensitivity to nighttime noise. CNEL represents the 24-hour average sound level with a penalty for noise occurring at night. The CNEL computation divides a 24-hour day into three periods: daytime (7:00 AM to 7:00 PM), evening (7:00 PM to 10:00 PM), and nighttime (10:00 PM to 7:00 AM). The evening sound levels are assigned a 5-dBA penalty, and the nighttime sound levels are assigned a 10-dBA penalty prior to averaging with daytime hourly sound levels.

Noise-Sensitive Receptors

Noise-sensitive receptors include land uses where an excessive amount of noise would interfere with normal operations or activities and where a high degree of noise control may be necessary. Examples include schools, hospitals, and residential areas. Noise sensitive uses proximate to the Project site include residential and school uses. There are no noise sensitive uses adjacent to the Project site. The Project site is located at the Glenarm Power Plant with commercial uses to the north, a parking lot to the east, and medical uses to the west of the Project site. Other land uses proximate to the Project site include retail, office, and utility uses. The nearest noise sensitive land uses include the Art Center located approximately 190 feet to the north, Blair High School and Middle School located approximately 455 feet to the east of the Project site, medical uses located approximately 475 feet west of the Project site, and residential uses located approximately 600 feet west of the Project site.

Existing Ambient Noise

Ambient noise measurements were taken on January 5, 2023 to document existing noise levels at the nearest noise sensitive uses proximate to the Project site. Noise measurements were taken for a 20-minute period near the property line of Project site approximately 5 feet from Glenarm Street. The recorded average noise level is 71.0 dBA L_{eq}, the maximum noise level is 87.6 dBA L_{max} and the minimum noise level is 52.5 dBA L_{min}. Noise levels at this location is relative noisy due to traffic along the 5 roadway lanes north of the Project site, as well as Metro crossings which occurred twice during the measurement period. Noise generated by Metro includes both the railroad crossing bells, train travel on the rails, as well as a low frequency buzzer from the train. Ambient noise measurement data can be found in Appendix F of this IS/MND.

Applicable Noise Standards

City of Pasadena

The City of Pasadena has established guidelines and standards in its General Plan and Municipal Code. The City's General Plan Noise Element recognizes that construction activity is a source of occasional temporary nuisance noise throughout the City and that these and other such nuisance noises are common to cities and, because of their unpredictable nature, must be addressed on a case-by-case basis.

The following policies of the City's Noise Element are applicable to the Project (City of Pasadena 2002b):

Policy 7b: The City will encourage limitations on construction activities adjacent to sensitive noise receptors.

Policy 7c: The City will encourage construction and landscaping activities that employ techniques to minimize noise.

The City's Municipal Code (Title 9, Article IV, Chapter 9.36, Noise Restrictions) is the City's noise ordinance. It is the City's policy ". . . to prohibit unnecessary, excessive and annoying noises from all sources . . . Noise at certain levels is detrimental to the health and welfare of the general public".

Section 9.36.050 – General Noise Sources

This is applicable for long-term, operational noise and states "It is unlawful for any person to create, cause, make or continue to make or permit to be made or continued any noise or sound which exceeds the ambient noise level at the property line of any property by more than 5 decibels". In accordance with Section 9.36.040, adjustments are made to the allowable noise level for steady audible tones, repeated impulsive noise, and noise occurring for limited time periods.

Section 9.36.070 – Construction Projects

This section is applicable for construction projects and states:

A. No person shall operate any pile driver, power shovel, pneumatic hammer, derrick power hoist, forklift, cement mixer or any other similar construction equipment within a residential district or within a radius of 500 feet therefrom at any time other than as listed below:
    1. From 7:00 AM to 7:00 PM Monday through Friday;
    2. From 8:00 AM to 5:00 PM on Saturday; and
    3. Operation of any of the listed construction equipment is prohibited on Sundays and holidays.

B. No person shall perform any construction or repair work on buildings, structures or projects within a residential district or within a radius of 500 feet there from in such a manner that a reasonable person of normal sensitiveness residing in the area is caused discomfort or annoyance at any time other than as listed below:
    1. From 7:00 AM to 7:00 PM Monday through Friday;
    2. From 8:00 AM to 5:00 PM on Saturday; and
    3. Performance of construction or repair work is prohibited on Sundays and holidays.

Section 9.36.080 – Construction Equipment.

This section states that "It is unlawful for any person to operate any powered construction equipment if the operation of such equipment emits noise at a level in excess of 85 dBA when measured within a radius of 100 feet from such equipment".

9.36.090 - Machinery, equipment, fans and air conditioning

Except for emergency work, as defined in this chapter it is unlawful for any person to operate any machinery, equipment, pump, fan, air conditioning apparatus or similar mechanical device in any manner so as to create any noise which would cause the noise level at the property line of any property to exceed the ambient noise level by more than 5 decibels.

Section 9.36.170 – Exemptions

A. This chapter is not intended to regulate construction or maintenance and repair activities conducted by public agencies or their contractors necessitated by emergency conditions or deemed necessary by the city to serve the best interests of the public and to protect the public health, safety and welfare. These operations may include, but are not limited to, street sweeping, debris and limb removal, removal of downed wires, restoring electrical service, repairing traffic lights, unplugging sewers, vacuuming catch basins, repairing water hydrants and mains, gas lines, oil lines, storm drains, roads, sidewalks, etc.

(Ord. 7150 § 2 (part), 2008)

Vibration Concepts

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration is normally associated with activities such as railroads or vibration-intensive stationary sources but can also be associated with construction equipment such as jackhammers, pile drivers, and hydraulic hammers. Vibration displacement is the distance that a point on a surface moves away from its original static position. The instantaneous speed that a point on a surface moves is described as the velocity, and the rate of change of the speed is described as the acceleration. Each of these descriptors can be used to correlate vibration to human response, building damage, and acceptable equipment vibration levels. During construction of a project, the operation of construction equipment can cause groundborne vibration. During the operational phase of a project, receptors may be subject to levels of vibration that can cause annoyance due to noise generated from vibration of a structure or items within a structure. Analysis of this type of vibration is best measured in velocity and acceleration.

The three main wave types of concern in the propagation of groundborne vibrations are surface or Rayleigh waves, compression or P-waves, and shear or S-waves.

- Surface or Rayleigh waves travel along the ground surface. They carry most of their energy along an expanding cylindrical wave front, similar to the ripples produced by throwing a rock into a lake. The particle motion is more or less perpendicular to the direction of propagation (known as retrograde elliptical).
- Compression or P-waves are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal, in a push-pull motion. P-waves are analogous to airborne sound waves.
- Shear or S-waves are also body waves, carrying their energy along an expanding spherical wave front. Unlike P-waves, however, the particle motion is transverse, or perpendicular to the direction of propagation.

The peak particle velocity (ppv) or the root mean square (rms) velocity is usually used to describe vibration amplitudes. The ppv is defined as the maximum instantaneous peak of the vibration signal and the rms is defined as the square root of the average of the squared amplitude of the

signal. The ppv is more appropriate for evaluating potential building damage and also used for evaluating human response.

