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Project Title:	Compass Battery Energy Storage
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Document Title:	Section 1_Introduction
Description:	This chapter provides an introduction to the Project and presents Project objectives, location, components, benefits, schedule, ownership details, and history.
Filer:	Erin Phillips
Organization:	Dudek
Submitter Role:	Applicant Consultant
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1 Introduction

Compass Energy Storage LLC proposes to construct, own, and operate an approximately 250-megawatt (MW) battery energy storage system (BESS) in the City of San Juan Capistrano, California. The proposed Compass Energy Storage Project (Project) will be composed of lithium-ion batteries, inverters, medium-voltage (MV) transformers, a switchyard, a collector substation, and other associated equipment to interconnect into the San Diego Gas and Electric (SDG&E) Trabuco to Capistrano 138 kilovolt (kV) transmission line (Point of Interconnection) located approximately 500 feet from the Project site and approximately 90 feet from the property. No off-site transmission upgrades are required for the full capacity of this Project, and an interconnection agreement with SDG&E and the California Independent System Operator (CAISO) has been executed. The switchyard will be owned by SDG&E. The batteries will be installed in non-habitable enclosures.

The Project will connect to the SDG&E electric transmission system. Electric energy will be transferred from the existing power grid to the Project batteries for storage and from the Project batteries to the power grid when additional electricity is needed. Following construction, the proposed use will not create emissions to air, will not require sanitary facilities, will generate minimal vehicle trips, and will only require water for landscape irrigation and to supply on-site fire hydrants.

1.1 Project Objectives

The Project's primary goal is to provide the region with a reliable and economically attractive development to receive, store, and discharge electricity from the California Independent System Operator (CAISO) controlled electric grid, including renewable energy produced by existing solar and wind resources in the region.

The Project's objectives are as follows:

- Develop a utility-scale battery energy storage system with a rated capacity of up to 250 megawatts (MW) and up to 1,000 megawatt hours (MWh) to reliably capture and manage electricity in an economically feasible and commercially financeable manner.
- Use a proven and established battery energy storage system technology that is safe, efficient, commercially available, and has low maintenance requirements.
- Locate a utility-scale battery energy storage system in an area that maximizes electricity delivery to the 138kV Trabuco to Capistrano transmission line, satisfies the CAISO deliverability requirements to sell Resource Adequacy, and is capable of being completed by summer 2026.
- Assist California by facilitating deployment of additional renewable energy resources in furtherance of:
 - U.S. Department of Energy (DOE's) goals and targets to reduce the cost of grid-scale, long-duration energy storage and accelerate breakthroughs that store clean electricity to make it available anytime, anywhere and support more abundant, affordable, and reliable clean energy solutions.
 - Federal Sustainability Plan goal of 100 percent clean electricity by 2035.
 - California's Renewables Portfolio Standard (RPS) and climate objectives, as mandated under Senate Bill 100 and Governor Newsom's California Clean Energy Transition Plan, by providing energy storage that allows RPS-qualified renewable electricity to be stored and discharged to the market according to upon demand and displacing an older and less efficient generation.

- Other state goals to expedite development of renewable energy and storage. In 2022, California legislature set intermediate targets of 90% renewable energy and zero-carbon electricity by the end of 2035 and 95 percent by the end of 2040 on the way to the eventual target of 100 percent by 2045.
- California Energy Commission (CEC) goals and targets for renewable energy and storage to meet California's goal of zero carbon emissions by 2045.
- California Public Utilities Commission (CPUC) adopted Decision 21-06-035 recognizing the need for energy storage resources.
- City of San Juan Capistrano and Orange County's clean energy goals.
- Create reliable, dispatchable generation as a firm, dispatchable resource for southern Orange County by increasing the ability of load-serving entities and system operators to effectively manage intermittent renewable generation on the grid.
- Provide economic benefit to the City of San Juan Capistrano and Orange County through construction jobs, property and sales taxes, construction and maintenance services, community benefits, and increased energy reliability.
- Design the Project in a manner that will minimize adverse impacts to natural resources, reduce carbon emissions and improve air quality, including but not limited to Oso Creek and improving public facilities, including but not limited to fire protection resources.

