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2 Project Description

Vaca Dixon BESS LLC and Arges BESS LLC (Applicants), propose to construct and operate the Vaca Dixon Power Center Project (Project). The battery energy storage system (BESS) facilities are proposed to be installed on an approximately 10-acre site in the City of Vacaville in Solano County, California (Figure 2-1, Figure 2-2). The proposed BESS facilities are located on Assessor Parcel Number (APN) 0133-060-060. The Project would be capable of operating 7 days a week, 365 days a year, as grid conditions allow and require, with an up to 35-year[1] anticipated lifespan. The primary Project facility components at the approximately 10-acre combined BESS Project Area include:

- Vaca Dixon BESS (57 megawatts [MW], 1-hour duration, 57 MW hour [MWh]), including electrical switchyard
- Arges BESS (100 MW, 4-hour duration, 400 MWh), including electrical switchyard

The Project also includes transmission intertie (gen-tie) lines crossing Interstate 80 (I-80) to the north to connect the BESS facilities to the existing Pacific Gas & Electric (PG&E) Vaca-Dixon Substation located on a PG&E-owned parcel (APN 0133-060-070) in unincorporated Solano County. Both BESS components would interconnect to the existing PG&E Vaca-Dixon Substation at 115 kilovolts (kV). The Vaca Dixon 57 MWh BESS is proposed to connect to the existing 13.8/115 kV generation step up (GSU) transformer at the existing CalPeak Power - Vaca Dixon Peaker Plant (VDPP) on the PG&E parcel via a new overhead 13.8 kV line from the proposed BESS switchyard to the low side of the VDPP GSU transformer to the north. The existing GSU transformer in the VDPP switchyard is connected to the PG&E substation by an existing 115 kV line. The Arges 400 MWh BESS would interconnect directly to the PG&E substation via a new overhead 115 kV gen-tie to be constructed from the Arges 400 MWh BESS switchyard at the BESS Project Area south of I-80 to the PG&E substation to the north.

The proposed common gen-tie components for the Vaca Dixon 57 MWh and Arges 400 MWh BESS facilities would be co-located on shared transmission structures carrying both 13.8 kV and 115 kV conductors for approximately 1,500 feet of the gen-tie lengths, from the vicinity of the BESS switchyards across I-80 and up to the northwest corner of the VDPP facility site. As shown in Figure 2-1 and Figure 2-2, from that point, the 13.8 kV gen-tie component for the Vaca Dixon 57 MWh BESS would continue approximately 150 feet to the east for connection to the low side of the 13.8/115 kV GSU transformer at the VDPP. The Arges 400 MWh BESS 115 kV gen-tie route continues approximately 725 feet north and east to the connection point at the PG&E Vaca-Dixon Substation. The gen-tie crossing of I-80 would require an encroachment permit from the California Department of Transportation (Caltrans).

The Project location and related facilities were selected taking into consideration the Project objectives, engineering constraints, site geology, potential environmental impacts, water, waste and fuel constraints, and electric transmission constraints among other factors. A detailed discussion of the basis project objectives and the site selection is provided in this Section 2 and in Chapter 6, *Alternatives.*

[1] After 35 years, the Project would be repowered or decommissioned.

Figure 2-1 Regional Location

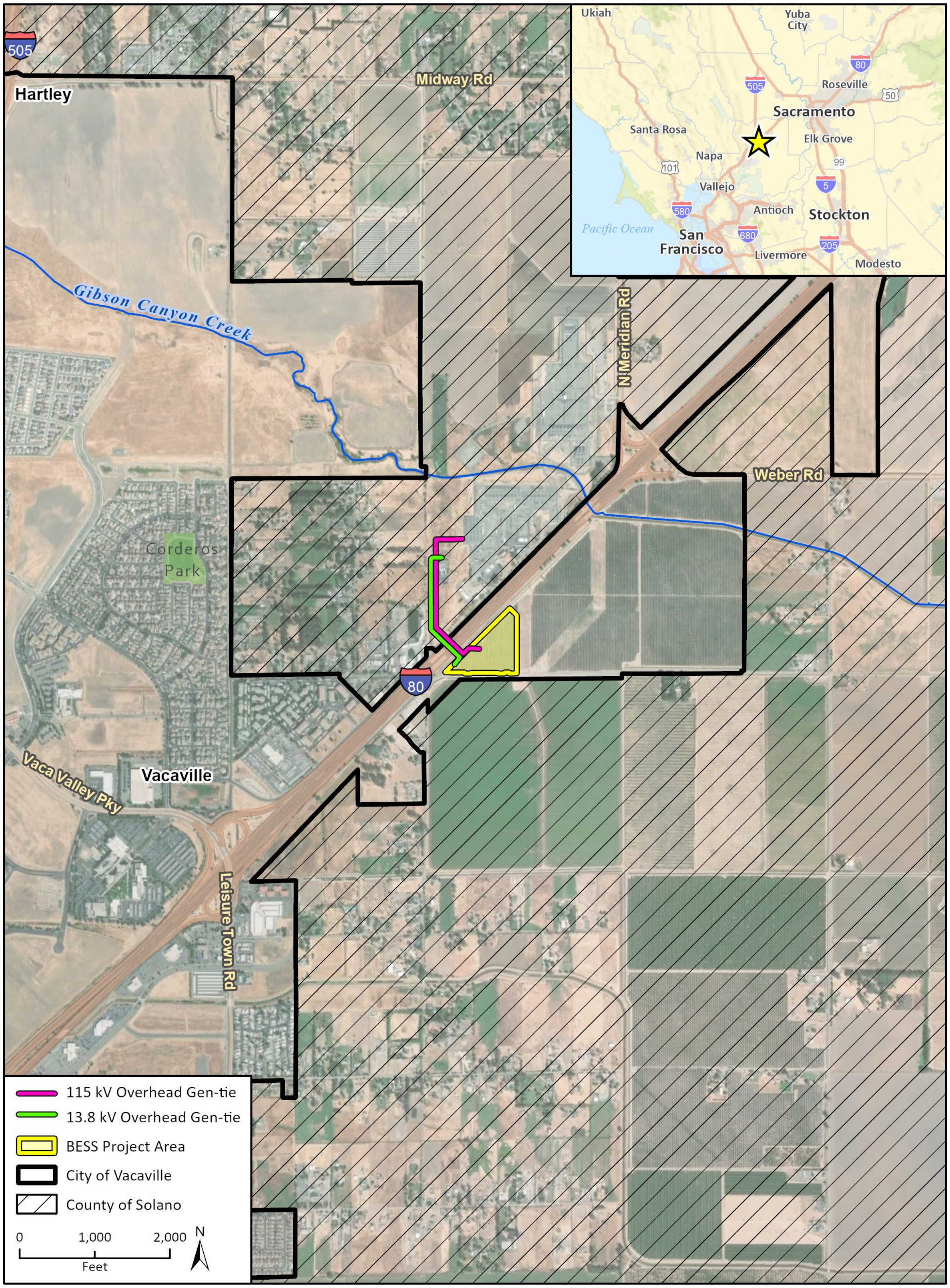

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Fig 2-1 Regional Location_Portrait