The units for ppv velocity are normally inches per second (in/sec). Often, vibration is presented and discussed in dB units to compress the range of numbers required to describe the vibration. In this study, all ppv velocity levels are in in/sec and all vibration levels are in dB relative to one microinch per second. The threshold of perception is approximately 0.008 ppv, or 65 VdB (FTA 2018). Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration. Even the more persistent Rayleigh waves decrease relatively quickly as they move away from the source of the vibration. Manmade vibration problems are, therefore, usually confined to short distances (500 feet or less) from the source.

Applicable Vibration Standards

There are no applicable City standards for vibration-induced annoyance or building damage from vibration. The California Department of Transportation (Caltrans) vibration damage potential guideline thresholds are shown in Table 4-15, Vibration Damage Threshold Criteria, and are applied in this analysis.

TABLE 4-15
VIBRATION DAMAGE THRESHOLD CRITERIA

Structure and Condition	Maximum ppv (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

ppv: peak particle velocity; in/sec: inch(es) per second

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source: Caltrans 2020.

The structural damage threshold for “historic and old buildings” of 0.5 ppv in/sec is selected for analysis of vibration impacts for buildings proximate to the Project site.

The Caltrans vibration annoyance potential guideline thresholds are shown in Table 4-15. Based on the guidance in Table 4-16, Vibration Annoyance Criteria, the “strongly perceptible” vibration level of 0.9 ppv in/sec is considered as a threshold for a potentially significant vibration impact for human annoyance.

TABLE 4-16
VIBRATION ANNOYANCE CRITERIA

Average Human Response	ppv (in/sec)
Severe	2.0
Strongly perceptible	0.9
Distinctly perceptible	0.24
Barely perceptible	0.035

ppv: peak particle velocity; in/sec: inch(es) per second
Source: Caltrans 2020.

Table 4-17, Vibration Levels for Construction Equipment, summarizes typical vibration levels measured during construction activities for various vibration-inducing pieces of equipment.

TABLE 4-17
VIBRATION LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment		ppv at 25 ft (in/sec)
Pile driver (impact)	upper range	1.518
	typical	0.644
Pile driver (sonic)	upper range	0.734
	typical	0.170
Vibratory roller		0.210
Large bulldozer		0.089
Caisson drilling		0.089
Loaded trucks		0.076
Jackhammer		0.035
Small bulldozer		0.003

ppv: peak particle velocity; ft: feet; in/sec: inches per second
Source: Caltrans 2020; FTA 2018.

4.13.2 IMPACT ANALYSIS

Impact Discussion

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction and Demolition

Less than Significant (for temporary increase in ambient noise levels). The following noise impact analysis is provided regarding the magnitude of construction noise exposure at nearby sensitive uses and the potential impacts related to established noise limits (i.e., Pasadena Municipal Code Section 9.36.050, General Noise Sources and Section 9.36.080, Construction Equipment).

The primary noise sources during construction are the diesel engines of construction equipment. No pile driving or blasting activities are proposed. The degree to which noise-sensitive receptors are affected by construction activities depends heavily on their proximity as well as the time of

day or night. As stated above, per Section 9.36.080, Construction Equipment, of the City's Municipal Code, it is unlawful for any person to operate any powered construction equipment if the operation of such equipment emits noise at a level in excess of 85 dBA when measured within a radius of 100 feet from such equipment. Therefore, estimated noise levels attributable to the development of the proposed Project are measured at 100 feet from the equipment, as shown in Table 4-18, Construction Noise at Noise-Sensitive Land Uses. Noise exposure levels for the nearest noise sensitive uses are provided for informational purposes. Noise calculations are included in Appendix F, Noise Data and Calculations of this IS/MND. Noise levels from general Project-related construction activities would range from 69 to 78 dBA L_{eq}, without noise reduction measures. As shown below, noise levels from construction equipment would be less than the 85-dBA noise limit as measured at 100 feet from the equipment, per the City's Municipal Code Section 9.36.080 – Construction Equipment.

TABLE 4-18
CONSTRUCTION NOISE LEVELS AT NOISE-SENSITIVE USES

Construction Phase	Noise Level at 100 ft (L_{eq} dBA)	City Noise Limit	Exceeds Limit?
Ground Clearing/Demolition	78	85	No
Excavation	73	85	No
Foundation Construction	72	85	No
Building Construction	69	85	No
Paving and Site Cleanup	69	85	No

L_{eq} dBA: Average noise energy level; ft: feet

Note: Noise levels from construction activities do not take into account attenuation provided by intervening structures or sound barriers.

Source: USEPA 1971.

Noise from construction activities on site would be audible above the existing ambient noise environment but would occur during the least noise-sensitive portions of the day as per Pasadena Municipal Code Section 9.36.070 – Construction Projects.

The Project would generate construction traffic noise from vehicular traffic, including workers commuting to and from the Project site, vendors delivering materials, and haul trucks exporting demolition debris. Due to the relatively small construction area, the magnitude of construction vehicles and workers travelling on local roadways is relatively small. Due to the infrequency of Project-related truck and worker commute trips, the increase in traffic noise when compared to existing traffic volumes along Glenarm Street and Arroyo Seco Parkway would be less than the 3 dBA significance threshold for noise (Caltrans 2013). A 3 dBA increase is the minimum change in noise levels that is audible in outdoor environments. A doubling of traffic along local roadways is necessary for a 3 dBA change in noise levels. Since the Project's construction activities would result in a minimal increase in traffic volumes, the resulting increase in traffic noise would not reach the 3 dBA increase in noise levels to be audible. Consequently, construction-related traffic noise impacts would be temporary and not substantial.

Noise generated during Project construction would not involve pile drivers or other equipment that would exceed the 85 dBA noise level limit as measured at 100 feet, established by the City under Pasadena Municipal Code Section 9.36.080. As such, the Project would not result in substantial temporary noise impacts to noise sensitive uses in the vicinity of the Project site. Thus, noise associated with Project-related construction activities would comply with Pasadena Municipal Code Sections 9.36.050, General Noise Sources and 9.36.080, Construction Equipment; therefore, less than significant impacts would occur and no mitigation is required.

Operation

Less than Significant Impact (for permanent increases in ambient noise levels). Operational noise would generally be generated from two different sources: the BESS equipment and vehicle trips associated with Project maintenance/operations. Various components of the BESS would generate noise including the inverters, cooling system, and transformers. The operation of these components results in an overall noise generation of 75 dBA at a distance of 10 meters from the BESS.

The operations phase of the Project would not result in a noticeable change in noise levels at offsite uses due to a variety of factors including, but not limited to, the presence of the Arroyo Seco Parkway, which is a primary contributor to the ambient noise environment; the noise levels generated by the BESS equipment, which averages approximately 75 dBA according to product specifications; and attenuation due to spreading loss and the obstruction of the line-of-sight between the Project site and the nearest noise sensitive uses. Noise generated from the operation of the BESS is anticipated to attenuate at least 15 dBA as noise emanates from the site to the nearest receptors (the Art Center). No additional vehicle trips would occur related to the Project. Noise associated with these sources is not anticipated to exceed the noise limits established under Municipal Code Section 9.36.050 and 9.36.090. Compliance with the City's noise limit would result in less than significant noise impacts from the Project operations, and no mitigation is required.