1.2 Project Location

The Project will be located on approximately 12.4 acres of an approximately 40.8-acre parcel identified as Parcel B1, which is a portion of Assessor Parcel Number (APN) 637-082-71 (the Project site) in the City of San Juan Capistrano, California (see Figure 1-1, Project Vicinity). The Project also entails approximately 1.6 acres of offsite components (access road, loop-in transmission line, stormwater discharge line, etc.). The Project site is located within the northern portion of the City, adjacent to Camino Capistrano with Interstate-5 located to the east. The Project will be located in Section 26, Township 7S, Range 8W within Orange County, California.

The Project site is currently undeveloped and is adjacent to the Saddleback Church Rancho Capistrano to the north, mostly open space to the south, Oso Creek to the south and east, Union Pacific Railroad and Interstate-5 to the east, and open space and residences outside of the City limits to the west. The SDG&E Trabuco to Capistrano 138 kV transmission line is located approximately 500 feet to the east and runs alongside the Union Pacific Railroad tracks.

The Project site is designated as LU 9.6 PC Planned Community in the San Juan Capistrano General Plan (City of San Juan Capistrano 1999) and as PC - Planned Community District in the City Zoning Ordinance.

Appendix 1A contains a copy of the Assessor's Parcel Map for the site parcels. A list of the owners of property within 1,000 feet of the Project and 500 feet of the linear facilities is provided in Appendix 1B.

1.3 Project Elements

The proposed BESS will have a stationary equipment that receives electrical energy and then utilizes lithium-ion batteries to store that energy to supply electrical energy at a future time. The non-habitable enclosures will have battery storage racks, with relay and communications systems for remote, automated monitoring and managing of the batteries. The BESS will also include a battery management system to control the charging/discharging of the batteries, along with temperature monitoring and control of individual battery cell temperature with an integrated

cooling system. Batteries operate with direct current (DC) electricity, which must be converted to alternating current (AC) for compatibility with the existing electric grid. Power inverters to convert between AC and DC, along with transformers to step up the voltage, will be included as part of the Project. Power released or captured by the proposed Project will be transferred to and from the SDG&E Trabuco to Capistrano 138kV transmission line via a loop-in generation transmission line that will interconnect to a SDG&E switchyard that will be constructed within the Project site. The Project will consist of lithium-ion batteries, inverters, MV transformers; a SDG&E switchyard; a utility substation, and other associated equipment.

The Project will include the following components:

- **Battery Energy Storage System:** Lithium-iron phosphate cells form the core of the battery energy storage system. The cells are the basic functional electrochemical unit containing an assembly of electrodes, electrolyte, separators, container, and terminals. Cells are the source of electrical energy by direct conversion of chemical energy, and they would be installed on racks and enclosed in either pre-fabricated or site-built, non-habitable enclosure. Compass Energy Storage LLC will use battery storage systems that are NFPA 855 Code compliant, and UL 9540 and 9540a certified. The BESS will include built-in failsafe and cooling systems designed to prevent thermal runaway and the spread of fire. A fire protection system will be installed to automatically shut down any affected battery storage components and prevent the spread of the fire to the other battery storage modules.
- **Power Inverters and Transformers:** The battery cells operate on DC, while the electric grid uses AC. Inverters will be installed to convert AC to DC when the energy is transferred from the grid to the battery and from DC to AC when the energy is transferred from the battery to the grid. Transformers step up the electrical voltage between the battery cells and the grid. The inverters and transformers will be located on concrete pads adjacent to the battery enclosures.
- **Project Substation:** A substation will include an open rack, air insulated switch gear and the main power transformer to step up from 34.5 kV to 138 kV, as well as a pole to connect the Project Substation to the SDG&E switchyard.
- **SDG&E Switchyard:** An SDG&E switchyard will be installed adjacent to the substation that will include an open rack, air insulated switch gear and the main power transformer to deliver power to the nearby Trabuco to Capistrano 138kV transmission line.
- **Telecommunication Facilities:** Telecommunication equipment, including underground fiber optics or supervisory control and data acquisition (SCADA), will be installed to remotely manage and monitor communication between the BESS and the electrical grid.
- **Perimeter Wall:** A perimeter wall will be constructed that consists of a pre-fabricated material that will provide visual enhancement and fire protection.
- **Water Detention Basins:** To meet regulatory standards and reduce potential for stormwater to be discharged off site in exceedance of existing conditions, offsite and onsite will flow to onsite water detention structures and pumped to existing outfalls which flow into the channelized portion of Oso Creek owned and maintained by Orange County Flood Control District (OCFCD). A waterline will be constructed from the water detention structures to the existing outfalls.
- **Landscaping:** The Project will incorporate landscaping around the perimeter as shown in the landscaping plans.
- **Site Access and Security:** On-site access driveways, perimeter precast walls, and nighttime directional lighting will be provided for the Project. An access road for construction and operation will be developed from the church property's northern entrance off Camino Capistrano, and extend southward along the parcel's eastern boundary to the main entrance to the Project site, as shown in the enclosed engineering plans.

