

4. PROJECT DESCRIPTION

4.1. Project Title

Greenbark 30 Battery Energy Storage Project (Project or proposed Project) (Case numbers 24-0007-DP, 24-0002-ORD, 24-0002-CUP, 24-0001-GPA, and 24-0002-DRB)

4.2. Lead Agency Name and Address

City of Goleta
130 Cremona Drive, Suite B
Goleta, CA 93117

4.3. Lead Agency Contact Person and Phone Number

Travis Lee, Project Manager
Associate Planner
Phone: 805-562-5528
E-mail: tlee@cityofgoleta.gov

4.4. Project Sponsor's Name and Address

Scale Microgrids Solutions Operating, LLC (Scale Microgrids, LLC)
51-53 S Broad Street
Ridgewood, NJ 07450

4.5. Project Location

The Greenbark 30 Battery Energy Storage Project would be located on a 2.1-acre vacant undeveloped site located at the northern terminus of Viajero Drive in western Goleta, California in Santa Barbara County. Please refer to Figure 4-1 and Figure 4-2 for locational information. The property is adjacent to the existing Ellwood Generating Station (EGS) and is accessed from the northern terminus of Viajero Drive, approximately one-quarter mile north of Hollister Avenue. The Assessor's parcel number (APN) for the site is 079-210-053.

4.6. General Plan Designation

The parcel's General Plan land use designation is General Commercial (C-G). The Applicant is requesting a General Plan Amendment to Office and Institutional (I-OI).

4.7. Zoning

The Applicant is requesting a rezone of the subject parcel from General Commercial (CG) to Office Institutional (OI). The Project site parcel and adjacent parcels to the east, south, and southeast are zoned CG. The EGS parcel adjacent to the west of the site, the Ellwood Elementary School approximately 500 feet to the east, and the Union Pacific Railroad (UPRR) adjacent to the north are zoned Public/Quasi Public (PQ). The Hideaway residential neighborhood west of Las Armas Road, approximately 350 feet to the west, is zoned Planned Residential (RP). Approximately 500 feet to the south, south of Hollister Avenue, is the Ellwood Mesa Open Space and Sperling Preserve, which is zoned as Open Space/Passive Recreation

(OSPR). To the southwest, adjacent to the preserve, is a residential development that is zoned as Single Family Residential (RS-7), with a minimum lot area of 7,000 square feet¹.

4.8. Surrounding Land Uses and Setting

Surrounding uses to the north include Union Pacific Railroad (UPRR) rail line right-of-way and an associated earthen berm, U.S. Interstate Highway 101 (US 101), and residential neighborhoods north of the highway. To the east is a commercial parking lot and east of that the Ellwood Elementary School. The Mariposa at Ellwood Shores elder care facility is located to the southeast across Viajero Drive. To the south is a vacant commercial parking lot and Hollister Avenue. To the west are the Ellwood Generating Station (EGS)², Las Armas Road, and the Hideaway residential neighborhood. Figure 4-2 illustrates the City of Goleta's General Plan Land Use designations.

A 64-foot-wide undeveloped private road easement, referred to as Campesino Drive, runs east-west between Las Armas Road and the northern terminus of Viajero Drive. This easement is on the adjacent parcel to the south (vacant commercial parking lot), and abuts the Project site parcel's southern border.

Land uses south of Hollister Avenue include Sandpiper Golf Course, The Bluffs residential neighborhood, and Ellwood Mesa Open Space and Sperling Reserve.

The Project site parcel is generally flat, sloping gently from north to south. An informal dirt footpath has been established along the eastern portion of the Project site parcel from Viajero Drive.

¹ Based on information in the City of Goleta's New Zoning Ordinance at: <https://nebula.wsimg.com/b610c2856bef06a48b0e5e8f256c1ed0?AccessKeyId=8B11547F66E8794DD29E&disposition=0&alloworigin=1>

² In 2024, Rockland Capital acquired ownership of the EGS facility from GenOn Holdings, LLC.