Figure 2-2 Project Area and Components

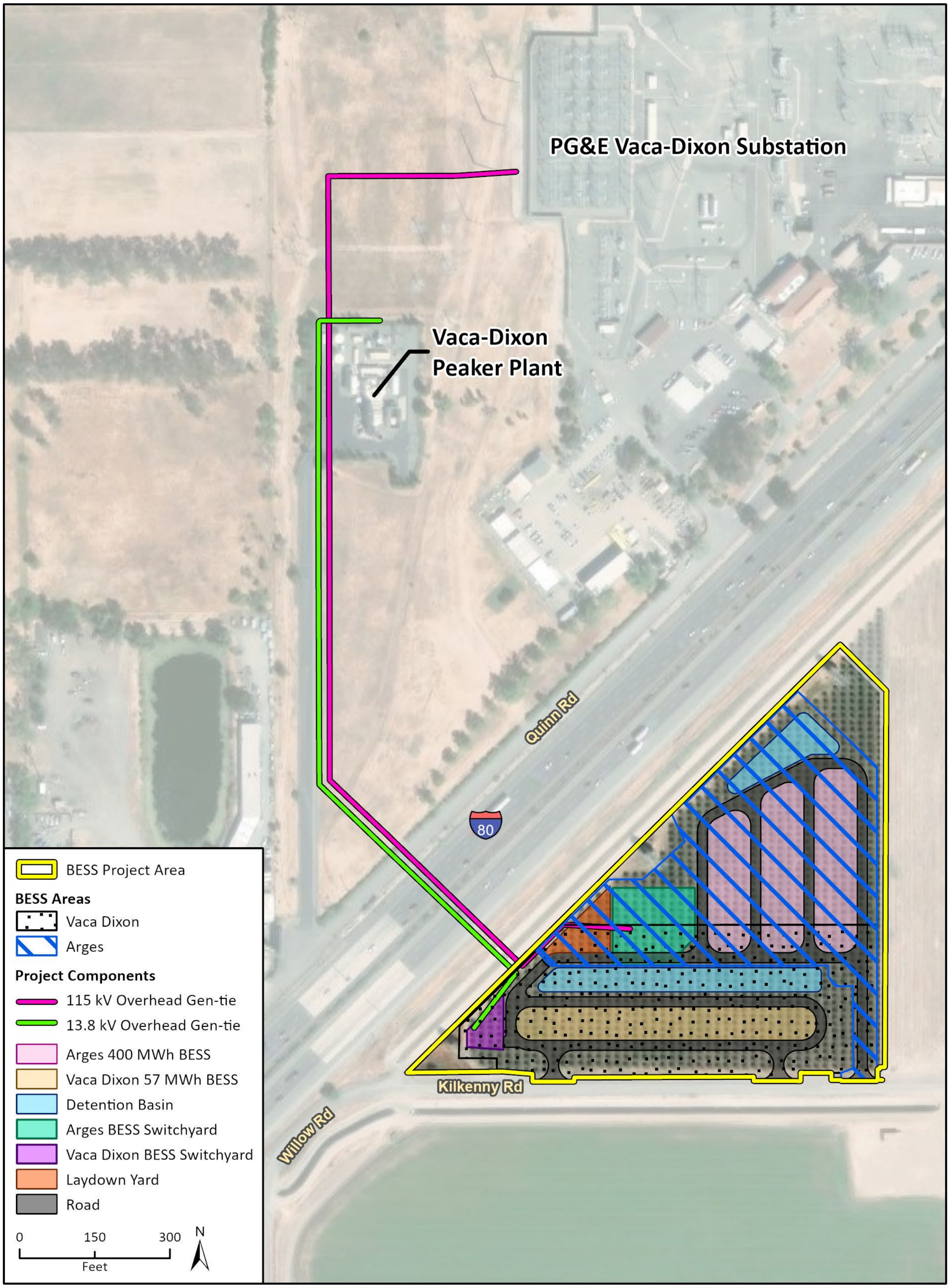

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Fig X Project Site and Components_Labels_Portrait

2.1 Facility Description, Design, and Operation

The Vaca Dixon Power Center Project has a capacity of 457 MWh and includes a 57 MWh BESS and a 400 MWh BESS, with appurtenant facilities. The Vaca Dixon 57 MWh BESS and the Arges 400 MWh BESS components would likely be constructed in succession starting with construction of the Vaca Dixon 57 MWh BESS.

2.1.1 Project Location

The BESS components of the proposed Project are located in the City of Vacaville, California. The combined BESS components footprint encompasses approximately 10 acres on APN 0133-060-060. The proposed Vaca Dixon 57 MWh BESS component would be located on approximately 4.25 acres in the southern portion of the 10 acres BESS Project Area. The proposed Arges 400 MWh BESS component would be located on approximately 5.75 acres of the Project Site.