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Construction and Demolition

Less than Significant Impact. As stated above, there are no applicable City standards for vibration-induced annoyance or building damage from vibration. As such, the vibration thresholds and emission rates identified previously in Tables 4-15 and 4-16 are used in the assessment of vibration impacts. Table 4-19, Building Damage Criteria at Sensitive Uses, shows the ppv relative to building damage to the closest buildings or structures that may be damaged from vibration related to construction activities. As shown in Table 4-19, all ppv levels would be below the building damage threshold at the nearest off-site structures. Buildings located further from the analyzed locations would be expected to have substantially less vibration exposure and would likewise result in less than significant impacts related to exposure to vibration induced building damage.

TABLE 4-19
BUILDING DAMAGE CRITERA AT SENSITIVE USES

	Vibration Levels (ppv)			
	North – The Art Center	West – Glenarm Power Plant	South – Glenarm Power Plant	East – Blair High School and Middle School
Equipment	(ppv @ 140 ft)	(ppv @ 60 ft)	(ppv @ 25 ft)	(ppv @ 500 ft)
Large bulldozer	0.01	0.02	0.09	0.00
Small bulldozer	0.00	0.00	0.00	0.00
Jackhammer	0.00	0.01	0.04	0.00
Loaded trucks	0.01	0.02	0.08	0.00
Building Damage Criteria*	**0.5**	**0.5**	**0.5**	**0.5**
Exceeds Criteria?	**No**	**No**	**No**	**No**

ppv: peak particle velocity; Max: maximum; avg: average; ft: feet

* Building Damage Criteria from Table 4-9.

Source: FTA 2018 (Calculations can be found in Appendix F).

As shown in Table 4-19, levels of vibration generated during Project construction would be below the building damage criteria of 0.5 inches per second. Because vibration generated by Project-related construction activities would be less than the thresholds established for vibration induced building damage, the Project would not result in significant vibration impacts related to construction activities, and no mitigation is required.

Operation

Less Than Significant Impact. Vibration generated onsite during the Project's operation would not be detectable offsite, as battery energy storage systems lack mechanical parts, which could cause vibration generated through friction or impact as parts make contact with each other. In addition, the distance between the Project site and the closest sensitive receptors would help attenuate vibration through spreading loss. As such, impacts related to the generation of excessive groundborne vibration or groundborne noise levels would be less than significant.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Construction and Operation

No Impact. There are no airports or airstrips within two miles of the Project site. The nearest airports are the Burbank Bob Hope Airport and the El Monte Airport, which are approximately 13 miles and 7 miles from the site, respectively. The Project would not subject persons in the area to excessive levels of noise exposure from public or private airports. The Project site is also not considered to be noise sensitive. As such, there would be no impacts associated with exposure of PWP workers to aircraft noise, and no mitigation is required.

4.13.3 MITIGATION MEASURES

There would be no significant impacts pertaining to noise and vibration; therefore, no mitigation measures are required.

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

4.14.1 EXISTING CONDITIONS

The Project site does not support a residential community nor contain residential land uses. There are nearby residential uses surrounding the Project site, to the south, east, and west. The Project site is located within an existing industrial area, specifically within the City's Glenarm Power Plant. The operation of the Project would strongly support improved electrical service reliability for local disadvantaged and underserved communities (DACs). The eastern and western areas of PWP's distribution system are connected by a series of aging (~100 years old) east-west crosstie lines. These lines are becoming increasingly capacity constrained. The proposed BESS system would be located in the western area of PWP's service area—in the area where critical need DACs are located—and in the area of PWP's distribution grid that more acutely suffers from constrained interconnectivity to remaining areas of the city. As a result, the proposed storage system would provide a non-wires solution to improve resiliency in these underserved areas.

4.14.2 IMPACT ANALYSIS

Impact Discussion

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

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

Construction, Operation, and Demolition

Less Than Significant Impact. The Project proposes to install a 25-MW BESS that would charge and store electricity within the City's existing Glenarm Power Plant. Beyond the construction activities, the Project would not result in an increased number of employees on-site as the existing workers at the Glenarm Power Plant would monitor and maintain the facility. The Project does not propose any new housing or businesses that would directly induce population growth. Additionally, while the Project would improve energy infrastructure, it is designed to enhance the efficiency and reliability of the existing power system rather than to extend service to new areas that could indirectly induce growth. Furthermore, the Project site does not contain any existing dwelling units, and no residential uses would occur with the Project. The Project would not remove or modify any existing housing in the area. Therefore, implementation of the Project would have a less than significant impact with respect to population growth, either directly or indirectly, and

would not displace residents or housing such that replacement housing would be required elsewhere.

4.14.3 MITIGATION MEASURES

There would be no significant impacts pertaining to population and housing during Project construction, operation, and demolition activities; therefore, no mitigation measures are required.

4.15 PUBLIC SERVICES	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government 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:		X		
Fire protection?		X		
Police protection?				X
Schools?				X
Parks?				X
Other public facilities?				X

4.15.1 EXISTING CONDITIONS

Public services, including fire and police protection, schools, parks, and libraries, for the Project site are provided by the Pasadena Fire Department, the Pasadena Police Department, the Pasadena Unified School District, the City of Pasadena Parks and Natural Resources Division, and the Pasadena Library. The Los Angeles County Fire Department and the United States Forest Service (USFS) also provide wildfire protection services, particularly related to the Angeles National Forest (ANF).

Fire Protection Services

The Pasadena Fire Department provides fire protection services to the City and operates eight fire stations. Pasadena Fire Station 31, located at 135 South Fair Oaks Avenue, is the nearest fire station 1.0 mile north of the proposed BESS location.

The Los Angeles County Fire Department has automatic aid agreements with 33 cities in the County, including the City of Pasadena, to provide fire protection services during a fire or medical emergency regardless of territory. Thus, City and County firefighters would provide emergency response to the Project in the event of a fire incident.

Police Protection Services

The Pasadena Police Department provides police protection and law enforcement services in the City. The Pasadena Police Department also participates in the California Law Enforcement Mutual Aid Plan and the California Disaster and Civil Defense Master Mutual Aid Agreement, which allow

the City to request mutual aid from and to provide mutual aid to adjacent police protection and law enforcement agencies.

School Services

The Pasadena Unified School District (PUSD) provides school services to the Project area including Madison Elementary School, Washington Middle School, Blair High School and Middle School, and John Muir High School (PUSD 2022).

Parks

The City of Pasadena Parks and Facilities Department has 24 parks within its jurisdiction. Allendale Park, located at 1130 South Marengo Avenue, is approximately 0.28 mile southeast of the Project site.

Other Public Facilities

There are ten City libraries, with the San Rafael Branch Library located nearest the Project site at 1240 Nithsdale Road, approximately 1.6 miles northwest of the Project site.

4.15.2 IMPACT ANALYSIS

Impact Discussion

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

- **Fire protection?**
- **Police protection?**
- **Schools?**
- **Parks?**
- **Other public facilities?**

Fire Protection

Construction, Operation, and Demolition

Less Than Significant With Mitigation. The proposed BESS would not introduce habitable structures that could generate a long-term demand for fire protection services. Although there would be an increase in maintenance activities for the Glenarm BESS, the increase in maintenance trips would be minimal to none. Also, the Project does not propose any new land uses that could generate a new resident population. Thus, the Project would not result in a need for new or physically altered fire protection facilities.