Figure 4-1. Greenbark 30 Battery Energy Storage Project Regional Vicinity

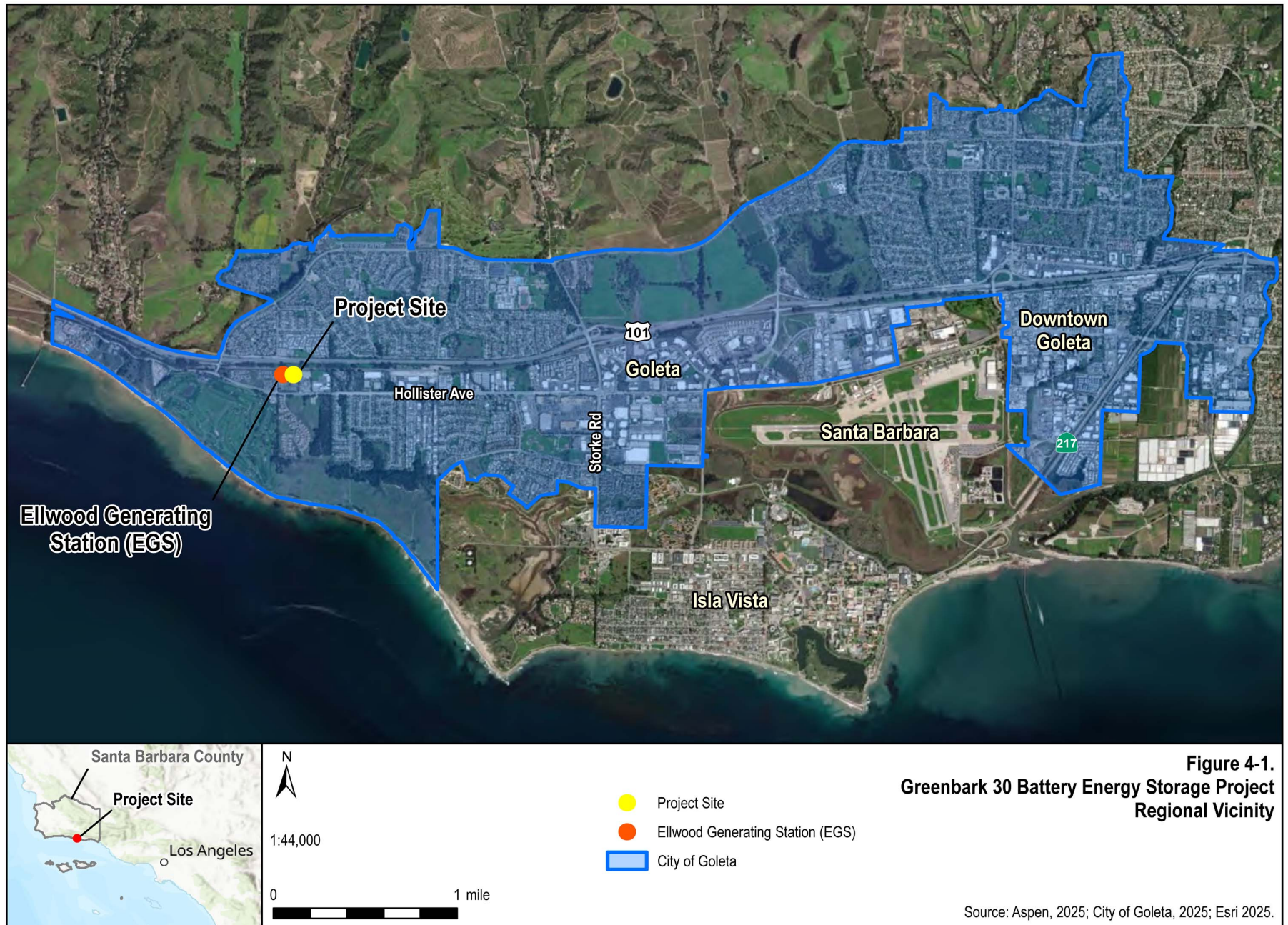


Figure 4-2. Greenbark 30 Battery Energy Storage Project Site

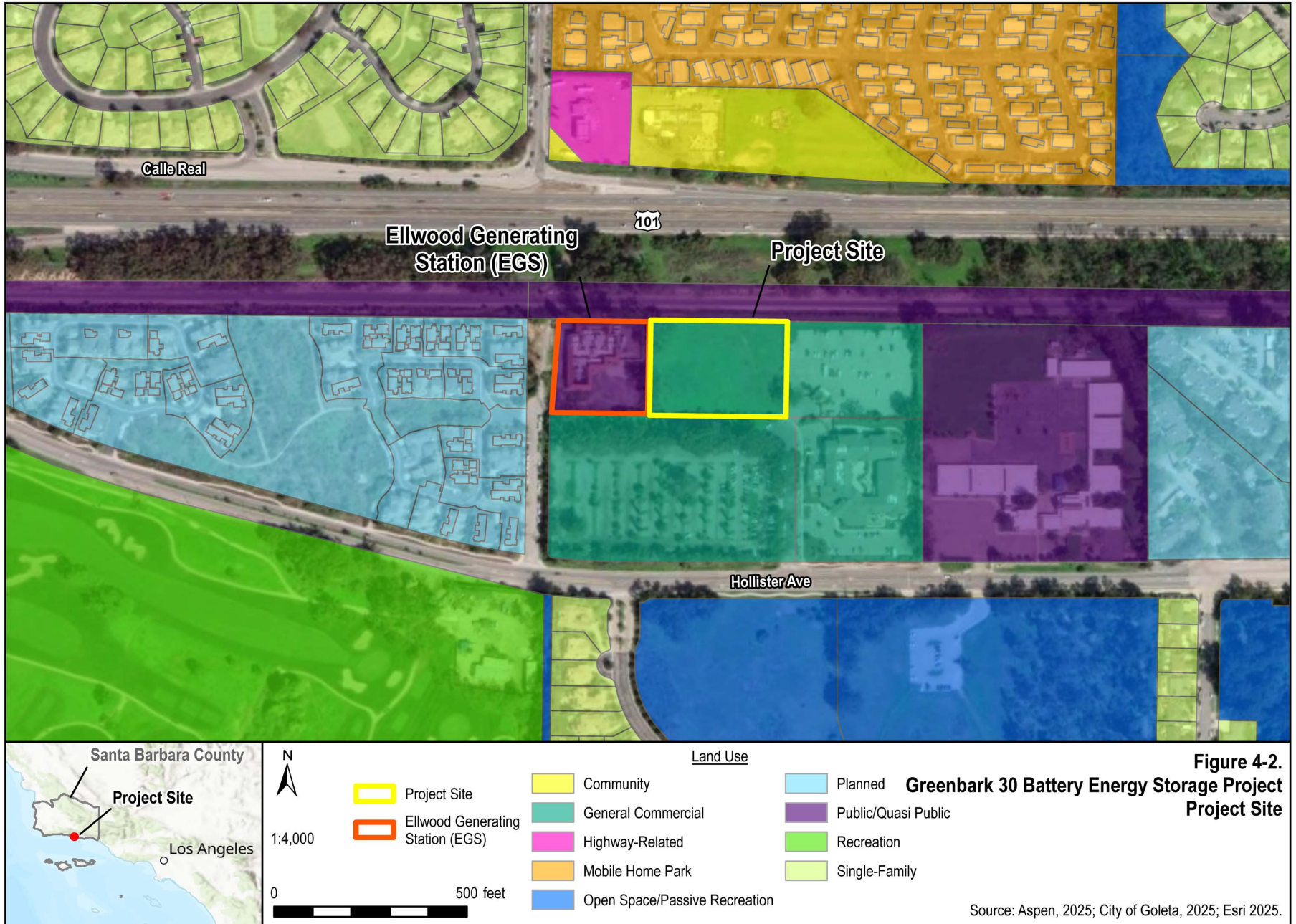


Figure 4-2. Greenbark 30 Battery Energy Storage Project Project Site

Source: Aspen, 2025; City of Goleta, 2025; Esri 2025.