As detailed in Chapter 5.2, *Land Use,* the proposed BESS Project Area is designated by the City of Vacaville General Plan as Business Park and the BESS Project Area is located within the City's Northeast Growth Area. Pursuant to Vacaville General Plan Policy LU-P18.1, development within the Northeast Growth Area is intended for job generating uses such as high-quality offices, industrial uses, and technology campuses. The purpose of this overlay district is to guide temporary or interim development in a manner that preserves existing land for future development in the Northeast Growth Area. Permitted and Conditional Uses in the Northeast Growth Area do not include BESS projects. The CEC has exclusive approval authority over the Project through the AB 205 Opt-In process, and the CEC has the authority to approve the Project. Land uses surrounding the BESS Project Area include I-80 (Caltrans jurisdiction) to the north and west, a PG&E transmission line easement and agricultural land within the City of Vacaville to the east, and Kilkenny Road and agricultural land within Solano County to the south. The proposed gen-tie facility locations on the PG&E parcel (APN 0133-060-070) are designated by the Solano County General Plan as Public/Quasi-Public land, including existing PG&E facilities associated with the PG&E Vaca-Dixon Substation to the east. Adjacent land uses to the gen-tie routes on the PG&E parcel, which are all in Solano County, include a commercial auto body shop and pond to southwest, designated as Urban Commercial land; and undeveloped land and backyards of residential lots on Mills Lane to the west and northwest, designated as Urban Residential, Public Open Space, and Public/Institutional lands.

2.1.2 Site Arrangement and Layout

Figure 2-4 shows the overall Project layout and location of the BESS facilities including battery modules, inverters, access roads, stormwater detention basins, construction laydown areas, and electrical interconnection facilities which are discussed in further in this Chapter The Vaca Dixon 57 MWh and Arges 400 MWh BESS layouts are shown in Figure 2-5 and Figure 2-6, respectively.

The Project parcels, section, township, and range, as well as the proposed locations of the Project components is shown in Figure 2-3. Section 5.5, *Visual Resources*, includes photo simulations of the Project. In addition, Appendix C contains scale plan and elevation drawings depicting the relative size and location of all facilities that were used to create Project visual simulations.