Compliance with applicable regulations would minimize the potential for fire and, therefore, demand for fire protection services. During construction, the use of equipment, electricity, fuels, and other fire sources that may ignite flammable and combustible materials would comply with Pasadena Fire Prevention Code (Chapter 14.28 of the City's Municipal Code), Standard

Specifications for Public Works Construction (Greenbook), and the City's Supplements and Modifications to the Greenbook (see Section 4.17, Transportation). Compliance with these construction practices would avoid an increased demand for fire-protection services during construction.

It is noted that that the BESS can pose risks associated with thermal runaway in the battery cells, which could result in a fire and release of harmful gases (EPC 2022). However, MM PS-1 and MM PS-2 would be implemented to reduce impacts to fire protection services and emergency responders. MM PS-1 would ensure that the BESS is designed and constructed in accordance with best practices and current industry safety standards. The Project would also be constructed in accordance with the Pasadena Fire Prevention Code (Chapter 14.28 of the PMC). MM PS-2 would require the Operator of the BESS to provide emergency response training for the Pasadena Fire Department that is specific to BESS facilities. In addition, MM HAZ-1 in Section 4.9, Hazards and Hazardous Materials, would require development of an Emergency Response and Emergency Action Plan. Implementation of MM PS-1, MM PS-2, and MM HAZ-1 would incorporate adequate planning and training for emergency response services into the project, thereby reducing impacts to fire protection services to a less-than-significant level.

Police Protection

Construction, Operation, and Demolition

No Impact. Project does not involve the development of habitable structures or operational activities that could increase demands for long-term police protection services. The proposed BESS is not a new land use that could attract criminal elements or criminal activities into the area, requiring police protection services.

If any additional resources are required to patrol the area, the City of Pasadena can adjust staffing accordingly. Any increase in demand for police protection services would not result in a need for new or physically altered police facilities. Construction activities may provide opportunities for crime (e.g., theft and vandalism); however, construction areas and staging areas would be screened with 24-foot sound barriers and fenced, which would prevent theft and vandalism during the construction phase. There would be no impact on police protection services, and no mitigation is required.

Schools

Construction, Operation, and Demolition

No Impact. The Project would be in an area designated for General Industrial. The proposed Project would not generate a demand for school services because no residential land uses that may be occupied by households with school-aged children are proposed. Maintenance activities on the BESS facilities would not create a demand for school services. No impact on schools would occur with the Project, and no mitigation is required.

Parks

Construction, Operation, and Demolition

No Impact. The Project would not generate a demand for parks or recreational facilities because the Project does not propose residential development that may be occupied by households that would utilize local parks and recreational areas. There would be no impact on the level of service at City parks; and no mitigation is required.

Other Public Facilities – Libraries

Construction, Operation, and Demolition

No Impact. The Project would not generate a demand for libraries because the Project does not propose residential development that may be occupied by households that would require library services or facilities. No impact on existing library services would occur with the Project.

Long-term operation and maintenance for the Glenarm BESS would be largely similar to services provided for the existing power plant. Maintenance of the Glenarm BESS may increase but would be provided by the same PWP personnel. There would be no need for any physical improvements to existing or construction of new library facilities. No impacts would occur, and no mitigation is required.

4.15.3 MITIGATION MEASURES

MM PS-1 Construction of the BESS shall comply with the latest California Fire Code and NFPA 855 for the installation of lithium-ion battery systems. Adherence to NFPA 855 standards for installation will ensure that the BESS is designed and constructed in accordance with best practices and current industry safety standards at the cell, module, and rack levels to equip battery cells with the appropriate risk mitigation controls and fire barriers. The Project developer for the BESS must provide PWP with documentation that the final design of the BESS has been reviewed and approved by the Pasadena Fire Department prior to installation.

MM PS-2 At least 30 days prior to construction and delivery of the BESS components, the City of Pasadena Water and Power (PWP) shall provide training to the Pasadena Fire Department and to any other emergency responders that may be identified by PWP. The training shall include, but not be limited to:

- Information on the range of hazards present;
- Assessment of conditions inside the BESS and surrounding facility;
- Training fire staff on the methodology for handling hazardous materials and associated fire suppression tactics. The training must explicitly address explosion risks, indicating what gases may accumulate on site and how to detect and ventilate them;
- Training on specific steps to be taken to address hazardous conditions.

Additional trainings for new emergency response staff shall be provided upon request by the Pasadena Fire Department.

4.16 RECREATION	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would/does the project:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	-	-	-	X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	-	-	-	X

4.16.1 EXISTING CONDITIONS

The City of Pasadena Parks and Facilities Department has 24 parks within its jurisdiction. Allendale Park, located at 1130 South Marengo Avenue, is the closest park located approximately 0.28 mile southeast of the Project site. The Project site itself does not contain any recreational facilities and is not used for recreational purposes.

4.16.2 IMPACT ANALYSIS

Impact Discussion

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?

Construction, Operation, and Demolition

No Impact. As discussed in Section 4.14, Population and Housing, the Project would not induce population growth nor result in an increase in the number of employees. As such, the Project would not result in the demand for neighborhood and regional parks or other recreation facilities. The Project would be located within an established power plant with no physical effect on nearby park or other recreational opportunities. The proposed BESS would be entirely contained within the existing Glenarm Power Plant site and would not encroach upon or affect any existing or planned recreational facilities. Additionally, the Project would not necessitate the construction or expansion of recreational facilities because there would not be any direct or indirect increase in residential population or in the number of employees on site. Thus, no impacts would occur to recreational facilities, and no mitigation is required.

4.16.3 MITIGATION MEASURES

There would be no significant impacts pertaining to recreation during Project construction, operation, and demolition; therefore, no mitigation measures are required.

4.17 TRANSPORTATION	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit roadway, bicycle, and pedestrian facilities?			X	
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?				X
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
d) Result in inadequate emergency access?			X	

4.17.1 EXISTING CONDITIONS

Regional Access

Regional access to the Project site is provided by the Foothill Freeway (I-210), which starts at the Golden State Freeway (I-5) in the northern portion of the San Fernando Valley, and generally runs in a southeasterly and easterly direction near the southern base of the San Gabriel and San Bernardino Mountains to the I-10 in Redlands. The I-210 has eight travel lanes as it passes along the southern edge of Devil's Gate Dam.

Additional access may be utilized via non-contiguous portions of the SR-710 and SR-110. SR-710 runs from California Boulevard in Pasadena north to its northern terminus at SR-134 and I-210. The Historic Arroyo Seco Parkway (also known as the Pasadena Freeway or SR-110) is located between the four-level interchange in downtown Los Angeles and Glenarm Street in Pasadena.

Local Roadway Network

The Project site can be accessed via SR-134 or I-210 by exiting Fair Oaks Avenue and traveling southward for approximately 1.6 miles to turn left onto East Glenarm Street.