4.9. Description of the Project

4.9.1. Overview

The proposed Greenbark 30 Battery Energy Storage Project, proposed by Scale Microgrids, LLC (Applicant), would be a battery energy storage system (BESS) with an output power of 30-megawatts (MW) and a storage capacity of 120-megawatt hours (MWh).³ The BESS would be a Tesla Megapack 2 XL System, consisting of Megapack 2 XL units (Megapacks, or battery units) and a Tesla System Controller. The Megapacks and Tesla System Controller are modular ground-mounted enclosures. The development footprint would be within the central portion of the 2.1-acre Project site parcel, within an interior perimeter road. The BESS operational area would consist of the interior perimeter road, BESS equipment, and a perimeter fence.

A minimum 15-foot setback would be provided along the east, north, and west boundaries. In the southern portion of the parcel, the proposed Project has been designed to include a 50-foot buffer setback between a seasonal wetland feature located along the southern edge of the parcel and the BESS fence line. Landscape visual screening is proposed along the southern, northern, and eastern perimeters of the BESS facility, and ground level landscaping is proposed on the western perimeter.

A stormwater retention basin would be constructed on the south (downslope) portion of the BESS facility. Landscape design and plant selection would be appropriate for the Project site and consistent with the City of Goleta's urban design standards. The final layout may vary pending City of Goleta Design Review and final design.

Battery energy storage units would be charged from the electrical grid and would discharge as a California Independent System Operator (CAISO) market participant. An interconnection application was approved by Southern California Edison (SCE) and BESS interconnection studies are underway. It is anticipated that the BESS would interconnect to the existing SCE 66-kilovolt electrical transmission line along Las Armas Road.

The battery energy storage facility would be operated independently from the EGS. Demand for electric capacity from EGS is controlled by CAISO in coordination with the California Public Utilities Commission (CPUC) and SCE. The duration of potential continued demand is not known.

In June 2021, the CPUC approved a decision ordering utilities to procure 11.5 gigawatts of new zero-emitting electricity resources to come online between 2023 and 2026. Battery energy storage will be needed to achieve California's clean energy goals. The Project would supplement SCE's power supply by receiving electricity through the existing power grid system, including power generated from solar and wind sources, and storing the energy until it is needed during peak demand periods. The BESS facility would also support electricity grid resiliency in the event of an emergency or disaster and would replace electricity generation capacity that will be lost when the EGS is retired. The EGS peaking plant is currently used to supplement the region's peak power demand requirements.

4.9.2. Project Objectives

The objectives of the Greenbark 30 Battery Energy Storage Project are to:

- Assist California in achieving clean energy goals by storing energy produced by solar and wind sources until it is needed during peak demand periods;
- Increase electrical grid reliability and support electrical grid resiliency in the event of an emergency or disaster;

³ The output power and storage capacity are calculated at the Point-of-Interconnection.

- Replace electricity generation capacity that will be lost when the EGS is retired;
- Support the distribution and transmission grid by offering voltage, frequency, and capacity services; and
- Reduce outages due to distribution system overloads by providing additional capacity at localized distribution points.

4.9.3. Project Components

The Project involves two major components: the Battery Energy Storage System and a 66 kilovolt (kV) line to interconnect to the existing SCE substation located within the EGS switchyard.

4.9.3.1. Battery Energy Storage System

A BESS is an electrochemical system that is charged with power from the grid or a generating station and then discharged later, to provide electricity or other grid services when needed. Battery energy storage systems work by converting the alternating current (AC) power to direct current (DC) power and storing it as electrochemical energy. Battery energy storage can also directly store DC power generated by solar panels or other DC power sources and storing it as DC energy and then converting it to AC power for distribution into the power grids at a later time.

The proposed BESS is a stand-alone battery energy storage system that would connect with the adjacent SCE Substation at a distribution voltage. The battery itself is a DC source with a voltage of 1,500 volts DC. An inverter changes the DC voltage to 480 volts AC. That voltage is then transformed to a distribution station voltage such as 4, 12, 15, or 34 kV voltage. Additional transformation may be required to meet transmission interconnection voltages.

The BESS would be designed, constructed, operated, and maintained in accordance with applicable industry best practices and regulatory requirements.

BESS components would occupy the center portion of the property. A 20-foot-wide internal perimeter road would encompass the BESS equipment and provide dual access from Viajero Drive in the southeast corner of the site and the adjacent EGS in the southwest corner of the site. See Figure 4-3, Greenbark 30 Battery Energy Storage Project Site Plan.

Battery units are steel and measure 28.9 feet long, 5.6 feet wide, and 9.2 feet high and are painted white.

Energy storage project components will include:

- Approximately 36 battery units (Megapacks), each consisting of:
 - Battery module bays, which can cumulatively hold up to 24 battery modules per battery unit. A battery module is a collection of individual battery cells, and is the smallest field-replaceable battery unit.
 - A Thermal System, within the battery unit, which consists of a thermal cabinet and a thermal roof. The thermal cabinet includes pumps that circulate coolant through the battery unit and a compressor that maintains thermal control, in addition to an in-line heater that can warm the coolant. The thermal roof, or top cabinet of the enclosure, provides overpressure vents, ventilation airspace and contains fans and radiators that cool the ethylene glycol-water coolant solution.
 - A Customer Interface Bay that includes all the external connections needed for initial installation and the Megapack AC circuit breaker.
 - A non-walk-in ingress protection enclosure (code IP66) that provides a high level of protection against particle and water ingress for components internal to the enclosure.