Figure 2-3 Project Parcels

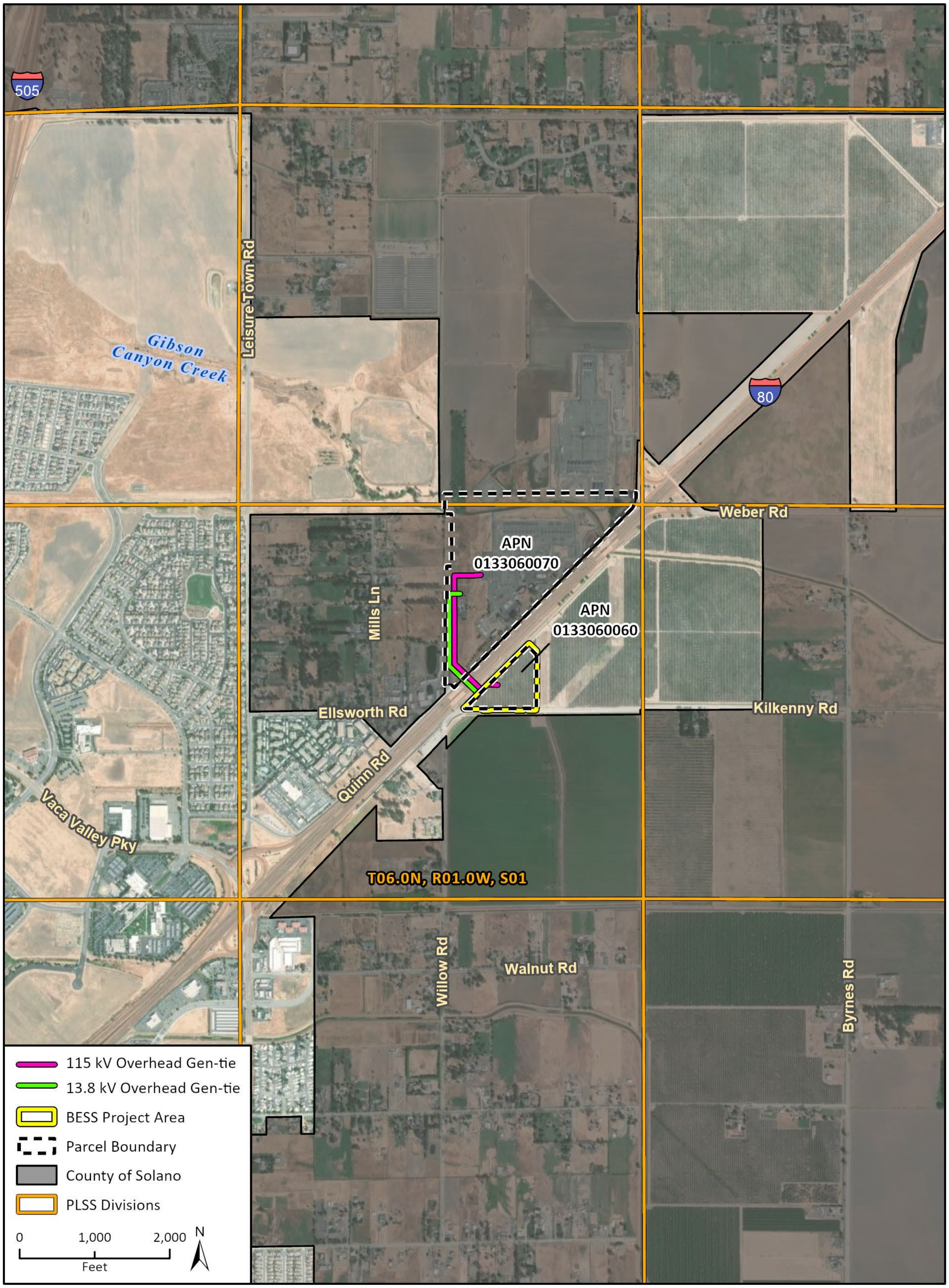

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Fig X Project Site and TRS

Figure 2-4 Vaca Dixon Power Center Project Site Plan – Full Site

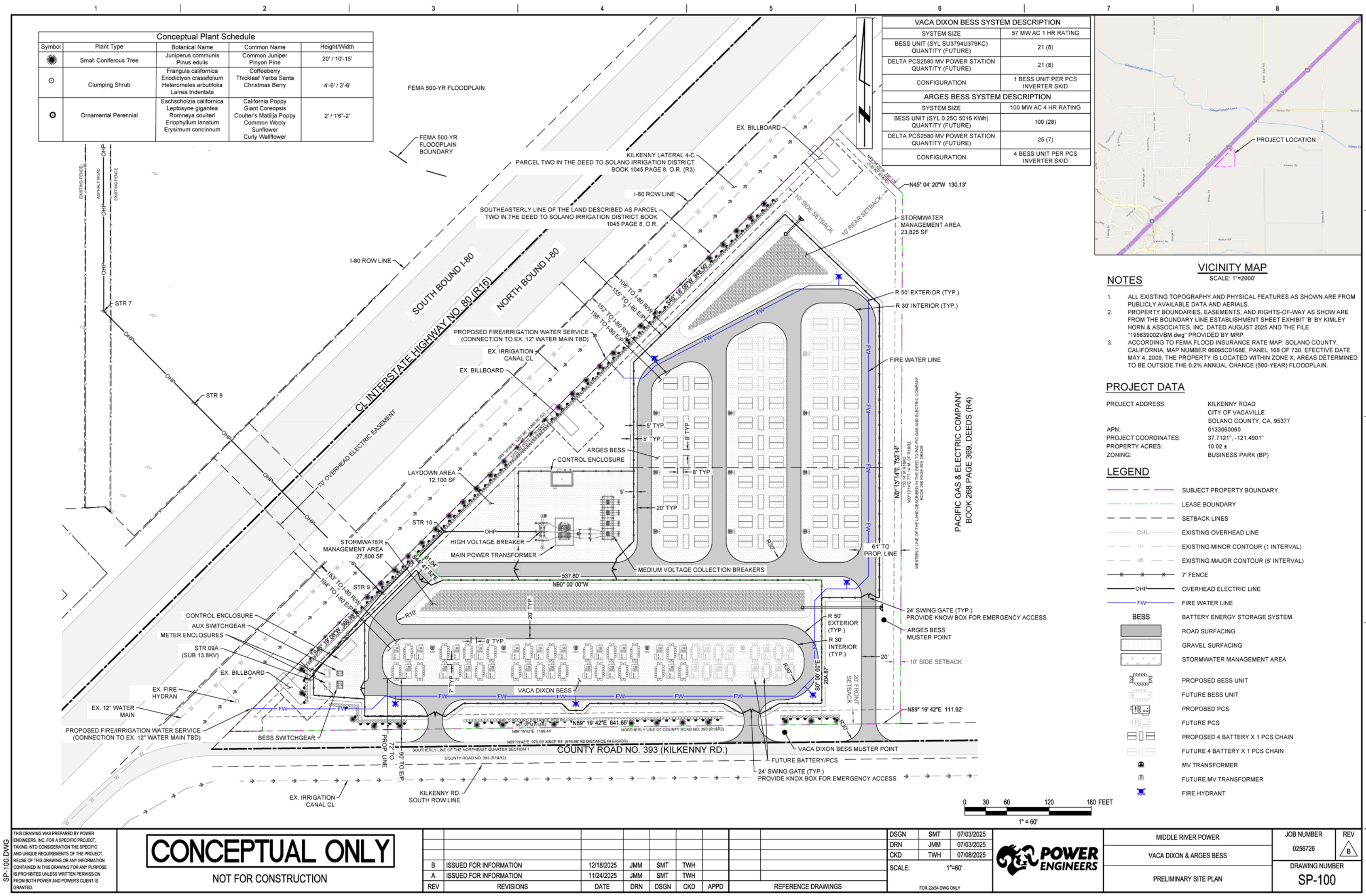


Figure 2-5 Vaca Dixon 57 MWh BESS Component

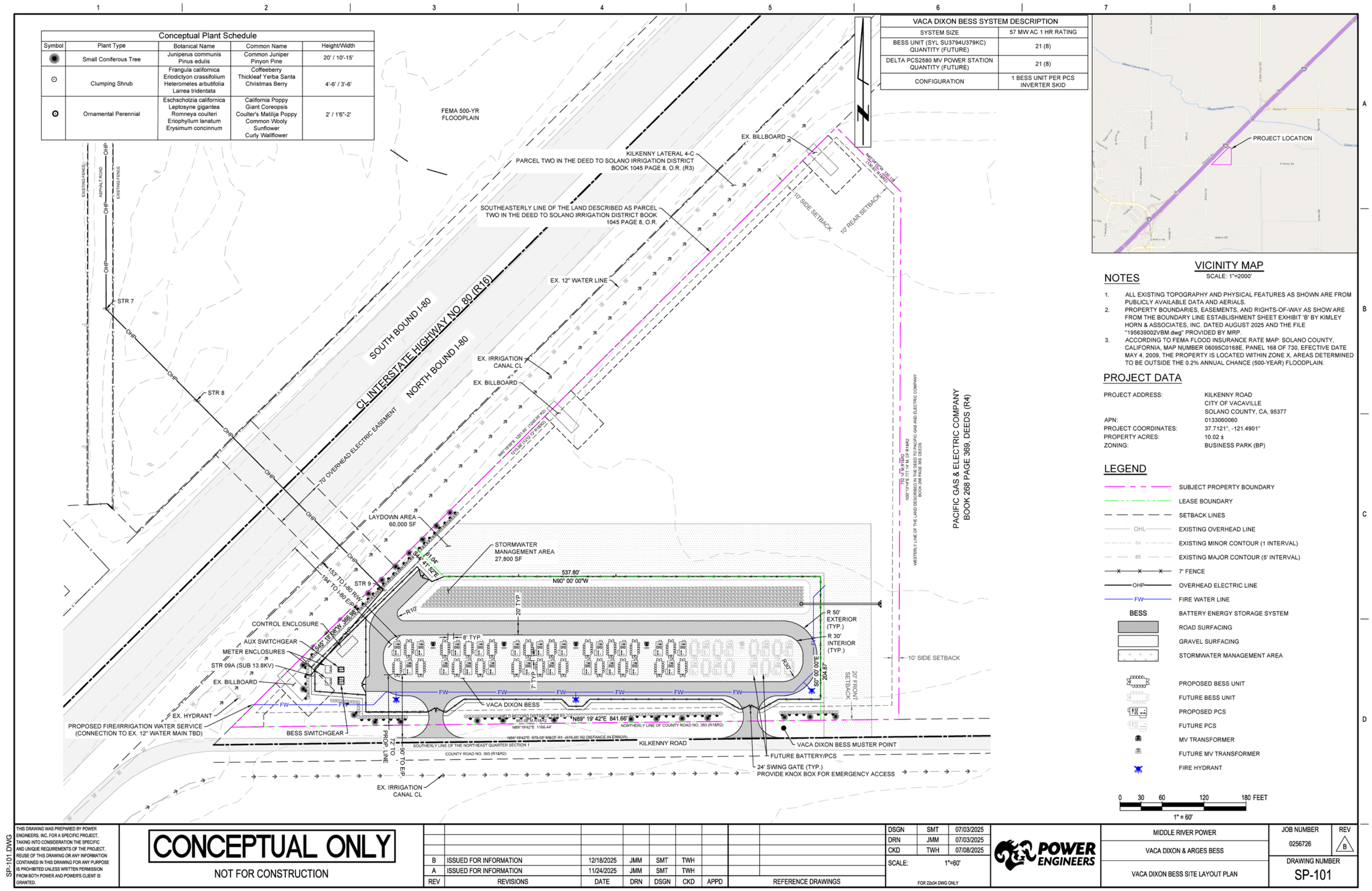
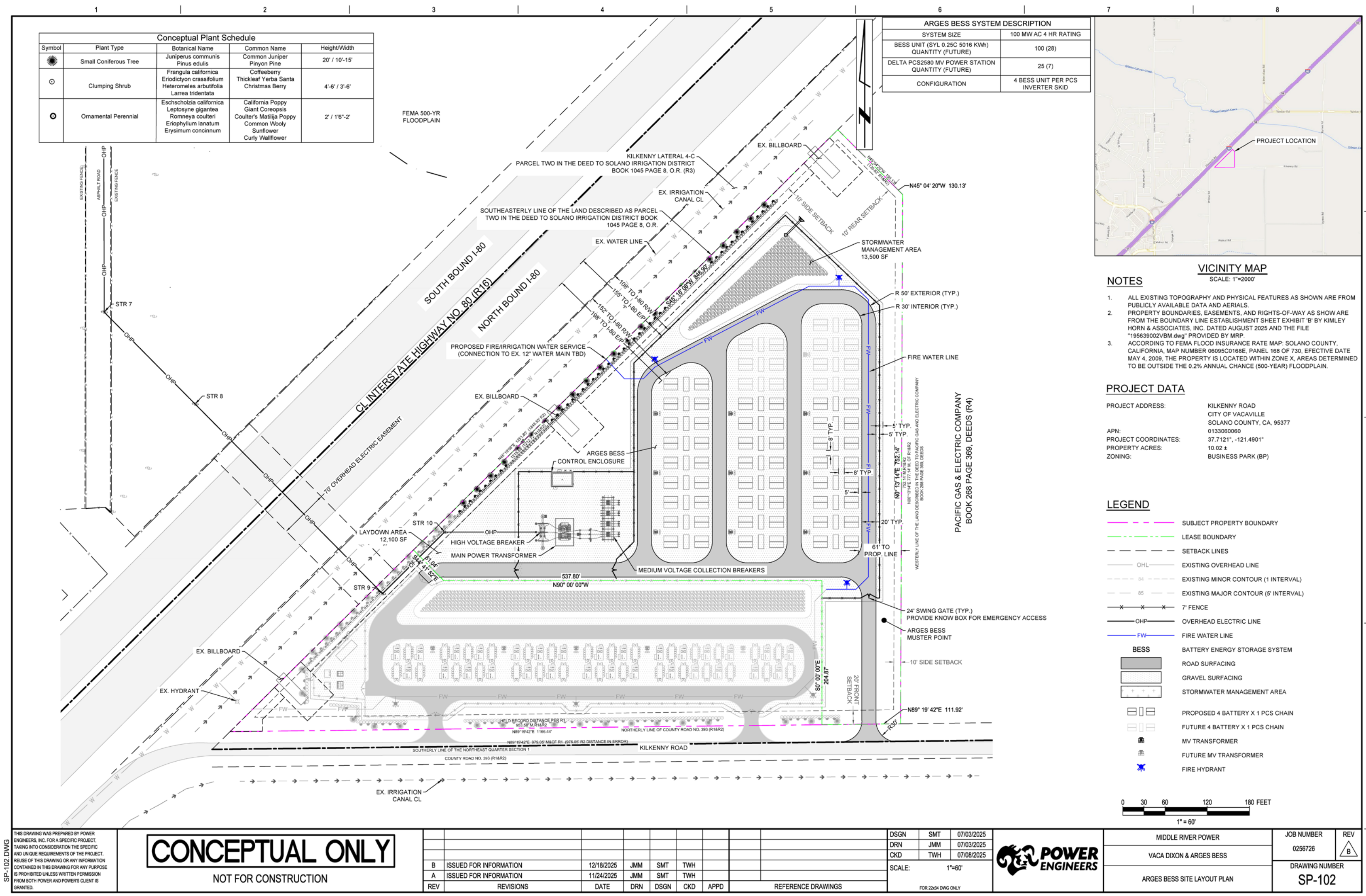


Figure 2-6 Arges 400 MWh BESS Component



Site Access

Main access to the BESS Project Area would be provided from Kilkenny Road. The gen-tie routes on the PG&E parcel to the north would be accessed primarily from the existing VDPP access road located along the southwestern portion of the PG&E parcel. The existing VDPP access road connects to Quinn Road on the southern end. Internal asphalt access roads approximately 20 feet wide would be constructed to provide vehicular access within the BESS facilities south of I-80.

2.1.3 Battery Energy Storage System Description

2.1.3.1 Battery Energy Storage System Basic Project Objectives

The Project is designed with the following principle Basic Project Objectives:

- Construct and operate an economically viable, and commercially financeable BESS facilities totaling 457 MWh in Solano County.
- Obtain site control of a parcel at least 10 acres in size to provide adequate space and to allow design flexibility for the Project that includes batteries, switchyards, inverters, transformers, stormwater control, access routes, and fencing.
- Develop electricity storage facilities at energy facilities located on a dedicated parcel in the direct vicinity of the VDPP and the PG&E Vaca-Dixon Substation, to utilize existing infrastructure and assets while also minimizing potential environmental impacts, including the avoidance and minimization of potential impacts from new transmission lines.
- Offer energy storage to curtail dispatch and displace the need for additional fossil fuel based generating stations needed to serve peak demand periods when intermittent renewable sources may be inadequate or unavailable and allow for the deferral or avoidance of regional transmission facilities.
- Support California’s current need for additional electrical supply capacity during peak load demand time periods and assist California in meeting its goal of reducing statewide annual greenhouse gas emissions from the electric sector to 25 million metric tons by 2035.
- Balance electricity generation from renewable sources, such as wind and solar, with electricity demand by storing excess generation and delivering it back to the grid when demand exceeds real-time generation supply.
- For the Vaca Dixon 57 MWh BESS, take advantage of existing interconnection capacity and integrate BESS operations with the natural gas-fueled VDPP to optimize project operations and afford the opportunity to avoid and minimize natural gas operations where feasible.
- For the Arges 400 MWh BESS, utilize the transmission interconnection capacity available to the BESS at the PG&E Vaca-Dixon Substation.
- Enhance electricity reliability without requiring the construction of new regional transmission infrastructure or substantial network upgrades.
- Locate site near existing roadways and related infrastructure where available and feasible for construction and O&M access.
- On a system-wide basis, reduce the need for additional fossil fuel-based generating stations required to serve peak demand periods when renewable sources may be inadequate or unavailable.

- Assist California electric utilities in meeting obligations under California's Renewable Portfolio Standard Program and Senate Bills 100 and 1020, which require renewable energy sources and zero-carbon resources to supply 60 percent of all retail sales of electricity to California end-use customers by December 31, 2030, 90 percent of all retail sales of electricity to California end-use customers by December 31, 2035, 95 percent of all retail sales of electricity to California end-use customers by December 31, 2040, and 100 percent of all retail sales of electricity to California end-use customers by December 31, 2045.
- Assist California utilities in meeting obligations under the California Public Utility Commission's (CPUC's) Mid-Term Reliability Procurement Requirements.
- Create prevailing wage construction jobs, facilitating local community benefits, and resulting in economic benefits to the City of Vacaville and Solano County through construction and operation of the Project.

2.1.3.2 Battery Energy Storage System Facility Components

The Project would include a battery storage system capable of storing up to 457 MWh of electricity, requiring approximately 10 acres, including ancillary facilities. As shown in Figure 2-2, the battery systems would be located near the existing VDPP and the existing PG&E Vaca-Dixon Substation to facilitate interconnection and metering. Operation of the proposed Vaca Dixon 57 MWh BESS component would be integrated with the existing VDPP, but the Project BESS facilities would be charged from the electrical grid and not the VDPP. The Vaca Dixon 57 MWh BESS component would charge/discharge electricity for one hour per day, and the Arges 400 MWh BESS component would charge/discharge electricity for four hours per day.

Battery Energy Storage System

The storage system would consist of battery banks housed in non-habitable electrical enclosures and buried electrical conduits, with approximately 80 battery modules per enclosure. The battery storage technologies being considered include lithium-iron-phosphate (lithium-ion) or other similar technologies that may become commercially available as the BESS component undergoes final design. A total of 121 BESS units within 71 enclosures measuring approximately 8 feet wide by 9.5 feet tall by 20 feet long would be installed on piers, piles, spread footings, and/or mat foundations during the initial Project installation. Enclosures would be spaced in compliance with UL Certification requirements. Battery modules would be added every 2 to 5 years and would be placed adjacent to Project BESS enclosures in areas designated for future battery/power conversion system (PCS) augmentation (see Figure 2-4).

The BESS enclosures would include internal heating, ventilation, and air conditioning (HVAC) and internal fire detection and fire suppression systems in each enclosure. The internal HVAC systems would allow the battery enclosures to function properly in temperatures ranging from approximately -13 degrees Fahrenheit to approximately 131 degrees Fahrenheit. These enclosures would also include a battery management system which monitors battery voltage, current, temperature, security, fault diagnosis and management, and external communication with the power conversion system. The PCS inverter skids would be connected to the BESS enclosures by underground electrical conductors. Each PCS inverter skid would be approximately 8 feet wide by 9.5 feet tall by 20 feet long. A total of 46 PCS inverter skids would be initially installed with each including an inverter, step up transformer, protection equipment, direct current and alternating current circuit breakers, and a connection cabling system. In addition, medium voltage transformers would be located adjacent to the inverter/PCS skids.

Vaca Dixon 57 MWh BESS Component

The Vaca Dixon 57 MWH BESS component would consist of an initial installation of 21 BESS enclosures sending/receiving power from 21 PCS inverter skids for charging and discharging from the grid. In addition, approximately eight BESS enclosures and eight PCS inverter skids would be installed over the course of the Project life cycle to account for the degradation of the initially installed equipment.

Arges 400 MWh BESS Component

The Arges 400 MWH BESS component would consist of an initial installation of 100 BESS units within 50 BESS enclosures sending/receiving power from 25 PCS inverter skids for charging and discharging from the grid. In addition, approximately 14 BESS enclosures and seven PCS inverter skids would be installed over the course of the Project life cycle to account for the degradation of the initially installed equipment.

Water Supply

The water supply requirements for the Project would be met by tapping on-site City of Vacaville water facilities. Construction water would be supplied by connecting to a fire hydrant adjacent to the southwest corner of the BESS Project Area. Operational phase water for the fire water loop shown on Figure 2-2 would be obtained by tapping an existing 12-inch diameter City water main that parallels the northern site boundary. The final design of the fire water loop would be in compliance with the California Fire Code (CFC).

Interconnection

The Vaca Dixon 57 MWh BESS would interconnect via the existing 13.8 kV/115 kV GSU transformer at the VDPP, which is already connected to the PG&E Vaca-Dixon Substation by an existing 115 kV line. The Arges 400 MWh BESS would interconnect directly to the PG&E Vaca-Dixon Substation at 115 kV.

Ancillary Facilities

A Project 115 kV collector switchyard, the Arges 400 MWh BESS switchyard, would be installed adjacent to the west side of the Arges 400 MWh BESS component that includes an outdoor rated 34.5 kV collection bus, the main power transformer to step up from 34.5 kV to 115 kV, and a 115 kV circuit breaker with gen-tie takeoff structure. The Arges 400 MWh BESS switchyard would connect to the PG&E Vaca-Dixon Substation switchyard by a 115 kV gen-tie with several transmission structures (monopoles) as shown in Figure 2-11. The Arges 400 MWh BESS switchyard would also include a control enclosure to house the Project protection and control equipment, SCADA and communications equipment, and station control power battery.