Four intersections in the City of Pasadena are included in the Congestion Management Program (CMP) monitoring locations. These four intersections include Arroyo Parkway and California Boulevard, Pasadena Avenue, and California Boulevard, Saint Johns Avenue and California Boulevard, and Rosemead Boulevard and Foothill Boulevard. CMP mainline monitoring stations are also located along Freeway Route 110 at Pasadena Avenue, Freeway Route 134 west of San Rafael Avenue, Freeway Route 210 West of Freeway Routes 134 and 710, and Freeway Route 210 at Rosemead Boulevard. The first three intersections are located one mile north of the Project site.

Transit Services

The Los Angeles County Metropolitan Transportation Authority (Metro) provides regional bus and passenger train services in the County. The Gold Line Filmore Station is located approximately 0.5 mile to the north, and the Mission Station is located approximately 0.8 mile to the southwest of the Project site. Additionally, Pasadena Area Rapid Transit System (ARTS) Routes 31, 51, and 52 run along Fair Oaks Avenue and Raymond Avenue in the vicinity of the Project site (Pasadena ARTS 2005).

4.17.2 IMPACT ANALYSIS

Impact Discussion

a) Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit roadway, bicycle, and pedestrian facilities?

Construction, Commissioning, and Demolition

Less than Significant Impact. The City of Pasadena's *Transportation Impact Analysis Current Practice and Guidelines* sets forth the City's methodology for determining the level of traffic analysis and review required for development projects (City of Pasadena 2015c). The Guidelines are applicable to projects that would develop residential units or commercial square footage, and do not have a requirement for utility/infrastructure projects. As a utility project that would not generate a new population or long-term traffic impacts, the City's *Transportation Impact Analysis Current Practice and Guidelines* is not applicable to the Project.

Construction and demolition/commissioning activities would generate new vehicle trips from construction equipment and construction crews coming to the site, trucks bringing in building materials, trucks hauling excavated soils and other debris for off-site disposal, and construction equipment leaving the site after each construction phase. Construction and demolition/commissioning activities for the Project would occur sequentially. Maintenance trips associated with operation of the proposed BESS would occur once every 3 to 12 months. These infrequent trips would not impact the circulation system.

Construction and maintenance workers, equipment delivery vehicles, and haul trucks are expected to access the site via the I-210 or SR-134 at the Fair Oaks or Lake Avenue off-ramps in addition to utilizing non-contiguous portions of the SR-710 and SR-110. Trucks would access the site using Fair Oaks Avenue or Lake Avenue exits and designated roadways, in accordance with the PMC Section 10.52, Truck Routes.

Although the Project would result in limited long-term maintenance related trips, the Project would result in short-term construction-related vehicle and truck trips. Construction activities are required to be conducted in accordance with the Standard Specifications for Public Works Construction (Greenbook) and the City's Supplements and Modifications to the Greenbook to maintain access to all parcels in and near the construction sites. This includes notification of residents and businesses affected by the road work; utility agencies with facilities in the area; the Pasadena Fire and Police Departments; and other emergency service providers. The Greenbook also requires that access be made available at the end of each workday. Additionally, temporary traffic control devices and methods used during construction would be required to conform to the requirements of the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD) and the California Supplement to the MUTCD for traffic control during construction activities. The contractor must provide traffic tapers, traffic control devices, barricading, and signs necessary to ensure driver awareness and safety in construction areas and to assist fire and law enforcement personnel.

The construction, commissioning, and demolition itself would occur entirely within the proposed Project site and would not impact a bicycle or pedestrian facility. Additionally, there would be no impact on the use of mass transit systems with the Project because the Project area is not directly served by a public transportation system and the Project would not create a new land use that could change existing demands for mass transit. The Project would not alter any existing transit, bicycle, or pedestrian facilities, nor would it preclude future improvements to these facilities. As such, the proposed Project would not conflict with adopted policies, plans, or programs regarding

public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. There would be a less than significant impact, and no mitigation is required.

Operation

No Impact. Maintenance trips associated with operation of the proposed BESS would occur once every 3 to 12 months. Existing employees would maintain the site, and the number of employees would not increase with the operation of the BESS. Therefore, no substantial increase in traffic or traffic-related impacts would occur due to operation and maintenance activities.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Construction, Commissioning, and Demolition

No Impact. Section 15064.3(b)(1) of the State CEQA Guidelines refers to evaluating transportation impacts using VMT for land use projects. It should be noted that the proposed Project is a utility project involving short-term, construction-related vehicle trips, and would not generate any long-term change in traffic conditions. On November 3, 2014, the City of Pasadena City Council adopted a resolution to replace the City's transportation performance measures with five new Transportation Performance Measures and new thresholds of significance to determine transportation impacts under CEQA. The new performance measures and CEQA thresholds are consistent with the City's adopted General Plan and SB 743 and include VMT per capita, vehicle trips (VT) per capita, proximity and quality of bicycle network, proximity and quality of transit network, and pedestrian accessibility. The new measures support the City's vision of creating a community where people can circulate without cars, which relies upon an integrated multimodal transportation system that provides choices and accessibility for everyone in the City. Per the *Transportation Impact Analysis Current Practice and Guidelines*, any project which is expected to generate fewer than 300 new permanent daily trips are considered exempt, is not expected to generate any impacts, and does not require a full traffic analysis (City of Pasadena 2015c). As stated previously, maintenance trips associated with the proposed BESS would occur once every three months or once every 12 months, which is below the threshold of 300 daily trips. Furthermore, construction-related vehicle trips would be short-term (i.e., would not include permanent, daily trips) and would not substantially affect VMT in the area. Therefore, no further traffic analysis is required to comply with the City's *Transportation Impact Analysis Current Practice and Guidelines*. As such, the Project would not conflict or be inconsistent with Section 15064.3(b) of the State CEQA Guidelines. No impact would occur, and no mitigation is required.

Operation

No Impact. Maintenance trips associated with operation of the proposed BESS would occur once every 3 to 12 months. Existing employees would maintain the site, and the number of employees would not increase with the operation of the BESS. Therefore, no substantial increase in traffic or traffic-related impacts would occur due to operation and maintenance activities.

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

Construction and Demolition

No Impact. The Project does not propose any modifications to the existing circulation system in the Project's vicinity. The Project would be constructed entirely within the existing Glenarm Power

Plant site and would not alter any roadways or introduce any new access points. Further, traffic patterns and the types of vehicles traveling along the roads near the Project site would not be affected. Therefore, no impact would occur related to hazards due to a design feature or incompatible uses, and no mitigation is required.

Operation

Less Than Significant Impact. The proposed Project would not result in hazards due to a design feature, as no design changes are anticipated besides installation of the BESS and would not create incompatible uses on the site and within the adjacent area. The Project is similar in function to the existing site and similar ingress and egress would be provided. Maintenance trips associated with operation of the proposed BESS would occur once every 3 to 12 months. Existing employees would maintain the site, and the number of employees would not increase with the operation of the BESS. Therefore, the Project would not cause hazards or create incompatible uses; no mitigation is required.

d) Would the project result in inadequate emergency access?