- Third-party multi-spectrum infrared heat or flame detectors installed externally when fire detection is required at a site.
- Inverters, power conversion systems (PCS's), power distribution system, transformers, and switchgear
- Safety elements designed into the cell, module, and unit
- Internal circulation road for emergency access per Goleta and Santa Barbara County regulations
- The site will incorporate City of Goleta and County of Santa Barbara emergency response requirements and capabilities

4.9.3.2. 66 kV Line Interconnection

The electrical grid point of interconnection (POI) would be within the existing SCE substation that is co-located with the EGS. The approximately 200-foot-long generation-tie line would be placed underground between the BESS transformer pad in the western end of the BESS facility and the SCE substation (See Figure 4-3). Under this design scenario, no new offsite power poles or conductors would be needed to connect the BESS switchyard to the grid interconnection.

4.9.3.3. Security, Fencing, Lighting, and Internal Roads

An 8-foot-high ornamental metal no-climb fence would be constructed around the perimeter access road to encompass the BESS operational area and maintained for site security. Security lighting would be installed at appropriate locations along the perimeter and interior of the BESS operational area. Light fixtures would be shielded and oriented downward to avoid creating a source of glare and light levels would be less than 0.1 foot-candles at the property line, consistent with the City's lighting standards.

The Project would be shielded from view with vegetative screening, fencing, or other screening measures consistent with City standards. The vegetation in the remaining undeveloped portions of the parcel outside of the perimeter fence would be maintained.

Proposed offsite street frontage improvements including potential curb and sidewalk removal at the Viajero Drive site entrance, would be identified during detailed design review. Detailed design review may identify additional required improvements, such as additional curbing or landscaping, relocation of existing signs, new water meter and connections to the water and fire water main system at driveway entrances, and additional fire hydrants, which would occur within or immediately adjacent to the Project site, at the driveway entrance to the Project. With regard to roadway improvements, a roadway analysis was completed for the Project, which concluded that no roadway improvements are necessary. To the extent that roadway and curbing improvements may be required, such improvements would be coordinated with adjacent offsite developments, as appropriate. The internal perimeter road would be surfaced with permeable gravel or other permeable all-weather material. The remainder of the ground surface within the BESS operational area will be covered with gravel. The combined internal modular BESS units and ancillary structures would result in approximately 0.4 acres of new impervious surface. The remaining approximately 1.7 acres of the parcel would remain pervious, including approximately 0.3 acres of perimeter road, approximately 0.7 acres within the perimeter road (i.e., the areas between the individual BESS units), and approximately 0.7 acres of buffer setback between the BESS perimeter road and the parcel boundaries.

Figure 4-3. Greenbark 30 Battery Energy Storage Project Site Plan



4.9.3.4. Safety Systems and Controls

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

The BESS would be comprised of modular Megapack units, each consisting of up to 24 lithium iron phosphate (LFP) battery modules, which are designed to comply with major installation codes for energy storage systems, including NFPA 855, IFC 2018 and 2021, and NEC 2020 (Tesla, 2022). Physical, electrical, and control designs mitigate safety risks associated with the unit. The BESS would have built-in, redundant protection functions for temperature protection, voltage and current protection, and “anti-islanding” protection that would cause an automatic shutdown in the event of a power outage or other grid problem. The BESS supplier will conduct ongoing system safety improvements and collect and communicate pertinent industry updates, product news, and safety bulletins on a regular basis to the BESS facility operator.

See Section 4.11.1 for information regarding fire safety.

4.9.3.5. Landscaping and other Code Conformance Design Features

The existing site is undeveloped land. The City’s Design Review Board (DRB) reviewed the Conceptual Design on 14 May 2024, and the current design reflects DRB input, see Figure 4-3. A minimum 50-foot buffer setback would be provided between the seasonal isolated wetland feature along the southern edge of the Project site parcel and the BESS fence line. Approximately 0.3 acres of landscaping is proposed along the perimeter of the BESS facility, see Figure 4-3. Visual screening landscaping would occur on the northern, southern, and eastern boundaries of the Project site, and additional ground cover landscaping would be installed in the remaining areas of the property.

A portion of the landscaping, as well as the approximately 0.1-acre bioswale for stormwater retention, would be constructed within the 50-foot wetland setback along the south edge and downslope of the BESS perimeter fence.

Landscape and bioswale design and plant selection would be consistent with the City of Goleta’s urban design and stormwater management standards.

The proposed Project is designed in conformance with applicable design standards. Table 4-1 lists applicable Goleta design-related standards, codes and guidelines, and the Project’s conformance with those standards.

Table 4-1. Design Standards and Project Conformance

Design Standard, Code, or Guidance	BESS Facility Conformance
I-OI Zone District Development Standards, Table 17.09.030 Development Regulations:	
<ul style="list-style-type: none"> ■ Maximum lot coverage: 40% 	<ul style="list-style-type: none"> ■ Lot coverage: 35%
<ul style="list-style-type: none"> ■ Maximum height: 35 ft. 	<ul style="list-style-type: none"> ■ Facility height: 10 ft
<ul style="list-style-type: none"> ■ Minimum Setbacks 	<ul style="list-style-type: none"> ■ Setbacks
<ul style="list-style-type: none"> ● Front: 15 ft. 	<ul style="list-style-type: none"> ● Front: 15 ft.
<ul style="list-style-type: none"> ● Interior Side: 15 ft. 	<ul style="list-style-type: none"> ● Interior side: 15 ft.
<ul style="list-style-type: none"> ● Street Side (same as Front): 15 ft. 	<ul style="list-style-type: none"> ● Street side: 20-50 ft. (includes ESHA setback)
<ul style="list-style-type: none"> ● Rear: 15 ft. 	<ul style="list-style-type: none"> ● Rear: 15 ft.
<ul style="list-style-type: none"> ■ Minimum Landscaping Coverage: 10% 	<ul style="list-style-type: none"> ■ Landscape Coverage: 15%
<ul style="list-style-type: none"> ■ Parking per GMC 17.38, Parking and Loading 	<ul style="list-style-type: none"> ■ Parking: 2 spots