The Project would also include a switchyard located immediately west of the Vaca Dixon 57 MWh BESS component. The switchgears within the Project switchyard would be outdoor rated and collect the Project BESS circuits at 13.8 kV. The Project switchgears would also manage and control the electrical energy flow within the BESS system and would be able to isolate different parts of the BESS for safety during operation and maintenance activities. Additionally, the switchgear would ensure the BESS can connect to, and disconnect from, the energy grid to allow the BESS to provide or absorb power when required and provide energy at peak demand times. The switchgear would also transfer energy stored in the BESS to and from the grid with an overhead gen-tie to the existing VDPP.

Landscaping

Landscaping would be installed along the northwestern and southern portions of the BESS Project Area perimeter as shown in Figure 2-4. Landscaping is anticipated to consist of small coniferous trees, clumping shrubs, and ornamental perennial plants.

2.1.4 Operations Methods and Activities

Upon commissioning, the Project would enter the operational phase. The Project would be capable of operating 24 hours a day, 7 days a week, 365 days a year. Operational activities at the Project facilities would include:

- Site security;
- Responding to automated electronic alerts based on monitored data, including actual versus expected tolerances for system output and other key performance metrics; and
- Communicating with PG&E, transmission grid system operators, and other entities involved in facility operations.

Each BESS component would have an operational life of 35 years. The Vaca Dixon 57 MWh BESS component is assumed to be operational from 2028 to 2062, and the Arges 400 MWh BESS component would be operational from 2029 to 2063.

The Project BESS components and the VDPP may be operated simultaneously in accordance with the market-optimized dispatch instructions received from the California Independent System Operator's (CAISO) Automated Dispatching System, but the combined output would be control-limited to not exceed the limit of the Generator Interconnection Agreements (Appendix E).

2.1.4.1 Operations and Maintenance Facility

The Project does not include a separate operations and maintenance facility area, as the Project would be unmanned and operated remotely using a Supervisory Control and Data Acquisition (SCADA) system, described in Section 2.1.11.1. Two uninhabitable control enclosures would accommodate the Project facility control power battery, relaying, and communication equipment. The control enclosures would be small, conditioned, factory-assembled enclosures without water or sewer facilities. The control enclosures would be approximately 15 feet at the tallest point and 20 feet by 30 feet (up to approximately 600 square feet) in size with a concrete foundation. Spare parts and other materials for ongoing facility operations and maintenance activities would be stored in two on-site shipping containers: one within the Vaca Dixon 57 MWh BESS area and one within the Arges 400 MWh BESS switchyard area. The containers would be approximately 60 feet long by 11 feet wide and up to 10 feet tall with a concrete foundation.

2.1.4.2 Operations and Maintenance Workforce

During operation of the Project, up to two staff would visit the Project up to two times a week on average for operations and maintenance activities. Off-site Project operators may be on call to respond to specific alerts generated by the monitoring equipment at the Project facility. Security personnel would be on call. The control enclosure would house Project security monitoring equipment, including security camera feeds for monitoring the Project 24 hours per day.

2.1.4.3 Site Maintenance

The Project maintenance program would be largely conducted during daytime hours. Maintenance typically would include the following: maintenance of transformers, inverters, energy storage system, and other electrical equipment; road and fence repairs; vegetation and pest management; and detention basin maintenance. On-site vegetation would be managed to maintain access to all areas of the site, and to reduce fire risk.

Two stormwater management areas with detention basins are proposed, one in the northern portion of the BESS Project Area to the north of the Arges 400 MWh BESS facilities and one centrally located in the BESS Project Area, north of the Vaca Dixon 57 MWh BESS facilities. The stormwater basin would be regularly monitored and maintained to remove accumulated sediment and debris, and to repair any areas that have been damaged. As needed, grass within the basins would be mowed during the growing season, and woody vegetation would be removed. Drainage inlets would have clogs removed and damaged pipe replaced to limit ponding and soil saturation. A stormwater basin maintenance plan would be prepared prior to construction to include protocols for inspections and monitoring for sediment and debris buildup, erosion, and damage.

Operations and maintenance vehicles would include trucks (pickup and flatbed), forklifts, and loaders for routine and unscheduled maintenance. Large heavy-haul transport equipment may be brought to the Project facility infrequently for equipment repair or replacement.

A transmission line maintenance plan would be followed to keep transmission facilities clear of all incompatible trees, brush, and other vegetation that could grow too close to conductors or otherwise interfere with the safe operation and maintenance of the facility. Incompatible vegetation is defined as vegetation that at maximum mature height could encroach within maintained clearance distances. Routine maintenance includes tree felling, pruning, mowing and herbicide application.

2.1.5 Water Supply and Use

2.1.5.1 Construction Water and Wastewater

Construction of the Project would require an estimated 4.8 to 5.6 acre-feet[2] of water, as shown in Table 2-1. Water demand during construction would primarily be related to dust suppression required for site preparation. The proposed Project fire water supply source is the existing 12-inch diameter water main owned by the City of Vacaville located along the northwestern edge of the BESS Project Area. Construction water would be obtained from an existing City of Vacaville fire hydrant located adjacent to the southwest corner of the BESS Project Area on the north side of Kilkenny Road. Up to approximately 5,000 gallons of water per day would be required for the first 2 to 3 months (during site grading and leveling activities) and 2,000 to 3,000 gallons per day would be required for the balance of construction activities involving ground disturbance (such as trenching and other dust generating activities) during each of the approximately 12-month construction periods for the Vaca Dixon 57 MWh and Arges 400 MWh BESS project components. The Project would utilize portable restroom facilities during construction. An on-site water supply would not be required, and no wastewater discharges are anticipated.

[2] One acre-foot is equivalent to 325,851 gallons.