Construction, Commissioning, and Demolition

Less than Significant Impact. Construction activities associated with the Project would not result in obstruction of nearby roadways, including Glenarm Street, Fair Oaks Avenue, State Street, and Arroyo Seco Parkway (SR-110). Compliance with the Greenbook and the City's Supplements and Modifications to the Greenbook regarding maintenance of emergency access at all times and the use of a flag person to direct traffic, as necessary, would ensure that impacts to surrounding roadways would be less than significant. Temporary traffic control devices are also required in conformance with the MUTCD and the California Supplement to the MUTCD.

In addition, MM HAZ-1 would require the Project to have an Emergency Response and Emergency Action Plan, which provides for the safety of surrounding communities and emergency responders and establishes coordination and notification procedures between the facility and local emergency management agencies (see Section 4.9, Hazards and Hazardous Materials, for the full text of the measure). Therefore, compliance with the City's requirements for Public Works construction activities (i.e., Greenbook), and coordination with emergency responders would ensure that the Project would have a less than significant impact, and no mitigation is required.

Operation

Less Than Significant Impact. Once operational, the Project would have no impact on access or movement to emergency service providers. Maintenance trips associated with operation of the proposed BESS would occur once every 3 to 12 months. Existing employees would maintain the site, and the number of employees would not increase with the operation of the BESS. Therefore, maintenance of the proposed Project would have a less than significant impact on emergency vehicle access and movements.

4.17.3 MITIGATION MEASURES

There would be no significant impacts pertaining to transportation during Project construction, commissioning, and operation activities; therefore, no mitigation measures are required.

4.18 TRIBAL CULTURAL RESOURCES	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less than Significant Impact**	**No Impact**
Would the project:				
a) 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:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)? or	-	-	-	X
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code 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?	-	X	-	-

4.18.1 EXISTING CONDITIONS

This section evaluates the Project's potential for any adverse effects on Tribal Cultural Resources (TCRs). A TCR, as defined in Section 21074 of the Public Resources Code, is a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to California Native American tribe.

Prior to the arrival of the Spanish, the Los Angeles Basin and Channel Islands were occupied by the Tongva. The Tongva lived in large, semi-permanent village established in the fertile lowlands along rivers and streams and in sheltered areas along the coast (Kroeber 1925). Spaniards arrived in California by 1542 when explorer Juan Rodriguez Cabrillo made a temporary landfall at the Chumash village of *Sisolop* (present-day Ventura) (Grant 1978). He was the first of several early explorers, representing several nations, to explore the Alta California coast. However, the end of the prehistoric era in Southern California is marked by the arrival of the Gaspar de Portolá overland expedition from New Spain (Mexico) and the founding of the first Spanish settlement at San Diego on July 16, 1769 (Johnston 1962).

Two Franciscan missions were established in the Los Angeles Basin: Mission San Gabriel Arcángel and Mission San Fernando Rey de España*,* which were founded in September 1771 and in 1797, respectively. The missions were charged with assimilating the indigenous people in their areas to Spanish lifeways. The Tongva became known as the Gabrieleño, a term referring to all indigenous people served by the local mission regardless of their cultural affinity. However, the native population was decimated by the introduction of European diseases, such as measles and smallpox, for which they had no immunity. After 1810, mission populations declined faster than they could be replenished.

In addition to spreading Catholicism, Spain controlled land by issuing large land grants to affluent political leaders. California was under Spanish control until the Mexican Revolution in 1821.

Mexico's independence from Spain in 1822 brought the Mexican Period to California. Mexico secularized the missions in 1833 and expanded on the Spanish practice of granting large tracts of ranch land to soldiers, civil servants, and pioneers (Cleland 1966). Secularization of the missions, planned under the Spanish, was greatly accelerated by the Mexican government. Plans to provide land, training, and living quarters for the Native American population never developed and the mission lands were soon under the control of a relatively few influential Mexican families.

As presented above in Section 4.5, Cultural Resources, there are no known prehistoric and/or historic-era archaeological resources within approximately ½-mile of the Project site, and no documented archaeological resources have been recorded on the Project site. A SLF search was completed by the NAHC and was received on November 29, 2022. The result of the SLF search conducted through the NAHC was positive. The NAHC recommended contacting the Gabrieleño Band of Mission Indians–Kizh Nation for more information. The NAHC also recommended that the lead agency contact tribes that are traditionally and culturally affiliated with the geographic area to comply with both Assembly Bill (AB) 52. The City subsequently contacted the tribes listed on the City's AB 52 consultation list. The City received one request from the Gabrieleño Band of Mission Indians–Kizh Nation for government-to-government consultation. In lieu of an in-person meeting, the Gabrieleño Band of Mission Indians–Kizh Nation Tribe expressed their concerns via an email dated July 24, 2023. The SLF search results can be found in Appendix B, Cultural and Tribal Cultural Resources Data, of this IS/MND.

4.18.2 IMPACT ANALYSIS

Impact Discussion

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:

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

Construction, Operation, and Demolition

No Impact. There are no tribal cultural resources on the Project site that are currently listed, individually or collectively, in either the NRHP or the CRHR. Therefore, there would be no impacts to documented tribal cultural resources, and no mitigation is required.

ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code 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?

Construction, Operation, and Demolition

Less Than Significant with Mitigation. As discussed above in Section 4.5 of this IS/MND, there are no known prehistoric and/or historic-era archaeological resources within approximately ½-mile of the Project site, and no documented archaeological resources have been recorded on the

Project site. Nevertheless, it is likely that Native Americans traversed through the Project site in prehistoric times, as suggested by the information provided by the Gabrieleño Band of Mission Indians–Kizh Nation. However, it should be noted that the Project site and surrounding areas has been significantly developed through landscaping and hardscaping. As such, potential archaeological resources buried beneath the site are likely to be heavily disturbed. While unlikely, there is always the possibility that buried intact archaeological resources, such as hearth features (roasting pits) and middens (i.e., shellfish remains and other discarded food items) associated with Tongva village sites, historic-era archaeological features (i.e., trash middens, foundations) related to Spanish and Mexican Periods ranching, and human remains could be present in a subsurface context on the Project site.

There would be soil excavations of up to 5-foot deep at the site in a variety of locations. Additionally, steel pilings would be installed at a depth of 20 or 30 feet. 5 feet and steel pilings would be installed up to 20 or 30 feet in depth, with Project implementation. Excavations may encounter tribal cultural resources dating to the prehistoric periods of Southern California's Holocene epoch. Given the lack of evidence of known resources at the Project site, the City's assessment is that the impacts would be less than significant. However, even though impacts would be less than significant, implementation of MM TCR-1 and MM TCR-2 would further recognize the Tribe's concerns during construction activities.