- **Loop-In Transmission Line** A 138 kV loop-in transmission line will be constructed to transfer power between the SDG&E Trabuco to Capistrano 138kV transmission line and the SDG&E switchyard constructed on site.
- **Fire Protection System:** A fire protection system will be installed to automatically shut down any affected battery storage components and prevent the spread of the fire to the other battery storage modules. A fire wall will also be installed around the perimeter of the development area for fire protection purposes. In addition, fire hydrants will be installed in accordance with Orange County Fire Authority (OCFA) standards.

The facilities will be remotely operated year-round and be available to receive or deliver energy 24 hours a day and 365 days a year. After commissioning and during the operational life of the Project, qualified technicians would routinely inspect the BESS and conduct necessary maintenance to ensure safe operational readiness. If an issue arises, the system can remotely shut down and de-energize.

A detailed project description is included in Section 2, Project Description, of this Opt-In Application.

1.4 Project Benefits

The Project will provide the following key environmental and economic benefits:

- Reduction of approximately 233,000 metric tons of carbon dioxide emissions over a 20-year period compared to natural gas.
- Ability to power approximately 187,500 homes during peak load conditions
- Sales tax benefits of \$9,272,000 with approximately \$5,016,000 to the state, \$1,824,000 to Orange County, and \$2,252,548 to the City of San Juan Capistrano
- Property tax revenues of \$29,800,000 over 20 years collected by Orange County and with approximately \$3,400,000 of this to go to the City of San Juan Capistrano

The Project's community benefits plan is included as Appendix 1C. The Project's labor and employment information is included as Appendix 1D.

1.5 Project Schedule

Compass Energy Storage, LLC is filing this Application for Opt-In Certification under the California Energy Commission's 12-month licensing process. Construction of the Project is expected to begin in early 2025 and last up to 18 months, including three months of testing and commissioning. Testing and commissioning is expected to begin by spring 2026 with full-scale commercial operation expected in summer 2026. Additional details related to construction phasing are included in Section 2, Project Description.

1.6 Project Ownership

Compass Energy Storage, LLC is the applicant and will be the owner and operator of the BESS component of the Project including the power invertors and transformers and Project substation. SDG&E will be owner and operator of the switchyard and the loop-in transmission line. Compass Energy Storage LLC holds an option to purchase the 40.8-acre property on which the Project sits with the current landowner Saddleback Valley Community Church. Therefore, prior to the start of construction, Compass Energy Storage LLC will be the owner of the property and will convey a portion of the property to SDG&E for their switchyard.

1.7 Project History

Compass Energy Storage, LLC submitted an Application for the Project to the City of San Juan Capistrano (the City) in December of 2021, to initiate the permit process that would include a Conditional Use Permit (CUP) application. On April 29, 2022, the City staff determined that in order to process the CUP application, the City Council must first initiate a Comprehensive Development Plan (CDP) process that would apply to parcels excluded from the Project site, an area of approximately 171 acres including the Saddleback Church (the Church Property). Thus, Compass Energy Storage LLC and Saddleback Church jointly filed an application initiate a CDP process on September 16, 2022. On November 1, 2022, the City Council voted 3-2 not to initiate a CDP for the Church Property. Thus, Compass Energy Storage LLC and the Saddleback Church were unable to proceed with the permit process with the City. In January of 2023, Compass Energy Storage LLC decided to file this Opt-in Application with the California Energy Commission (CEC). The CEC's process does not require the Saddleback Church to be a party to this application.