Design Standard, Code, or Guidance	BESS Facility Conformance
ESHA Setbacks Standards, GMC 17.30.100 Protection of Wetlands Outside the Coastal Zone, Part B.1: ■ The required wetland buffer shall be no less than 50 feet in width.	ESHA Buffer: Minimum 50 ft. between ESHA (wetland) and BESS fence line
Landscaping Standards, GMC 17.34	Landscape plan includes appropriate native or non- invasive drought tolerant species.
Water Efficient Landscaping, GMC 15.21	Plan includes water efficiency per the Water Efficient Landscape Ordinance (WELO).
GMC DRB Required Findings for Landscape Plans (17.58.080.G, H)	Landscape design is proportional, preserves specimen and protected trees, and includes native and non-invasive screening and groundcover vegetation.
Lighting Standards, GMC 17.35	Light fixtures will be shielded and oriented downward to avoid creating a source of glare and light levels are less than 0.1 foot-candles at the property line.
Parking Standards, GMC 17.38	Two (2) designated spaces within the BESS operating area.
Multiple Districts Standards, GMC 17.24 ■ Maximum height of fences outside of setback: 8 ft	Fences outside of setback: 8 ft
Grading Standards, GMC 17.24	Site development will require minimal grading with balanced cut and fill. Pending detailed civil design, an estimated 100 cubic yards of imported engineered fill material may be needed.
Hazards Standards, GMC 17.39.060	BESS operations will be designed to avoid exposure of existing residential or commercial developments to significant health and safety risks. There are no Recognized Environmental Conditions on the site parcel. Hazardous materials will be managed in accordance with appropriate standards.
Noise Standards, GMS 17.39.070	Project-generated noise will be below the maximum exterior noise expo- sure level of 65 dBA Ldn at all noise sensitive locations.

Sources: Goleta Municipal Code Chapter 17 development standards and procedures for site development, including standards specific to the Office Districts (17.09), standards that apply to multiple districts (17.24), grading (17.24), development near ESHA (17.30), landscaping (17.35), lighting (17.35), parking (17.38), and performance standards related to hazards and noise (17.39): <https://www.cityofgoleta.org/home/showdocument?id=23253>.

Landscaping would be designed in conformance with development standards of the GMC for the OI zone district to the extent practicable given the industrial nature of the BESS facility. Landscape design is proportional to the overall site development; the plan would preserve specimen trees to the extent practical and include native screening and groundcover vegetation.

A combination of landscaping visual screening and ground level landscaping is proposed along the perimeter of the BESS facility. Landscape plantings would include a mix of commonly used California native landscape screening species, such as Santa Cruz Island Ironwood, Holly Leaf Cherry, Western Redbud, Pacific wax myrtle, Lemonade Berry, Toyon, Pink-flowering Currant, Mugwort, and ground-level vegetation such as thingrass.

Existing trees would remain except where trees need to be removed to accommodate safe access. Pending detailed design and fire safety review, the eucalyptus trees along the western perimeter of the Project site parcel may need to be pruned or removed. The combined landscape coverage would be approximately 0.3 acres (approximately 15% of the lot coverage) which exceeds the 10 percent minimum lot coverage specification in the IO zone district standards.

The top of BESS units and associated facilities would be approximately 10 feet above ground surface, including the height of the battery storage unit and a supporting concrete pad. Because of the site slope,

the northernmost portion of the battery system would be at a slightly higher ground elevation than the southern portion. Pending detailed design, certain vertical elements of the facility may exceed 10 feet, such as the BESS containers, which are 9.2 feet in height, but may be taller depending on the height of the foundation. Facilities will not exceed the IO zone district height limitation of 35 feet.

The final design would ensure that site development conforms to applicable standards specific to the IO zone district to the extent practicable, as well as general standards for grading, development near an ESHA, lighting, parking, hazards, hazardous materials, and noise.

Conceptual DRB review occurred on 14 May 2024, and the Project design was modified accordingly. Pending additional DRB review, the current design is anticipated to meet all the applicable IO zone district development standards (i.e., for lot coverage, buildings separation, setbacks, parking, landscaping, or screening requirements). As needed, the Applicant would work with the City of Goleta to obtain an adjustment to the standards pursuant to Zoning Ordinance Section 17.59.040 (Development Plans: Adjustments to Development Standards). In accordance with Section 17.59.040, the Applicant would work with the City to ensure that there is appropriate justification and explanation as to why the adjustment is consistent with the intent of the applicable General Plan policies. Any adjustment to height or lot coverage standards would be subject to review and approval by the Planning Commission. At this time no adjustments have been requested and as such, not studied within this document.

4.10. Project Construction Activities

4.10.1. Schedule

Project construction is anticipated to take 8 months. Construction includes site preparation and minor vegetation clearing, rough and fine grading, installing the BESS foundations and BESS enclosures, laying the underground electrical collection and communication lines, assembling accessory electrical components including transformers, and installing high-voltage equipment such as the generation-tie line. Table 4-2 identifies the estimated duration for various construction activities.

Permitting of the BESS is planned for 2025-2026. BESS installation is planned for early 2026-2027, to be commercially operational in 2027. Site preparation, earthwork, and foundation pad installation is anticipated to take place over a period of 3 months, delivery and installation of BESS equipment an additional 3 to 4 months, and testing and commissioning of the BESS an additional 3 to 4 months.

Table 4-2. Construction Activities and Estimated Durations

Construction Activity	Estimated Durations*
Construction Kick-off/Staging (including mobilization)	5 days
Site Clearing	5 days
Site Preparation/Rough Grading	5 days
Fine/Pad Grading, Excavation for Underground Conduit/Utilities, and Stormwater LID Areas	20 days
Construction of Foundation Pads	25 days
BESS Enclosure and Power Conversion System Unit Installation	20 days
Onsite Project Generation-Tie Line Installation	30 days
Paving for Drive Aisles	10 days
Landscaping, Lighting, Architectural Finishes	30 days
Testing	15 days
Total	8 Months

*Durations are preliminary estimates. Certain activities may overlap.

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

4.10.2. Workforce

Construction personnel would consist of up to approximately 20 craft workers and supervisors at any one time, depending on the construction activities.