MM TCR-1 requires that the City provide written notification to the Native American representatives from the Gabrieleño Band of Mission Indians – Kizh Nation indicating the date and time of the commencement of earthwork activities. The representatives from the Gabrieleño Band of Mission Indians – Kizh Nation ("tribal representative") would be provided reasonable access to the Project site in a manner that does not interfere with the earthwork activities. Tribal representatives, at their own expense, and in a manner that does not interfere with earthwork activities, would be allowed to monitor subsurface ground disturbing construction activities below the ground surface. If any tribal cultural resources are identified during the monitoring and evidence is presented that the discovery proves to be potentially significant under CEQA, as determined by City's consulting Project Archaeologist, they will collaborate with the Gabrieleño Band of Mission Indians – Kizh Nation ("tribal representative") and determine the appropriate actions (i.e. design and plan) for explorations and/or recovery. The City would bear the cost of the design and plan. Additionally, MM TCR-2 requires that in accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found within the Project site, the County Coroner shall be immediately notified of the discovery. In accordance with California Public Resources Code (PRC) 5097.98, the NAHC must immediately notify those persons it believes to be the MLD of the deceased Native American. Funerary objects, called associated grave goods in PRC 5097.98, are also to be treated according to this statute. The MLD shall complete his/her inspection within 48 hours of being granted access to the site. The designated MLD shall then determine, in consultation with the property owner, the disposition of the human remains. It is then at the MLD's discretion which Tribal entities are consulted with regarding the treatment of human remains. As such, impacts to tribal cultural resources would be less than significant with implementation of MM TCR-1 and MM TCR-2.

4.18.3 MITIGATION MEASURES

MM TCR-1 Prior to the commencement of earthwork activities, the City shall provide written notification to the Native American representatives from the Gabrieleño Band of Mission Indians – Kizh Nation indicating the date and time of the commencement of earthwork activities. The representatives from the Gabrieleño Band of Mission Indians – Kizh Nation ("tribal representative") shall be provided reasonable access to the Project site in a manner that does not interfere with the earthwork activities. Tribal representatives, at their own expense, and in a manner that does not

interfere with earthwork activities, shall be allowed to monitor subsurface ground disturbing construction activities below the ground surface. If any tribal cultural resources are identified during the monitoring and evidence is presented that the discovery proves to be potentially significant under CEQA, as determined by City's consulting Project Archaeologist, it will collaborate with the Gabrieleño Band of Mission Indians – Kizh Nation ("tribal representative") and determine the appropriate actions (i.e. design and plan) for explorations and/or recovery. The City shall bear the cost of the design and plan.

MM TCR-2 In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found within the Project site, the County Coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains, and no less than 150 feet from the discovery, shall occur until the County Coroner has determined, within two working days of notification of the discovery, the appropriate treatment and disposition of the human remains. To prevent any further disturbance, the remains shall be kept confidential and secure until treatment is complete. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she shall contact, by telephone, the Native American Heritage Commission (NAHC) in Sacramento within 24 hours, and California Public Resources Code (PRC), Section 5097.98 shall be followed. In accordance with PRC 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendant (MLD) of the deceased Native American. Funerary objects, called associated grave goods in PRC 5097.98, are also to be treated according to this statute. The MLD shall complete his/her inspection within 48 hours of being granted access to the site. The designated MLD shall then determine, in consultation with the property owner, the disposition of the human remains. It is then at the MLD's discretion which Tribal entities are consulted with regarding the treatment of human remains.

4.19 UTILITIES AND SERVICE SYSTEMS	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	-	-	X	-
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	-	-	X	-
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	-	-	X	-
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	-	-	X	-
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	-	-	X	-

4.19.1 EXISTING CONDITIONS

PWP is responsible for providing water within its service area and ensuring that the delivered water quality meets applicable California health standards for drinking water. PWP's service area is located within the northwestern portion of the San Gabriel Valley in Los Angeles County, encompassing approximately 23 square miles, and is slightly larger than the legal boundary of the City of Pasadena. PWP services portions of unincorporated areas of Altadena, east Pasadena, and San Gabriel. The service area is bordered on the north by Altadena and the Angeles National Forest, on the east by Arcadia and Sierra Madre, on the south, by South Pasadena and San Marino, and on the west by Los Angeles, Glendale, and La Cañada Flintridge.

As the proposed Project is located within the City of Pasadena, PWP would be the water provider for the Project. Water is supplied to the City from three primary sources, including local groundwater from the Raymond Basin, surface water diversions, and purchase of imported water. Approximately 32 percent of PWP supply is groundwater from the Raymond Groundwater Basin and is pumped out of 16 deep wells located throughout Pasadena, and approximately 67 percent of PWP water is imported from Metropolitan Water District (MWD), consisting of a blend of water from Northern California and the Colorado River. The remaining one percent is purchased from neighboring water agencies that combine surface water and groundwater. There are an additional three water resources planned over the 2035 timeframe, including recycled water, Devil's Gate surface diversion, and a groundwater storage program using MWD replenishment water which will be implemented, as needed.

4.19.2 IMPACT ANALYSIS

Impact Discussion

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?

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

Construction and Operation

Less than Significant Impact. No restroom or other wastewater generating facilities are proposed as part of the Project. During construction, portable toilets would be provided at the site for the construction crew, and these portable toilets would be regularly cleaned, and their contents disposed of off-site by an outside company. Wastewater from these portable toilets would not exceed Los Angeles RWQCB's treatment requirements. Also, an insignificant amount of wastewater would be generated by these portable toilets, and the Project would not result in the need for new or expanded treatment facilities. Capacity at existing wastewater treatment plants would not be exceeded during construction or operation of the proposed Project. Additionally, implementation of the Project would not result in the relocation or construction of additional or expanded water infrastructure.

As stated previously, the Project proposes installing a 25-MW BESS within the City's existing Glenarm Power Plant. The proposed BESS system would connect to the current power system and involve the storage and charging of electricity. More specifically, existing electrical connections at the Glenarm site would be modified to support the BESS system deployment. The system would rely on a separate substation, the TMG Receiving Station, to connect to the CAISO system. The TMG is an existing 34.5 kilovolt (kV) substation with 280 MW capacity; it serves as PWP's main source of power and is located at 3101 East Foothill Boulevard in the City of Pasadena. All needed grid tie/interconnection lines to the power grid and to PWP's 34.5 kV distribution system are already available at the BESS site, although the BESS would require a new on-site connection to these existing lines, with associated auxiliary and supporting systems. No demand for natural gas or telecommunication services would be required with implementation of the Project. It is possible that other utilities, such as gas, cable, water, and telephone utilities may exist in the subsurface in the vicinity of the Project site. Therefore, prior to drilling, an Underground Service Alert ticket will be requested by PWP or the contractor to clear the proposed Glenarm BESS location of underground utilities. This practice would ensure that existing utility infrastructure is not inadvertently damaged during construction. There would be a less than significant impact, and no mitigation is required.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Construction, Operation, and Demolition

Less than Significant Impact. During construction, the Project would require water for the control of fugitive dust during grading and excavation activities. A water truck would come to the construction site, with water obtained from off-site sources, as needed. The amount of water required for dust control would be minimal and temporary. During operation, the Project would

involve the charging and storage of electricity and would not result in additional demand for water supply. The BESS does not require water for its operation, and no permanent water connections are proposed. As such, impacts to water-related facilities would be less than significant, and no mitigation would be required.

d) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Construction and Demolition

Less Than Significant Impact. Construction is estimated to generate approximately 15 truckloads of solid waste (Botkin 2022). The City is within the permitted jurisdiction of Scholl Canyon Landfill, which is located at 7721 North Figueroa Street in Los Angeles. The Scholl Canyon Landfill has a permitted daily capacity of 3,400 tons per day (7,025 cubic yards [cy]) and has approximately 9,900,000 cy of remaining capacity (CalRecycle 2022). There would be sufficient landfill capacity for construction waste from the Project and impacts would be less than significant.