Compass Energy Storage, LLC has withdrawn their application with the City. Please note there have been design refinements and a reduction in size to the Project since the application was reviewed by the City.

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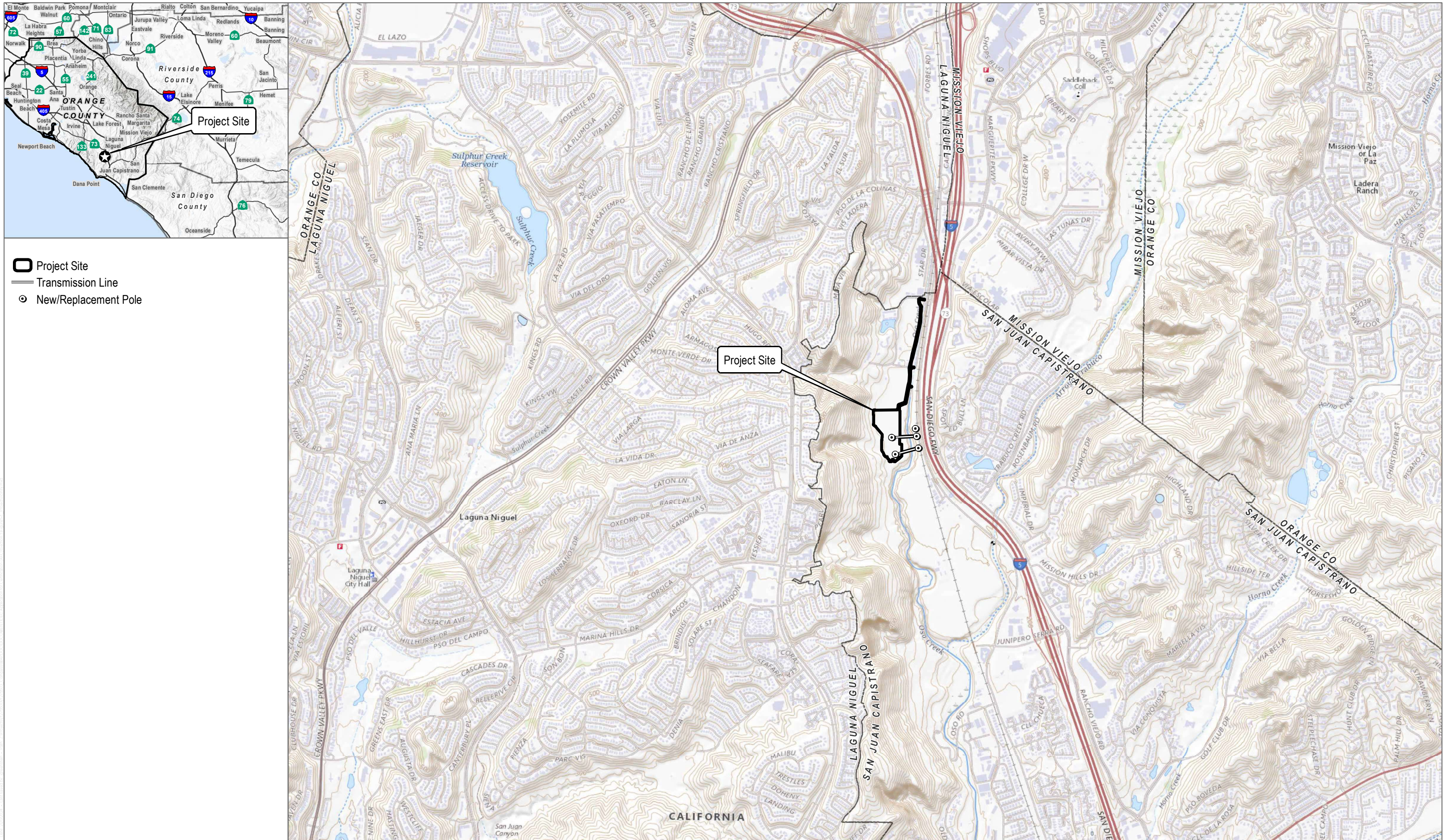


FIGURE 1-1

Project Vicinity

Compass Energy Storage Project

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