Construction vehicles and equipment would access the site via the site entrance at Viajero Drive. Equipment and materials would be staged on site. Project-related vehicles would avoid parking on surface streets unless it is necessary to complete a specific construction task. Portable toilets would be provided for construction work crews, and would be maintained by a licensed sanitation contractor.

Construction trip generation would entail:

- Mobilization and demobilization of heavy equipment (e.g., excavator, backhoe) at the start and end of earthwork or other construction stage
- Delivery of the major BESS equipment components
- An estimated maximum of 15 worker vehicles per day during construction and commissioning of the Project

Some work phases would overlap, with an estimated maximum of 20 workers on site.

4.10.3. Site Grading and Preparation

Prior to initial construction mobilization, any required preconstruction biological surveys would be performed, and any required sediment and erosion control measures would be implemented in accordance with an approved Storm Water Pollution Prevention Plan (SWPPP).

Conventional construction equipment would be used to install access improvements, equipment pads, and components.

A geotechnical analysis was performed for the Project. Earthwork would be required to excavate shallow foundations for concrete pads for the battery modules and auxiliary equipment, and for shallow trenching for conduits. Foundation install may include driven piles.

An approximately 200-foot-long generation-tie line would be placed underground between the BESS transformer pad in the southwest corner of the BESS facility and the SCE substation.

The site is relatively level, and site grading would be minimal. Based on these site conditions, the Project is anticipated to balance cut and fill grading, with no net import of soil required for BESS foundations. However, pending detailed civil design, additional engineered soil materials may need to be imported for use in foundations for concrete pads for the battery modules and auxiliary equipment, or for other purposes, such as in the conduit trench. To address this contingency, the work plan assumes a net import of up to 100 cubic yards (ten truck loads) of imported soil material.

Raw materials required for construction include engineered fill and gravel for entryways, BESS perimeter road and parking aisles, and pervious areas within the operational fence line; gravel, sand, cement, steel and lumber for concrete foundations; and water for concrete installation, dust control, and erosion control. Water is anticipated to be provided by the Goleta Water District and would be delivered to the site via truck.

No sensitive vegetation or habitat, aquatic features, native heritage trees, or cultural resources would be directly impacted by construction, either on site or off site. Sensitive resources would be avoided with the use of exclusion fencing or other appropriate measures.

Estimated quantities of raw materials are summarized in Table 4-3.

Table 4-3. Estimated Raw Construction Material Quantities

Construction Raw Material	Quantity	Unit
Imported soil (for finish grading)	100	Cubic yards
Gravel	3,000	Cubic yards
Engineered fill	350	Cubic yards
Cement	230	Cubic yards
Sand	450	Cubic yards
Steel (Rebar)	33	Tons
Lumber	2	Tons

Battery units would be transported to the Project site on flatbed trailers and placed on foundations using a mobile crane. Construction worker parking and building material staging would occur on site. Table 4-4 summarizes the quantity and operating hours of construction equipment anticipated to be used for each Project activity.

Table 4-4. Construction Equipment by Project Activity

Project Activity	Equipment	Quantity	Daytime Operating Hours
Site Clearing	Dump Truck	1	4
	Excavator	1	8
	Rubber Tired Loader	1	8
	Skid Steer Loader	1	8
	Tractors/Loaders/Backhoe	1	8
	Water Truck	1	8
Site Preparation/Rough Grading	Dump Truck	1	4
	Grader	1	8
	Rubber Tired Loader	1	8
	Skid Steer Loader	1	8
	Tractors/Loaders/Backhoe	1	8
	Water Truck	1	8
Fine/Pad Grading, Excavation for Underground Conduit/Utilities, and Stormwater LID Areas	Grader	1	8
	Plate Compactor	1	8
	Roller	1	8
	Rubber Tired Loader	1	8
	Skid Steer Loader	1	8
	Tractors/Loaders/Backhoe	1	8
Construction of Foundation Pads	Cement and Mortar Mixer	1	8
	Concrete Pump	1	8
	Tractors/Loaders/Backhoe	1	8
	Water Truck	1	8
	Pile Driver ⁴	1	8
BESS Container and Conduit Installation	Air Compressor	1	8
	Mobile Crane	1	8

⁴ Pending detailed design, selected BESS equipment foundations may be installed on piles, as opposed to slab on grade.

Project Activity	Equipment	Quantity	Daytime Operating Hours
	Excavator	1	8
	Generator Set	1	8
	Rough Terrain Forklift	1	8
	Skid Steer Loader	1	8
	Tractors/Loaders/Backhoe	1	8
Project Substation/Switchyard Gen-Tie Installation	Aerial Lift	1	8
	Air Compressor	1	8
	Bore/Drill Rigs	1	8
	Cranes	1	8
	Excavator	1	8
	Generator Set	1	8
	Rough Terrain Forklift	1	8
	Skid Steer Loader	1	8
	Tractors/Loaders/Backhoe	1	8
Paving for Drive Aisles	Paver	1	8
	Roller	1	8
	Cement and Mortar Mixer	1	8
Landscaping, Lighting, Architectural Finishes	Tractors/Loaders/Backhoes	1	8
	Skid Steer	1	8
	Air Compressor	1	8

Estimated vehicle trips, for average daily worker trips, vendor truck trips, and daily haul trips are presented in Table 4-5.