Operation of the Project would not generate an appreciable volume of solid waste. The nominal volume of operational solid waste generation would not exceed the daily or remaining capacity of Scholl Canyon Landfill, or the Class III (i.e., hazardous material) landfill used to dispose of any materials that are characterized as hazardous after appropriate laboratory testing. There would be less than significant impacts, and no mitigation is required.

Operation

Less Than Significant. During operation, the proposed Project would be unstaffed and would not generate notable quantities of solid waste. Additionally, existing employees would maintain the site, and the number of employees would not increase with the operation of the BESS. Therefore, the impact of solid waste disposal on local infrastructure and landfill capacity would be less than significant.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Construction, Operation, and Demolition

Less Than Significant Impact. In 1992, the City adopted the "Source Reduction and Recycling Element" to comply with the California Integrated Waste Management Act. This act requires that jurisdictions maintain a 50 percent or better diversion rate for solid waste. The City implements this requirement through Section 8.61 of the PMC, which establishes the City's "Solid Waste Collection Franchise System". As described in Section 8.61.175, each franchisee is responsible for meeting the minimum recycling diversion rate of 75 percent for construction and demolition debris and 60 percent for other solid waste on a monthly and annual basis. The Project would be required to comply with the applicable solid waste franchise's recycling system and would therefore meet local and State solid waste diversion regulations. In addition, the Project would be required to comply with the City's Construction and Demolition Ordinance (Section 8.62 of the PMC), which includes preparation of a Construction Waste Management Plan for new structures over 1,000 square feet. The Construction Waste Management Plan would detail how the Project would divert construction and demolition materials from landfills and meet the required diversion rates. As such, the Project would comply with federal, State, and local regulations related to solid waste. There would be a less than significant impact, and no mitigation would be required.

4.19.3 MITIGATION MEASURES

There would be no significant impacts pertaining to utilities and service systems during Project construction, operation, and demolition activities; therefore, no mitigation measures are required.

4.20 WILDFIRE	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
If located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	-	-	-	X
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	-	-	-	X
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	-	-	-	X
c) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	-	-	-	X

4.20.1 EXISTING CONDITIONS

The California Department of Forestry and Fire Prevention's (CALFIRE's) prepares Fire Hazard Severity Zone (FHSZ) maps for State Responsibility Area (SRA) and Local Responsibility Areas (LRA) considering many factors such as fire history, existing and potential fuel (natural vegetation), flame length, blowing embers, terrain, and typical weather for the area (BOF 2022).

According to the Fire Hazard Severity Zones Viewer maintained by CALFIRE, the Project site is not located within a VHFHSZ in an SRA (CALFIRE 2024). However, the Project is located within a LRA (BOF 2022). The nearest designated VHFHSZ is located 0.8 mile west of the Project site (CALFIRE 2011). The Project site is in an urbanized area and is surrounded by developed land uses.

4.20.2 IMPACT ANALYSIS

Impact Discussion

a) If located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

b) If located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c) If located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d) If located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Construction, Operation, and Demolition

No Impact. As stated above, the Project site is not located within or near any areas designated as a VHFHSZ in an SRA. However, the Project is located within a LRA (BOF 2022). The nearest VHFHSZ-designated LRA is located approximately 0.8 miles west of the Project site (CALFIRE 2011). Given the Project's location at an existing power plant site within an urbanized area, the Project would not exacerbate the risk of a wildfire, nor would it create risks associated with post-fire runoff, slope instability, or drainage changes. Construction and operation of the Project at the Glenarm Power Plant would not impair an adopted emergency response or evaluation plan. Furthermore, the proposed BESS would be designed and constructed in accordance with all applicable fire safety regulations and standards, including NFPA 855. There would be no impacts related to wildfires, and no mitigation is required.

4.20.3 MITIGATION MEASURES

There would be no significant impacts associated with wildfire during Project construction, operation, and demolition activities; therefore, no mitigation measures are required.

4.21 MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
Does the project:				
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 rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	-	X	-	-
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	-	-	X	-
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	-	X	-	-

4.21.1 IMPACT ANALYSIS

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 rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

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Less than Significant with Mitigation. As discussed above in Section 4.4, Biological Resources, the Project does not have the potential to impact special status biological species, except for the need to avoid impacts to birds during nesting season. Mitigation measure (MM) BIO-1, regarding the seasonal avoidance of Project construction activities, would reduce impacts to a less than significant level.

As discussed, in Section 4.5, Cultural Resources, Section 4.7, Geology and Soils, and Section 4.18, Tribal Cultural Resources, the Project would lead to the disturbance of soils that could contain cultural, paleontological, and tribal cultural resources. Mitigation measures including MM CULT-1, MM GEO-1, and MM TCR-1 have been developed to reduce potential environmental impacts on cultural, paleontological, and tribal cultural resources to less than significant levels.

Implementation of the mitigation measures and adherence to regulations would ensure that the Project does not degrade the quality of the environment; does not substantially reduce the habitat of fish or wildlife species; does not cause a fish or wildlife population to drop below self-sustaining levels; does not threaten to eliminate a plant or animal community; does not reduce the number or restrict the range of Rare or Endangered plant or animal; and does not eliminate important examples of the major periods of California history or prehistory. Impacts would be less than significant with mitigation.

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)?

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Less than Significant Impact with Mitigation. Project impacts would be cumulatively considerable if the effects of the Glenarm BESS Project were to combine with an effect of another project to create a significant impact. As identified in the previous analysis provided in Section 4.0 of this IS/MND, all project-level impacts have been determined to be less than significant or mitigated to a level considered less than significant. Specifically, the following mitigation measures as previously identified throughout this document would apply to reduce the proposed Project's impacts to less than significant levels: MM BIO-1 previously identified in Section 4.4, Biological Resources; MMs CULT-1 and CULT-2 previously identified in Section 4.5, Cultural Resources; MM GEO-1 previously identified in Section 4.7, Geology and Soils; MMs HAZ-1 and HAZ-2 previously identified in Section 4.9, Hazards and Hazardous Materials; MMs PS-1 and PS-2 previously identified in Section 4.15, Public Services; and MMs TCR-1 and TCR-2 previously identified in Section 4.18, Tribal Cultural Resources. Thus, the proposed Project's impacts would be limited and its contribution to cumulative impacts would not be cumulatively considerable. Thus, the proposed Project's impacts would be limited and its contribution to cumulative impacts would not be cumulatively considerable.

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

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Less than Significant with Mitigation. Based on the preceding analysis provided in Section 4.0, Environmental Assessment, implementation of the proposed Project with adherence to applicable regulatory requirements, would have no impact or less than significant impacts for the following environmental topics: Aesthetics, Agriculture and Forest Resources, Air Quality, Energy, Greenhouse Gas Emissions, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Recreation, Transportation, Utilities and Service Systems, and Wildfire.

The proposed Project's impacts on the following topics would be less than significant with the implementation of project-specific mitigation measures: Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Public Services, and Tribal Cultural Resources. All impacts would be less than significant after mitigation.

Thus, the Proposed Project would not result in environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly, with the implementation of mitigation measures. All impacts would be less than significant after mitigation.

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