Table 4-5. Vehicle Trips by Project Activity

Project Activity	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Haul Trips	Notes
Demolition/Site Clearing	6	0	2	Haul trips include removal of existing brush and debris (2 acres) over 2 days
Site Preparation/Rough Grading	4	0	2	Site anticipated to balance cut/fill quantities
Fine/Pad Grading, Excavation for Underground Conduit/Utilities, and Stormwater LID Areas	4	0	1	Assumes up to 10 truck deliveries (e.g., for imported soil). No other deliveries of project equipment or hauling of material is anticipated.
Construction of Concrete Pads	6			Vendor trips include delivery of concrete
BESS Container and Conduit Installation	7	9	0	Vendor Trips include delivery of 168 Battery Enclosures, 42 PCS, and 42 BESS Transformers (assume one per truck), and conduit - over 15 days
Project Substation/Switchyard Gen-Tie Installation	10	4	0	Vendor Trips include delivery of substation equipment over 30 days
Paving for Drive Aisles	6	4	0	Vendor trips include delivery of asphalt
Landscaping, Lighting, Architectural Finishes	8	4	0	Vendor trips include delivery of landscaping and architectural finishes

4.10.4. Site Access, Security, and Lighting

Roadways used to access the Project site include Viajero Drive, Las Armas Road, Hollister Avenue, Storke Road, and US 101. Secure site access would be provided at two locations: via Hollister Avenue and Viajero Drive to the southeastern corner of the BESS facility and via Hollister Avenue and Las Armas Road to the EGS main gate, to the southwestern corner of the BESS facility, see Figure 4-3.

The Viajero Drive access point would begin at the northern terminus of Viajero Drive southeast corner of the BESS facility.

On the southwestern side, from the existing EGS main gate, vehicles would access the BESS site via a proposed private access easement within the EGS parking area to the western entrance of the BESS facility.

Access improvements would meet Goleta and Santa Barbara County Fire Department requirements for emergency access. Access would be through locked gates, and each gate would have a Knox Box to allow for Fire Department access.

Construction-related equipment and material delivery vehicles and haul trucks, as well as operational inspection vehicles, would use both access points. Construction and operations equipment, and any debris or waste materials, would be staged on site.

Parking for operational inspection and maintenance would be accommodated within two designated spaces within the southeast portion of the BESS perimeter road, near the Viajero Drive entrance. Additional parking would be available on the gravel surfaces inside the BESS perimeter road.

4.10.5. Erosion and Sediment Control and Pollution Prevention

Placement of the BESS components and access improvements would result in a minor increase of impervious surfaces within the Project parcel. The remaining area within the parcel would continue to allow onsite infiltration of rainwater. Construction Best Management Practices would be installed at the outset of construction and would be maintained while the Project site is stabilized.

A Project-specific construction SWPPP has been prepared, and would be implemented, including establishment of Best Management Practices to control potential stormwater runoff during construction.

A detailed hydrological analysis has been completed, and a Project-specific Stormwater Control Plan (see Appendix J) has been prepared to address stormwater control during long-term operations. Based on the hydrological analysis, a site-specific retention basin has been designed to capture excess stormwater runoff during long-term operations. An approximately 2,610 square foot bioretention basin is proposed for stormwater retention on the south edge (downslope portion) of the BESS facility, see Figure 4-3. Additionally, as described in the SWPPP (Appendix K), the 2022 Construction General Permit (CGP) requires that best management practices (BMPs) be implemented. The following BMPs would be implemented: bioretention basin, permeable pavement with underdrain, stabilized construction entrance, and silt fences. Bioretention basin design would meet applicable City design standards and design parameters including the location, depth, width, and materials, as determined by a Drainage Analysis (see Appendix I) and Stormwater Control Plan (see Appendix J).

4.11. Operations and Maintenance

The BESS would operate 24 hours a day, 7 days a week. Once constructed, the BESS facility would be unstaffed except for periodic maintenance checks; therefore, it would generate a minimal amount of traffic. The Project would generate up to 10 vehicle trips per week during the first year of BESS facility operation for equipment inspection and maintenance purposes, however the Project is forecast to generate on average 1 to 2 trips per week during the first year of operation. Vehicle trips may be reduced

after the Project's first year of operation to an average of 1 to 2 trips per month (see Appendix N). This is because the first year of operations typically includes more start up activities such as commissioning and system testing, performance optimization, and the resolution of initial issues. Equipment maintenance activities at the Project site would typically consist of inspections by a technician or for general site and landscape maintenance.

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

A detailed inspection and maintenance of the BESS would be performed several months after installation and annually, or more often if necessary, following the initial inspection period. More frequent inspections may occur due to unplanned maintenance visits. Inspection trips would originate from the local area.

Maintenance procedures are primarily visual inspections and verifications of proper operations. Annual inspection and maintenance typically encompass a visual inspection of the battery system; replacement of consumable parts as needed (e.g., fans, DC Protections, battery modules, and Battery Management System in later years); adjusting of torque on bolts in modules and racks; and other adjustments.

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

Long-term operations would entail no water consumption or air emissions. For security purposes, yard lights would be installed to illuminate the Project site during nighttime hours. This security lighting would be inside the operational area perimeter, shielded and focused inward toward the BESS equipment.

Pending the final design configuration, the primary source of the noise from the BESS is anticipated to be from the power conversion system enclosure ventilation fans and/or battery energy storage enclosure HVAC systems. The batteries and inverters would be fully enclosed. When operating at full power, the ventilation fans and HVAC systems would cycle on and off.

The BESS operational area is approximately 200 feet northeast of the Mariposa at Ellwood Shores elder care facility on the east side of Viajero Drive. Other nearby receptors include the Hideaway residential neighborhood located approximately 300 feet west (west of the EGS and Las Armas Road) and Ellwood Elementary School located approximately 500 feet east. BESS components would be designed to ensure that noise levels conform with development standards of the GMC.

Electricity would be provided by SCE. There are no on-site water wells. Water for landscape irrigation is anticipated to be provided by Goleta Water District. Telecom internet service for system processes and communication would be provided by Cox Communications. Other utilities such as gas and sewer would not be required for the operation and maintenance of the Project.

The stormwater retention basin (bioswale) would be maintained in accordance with a Stormwater Facilities Operations and Maintenance Plan, in order to ensure that the basin functions properly.

4.11.1. Fire Safety

The BESS would be designed and operated in accordance with applicable industry best practices for fire safety, including applicable National Fire Protection Association (NFPA) standards. The Megapack 2 XL system is designed to comply with major installation codes for energy storage systems, including NFPA

855, IFC 2018 and 2021, and NEC 2020. Additionally, the Megapack 2XL is listed to the following standards by OSHA-recognized Testing Laboratories (Tesla, 2022):

- UL 1642 (cell-level certification)
- UL 1973 and IEC 62619 (battery module-level certification)
- UL 9540, IEC 62933-5-2, IEC 62109-1 (system-level certification)
- UL 1741, CSA C22.2 #107.1 (power electronics)
- UL 1998 and IEC 60730 Annex H (functional safety of software)
- IEC 61000-6-2, and EN 55011 (EMC)
- UN 38.3 (transportation, self-certified)
- IEEE 693 (seismic safety)
- UL 9540A (large-scale firetesting): Tested at the cell, module, and unit level
- And many more, including compliance to major market grid codes

The BESS would be comprised of approximately 36 modular Megapack units, each consisting of up to 24 lithium iron phosphate (LFP) battery modules. Battery energy storage unit enclosures would include gas igniters and overpressure vents to ignite and release any flammable gasses through the top of the unit; this design feature will prevent an explosion due to a thermal runaway event. Testing of the lithium iron phosphate chemistry has demonstrated a strong ability to resist thermal runaway and has shown controlled venting in worst case events, without explosive bursts or fire, and that the Megapack battery modules are resistant to multiple co-located cells sent into runaway at the same time. Safety and reliability systems would also include voltage and current protection via software controls and physical protection via component isolation (Tesla, 2022).

The Applicant would work closely with Goleta and Santa Barbara County Fire Department to ensure appropriate fire prevention equipment and response procedures are in place. Specifically, the Santa Barbara County Fire Department requested that the site must have a Fire Response Plan in place before operation. In addition to the Fire Response Plan, Scale Microgrids, LLC has committed to providing training to Santa Barbara County Fire Department fire fighters and first responders that is specific to the Project site and system configuration. This would be with materials provided by Tesla (or the chosen battery manufacturer), including but not limited to the periodically updated Emergency Response Guide (Tesla, 2024) or their Industrial Energy Emergency Response Video⁵. A point of contact would be designated for emergency responders to contact in case of emergency or concerns.

Additional emergency response capability is available from local fire and emergency response services. Goleta currently has three fire stations with another one in the project phase. The City partners with the Santa Barbara County Fire Department. Santa Barbara County Fire Department Station 11 is located approximately 2 miles to the southeast of the Project site, at 6901 Frey Way, near the intersection of Hollister Avenue and Storke Road in Goleta. Response time to the Project site is 5 to 7 minutes. A new fire station (Station 10) is planned to be constructed at 7952 Hollister Avenue, across the street from Sandpiper Golf Club and adjacent to the Hideaway residential development, approximately 0.4 miles from the Project site's EGS entrance, and approximately 0.5 miles from the Project site's Viajero Drive entrance.

4.12. Project Decommissioning

Decommissioning of the Project at the end of its useful life would include removal of battery units from the foundations, disconnection of wiring, and transport of the battery units to an approved recycling facility. It is conservatively assumed that Project decommissioning will occur in 2050. Activities associated with decommissioning are similar to construction activities, but they are done in reverse. A detailed

⁵ <https://www.tesla.com/firstresponders/industrial-energy-emergency-response-video>

Decommissioning Plan would be prepared and submitted to the City, prior to BESS facility installation. The City may ask for bonds that are updated periodically to keep up with current costs.

4.13. Permits and Approvals

In addition to the Development Plan (DP) and Conditional Use Permit (CUP), the Project requires approval of a General Plan Amendment (GPA) and Rezone (RZ) from C-CG to I-OI as shared above. The City Council will be the decisionmaker for all the project components (discretionary and legislative).

If the DP and CUP application is approved, administrative clearances (i.e., Zoning Clearance, building permit, grading permit, electrical permit, fire permit) would be needed

Table 4-6 lists the regulatory permits, approvals, and reviews that are anticipated for the Project.

Table 4-6. Permits and Approvals that may be required for the Project

Agency	Permit, Approval, or Exemption
City of Goleta – GPA	<ul style="list-style-type: none"> ▪ General Plan Amendment (application filed 11 April 2024)
City of Goleta – Design Review	<ul style="list-style-type: none"> ▪ Conceptual Design Review (meeting held on 14 May 2024) ▪ Preliminary Design Review ▪ Final Design Review
City of Goleta – Rezone, CUP, and DP	<ul style="list-style-type: none"> ▪ Rezone ▪ Major Conditional Use Permit per Zoning Ordinance Section 17.09.020 ▪ Development Plan per Zoning Ordinance Section 17.59.020 ▪ California Environmental Quality Act review
City of Goleta – Ministerial Permits	<ul style="list-style-type: none"> ▪ Zoning Clearance ▪ Grading Plan ▪ Building permit ▪ Electrical permit ▪ Fire permit ▪ Other ministerial permits and compliance plan reviews
Central Coast Regional Water Quality Control Board and State Water Resources Control Board – CUP and DP application only	<ul style="list-style-type: none"> ▪ Coverage under the Construction General Permit, with a Stormwater Pollution Prevention Plan
Santa Barbara County Fire Department – CUP and DP application only	<ul style="list-style-type: none"> ▪ Fire Safety Review
Santa Barbara County Environmental Health – CUP and DP application only	<ul style="list-style-type: none"> ▪ Certified Unified Program Agency review, Hazardous Materials Business Plan review

4.14. Alternatives

The purpose of an alternatives analysis under CEQA is to identify options that would feasibly attain the Project’s objectives while reducing the significant environmental impacts resulting from the Project. CEQA does not require the inclusion of an alternatives analysis in a mitigated negative declaration (MND) because the Initial Study (IS) concludes that, with incorporation of any mitigation measures required, there would be no significant adverse impacts resulting from the Project (CEQA Guidelines Sections 15063(d) and 15071). Therefore, no alternatives analysis is provided in the Initial Study.