Table 2-1 Total Estimated Construction Water Demands

Water Use	Daily Demand (gallons)	Total Demand (acre-feet)
Vaca Dixon 57 MWh BESS		
Site Grading and Leveling	5,000	1.5
Dust Suppression During Ground-Disturbing Activities	2,000 to 3,000	0.9 to 1.3
Total	**N/A**	**2.4 (min) to 2.8 (max)**
Arges 400 MWh BESS		
Site Grading and Leveling	5,000	1.5
Dust Suppression During Ground-Disturbing Activities	2,000 to 3,000	0.9 to 1.3
Total	**N/A**	**2.4 (min) to 2.8 (max)**
Total Across Both Construction Periods	**N/A**	**4.8 (min) to 5.6 (max)**

2.1.5.2 Operational Water and Wastewater Requirements

Water demand during operation of the Project would be primarily related to fire water and landscaping, as applicable. During operation, the total annual water demand for the Project would be approximately 1.45 acre-feet per year (AFY); however, the majority of this demand would be associated with landscaping and would be naturally met through rainfall. During average rainfall years, landscaping would only need to be watered during summer months and periods of low rainfall. An estimated 0.2 to 0.3 AFY of non-rainfall water demand would be anticipated to be needed during years of normal rainfall. In addition, the Project design includes installation of a fire water loop around the BESS facilities. Annual water usage associated with this system would include flow testing for the fire water system. Section 5.13, *Water Resources*, provides additional details regarding the Project's water requirements. The Project would utilize portable restroom facilities for which an on-site water supply would not be required.

2.1.5.3 Water Quality

Section 5.13, *Water Resources*, includes a discussion of water quality based on available testing data. Project water is proposed to be City of Vacaville water obtained via hookups to the existing fire hydrant and 12-inch water main. The water is expected to be of municipal water supply quality.

2.1.5.4 Water Treatment

Section 5.13, *Water Resources*, includes a description of water facilities and infrastructure, including water quality treatment. No water treatment is planned for the Project.

2.1.6 Grading, Stormwater, and Drainage

The grading and drainage plan for the Project is shown in Figure 2-7. Project construction would include the disturbance of approximately 10 acres at the BESS Project Area as well as minor disturbance at each of the gen-tie transmission structures to be installed. During construction of the Vaca Dixon 57 MWh BESS component, approximately 5.15 acres would be graded. The grading and drainage plan for the Vaca Dixon 57 MWh BESS component is shown in Figure 2-8. During construction of the Arges 400 MWh BESS component, approximately 5.3 acres would be graded to final grade, including regrading of a portion of the area disturbed for the Vaca Dixon 57 MWh BESS component. The grading and drainage plan for the Arges 400 MWh BESS component is shown in Figure 2-9.

Figure 2-7 Grading and Drainage Plan – BESS Project Area

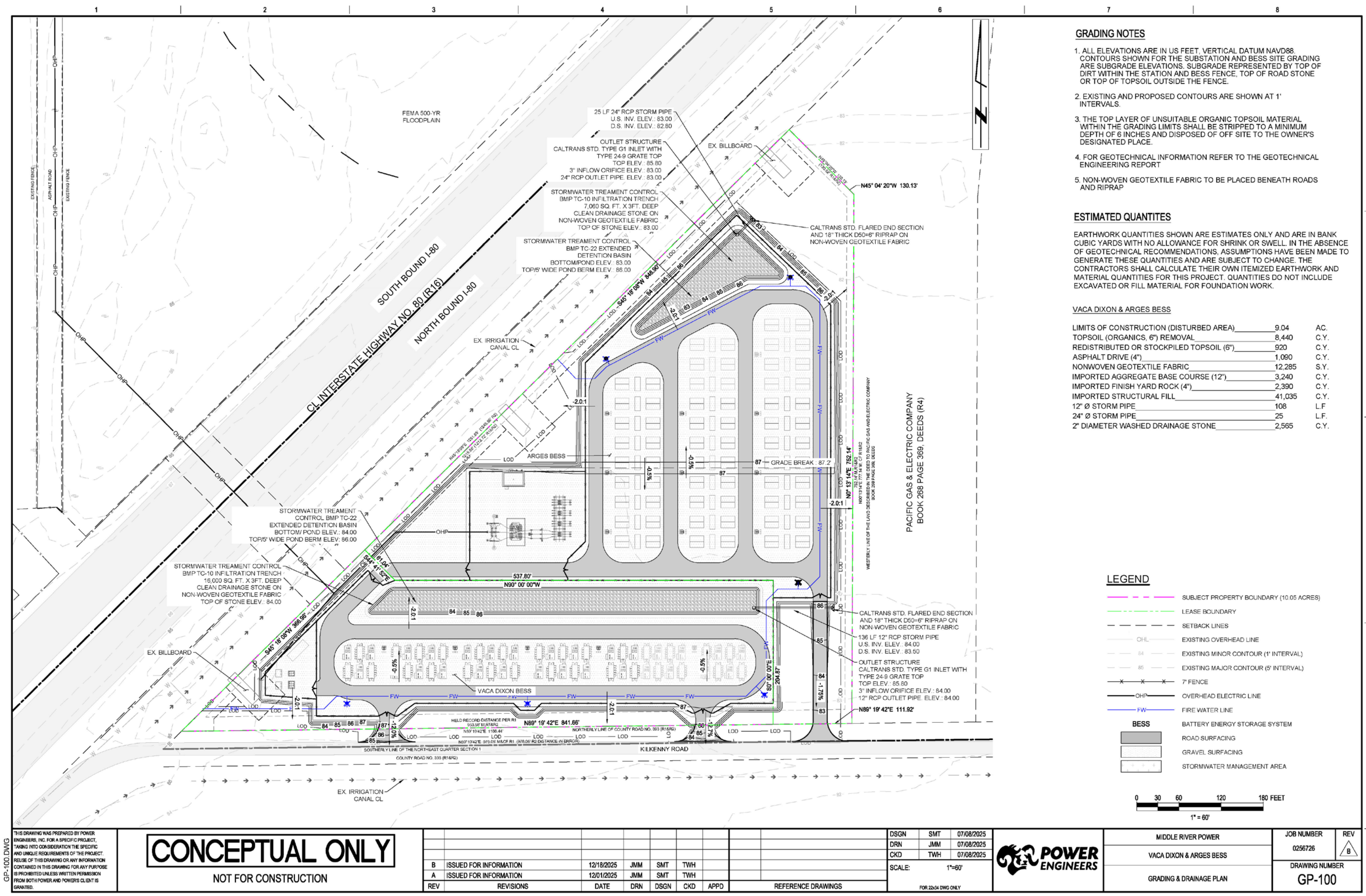


Figure 2-8 Grading and Drainage Plan – Vaca Dixon 57 MWh BESS Component

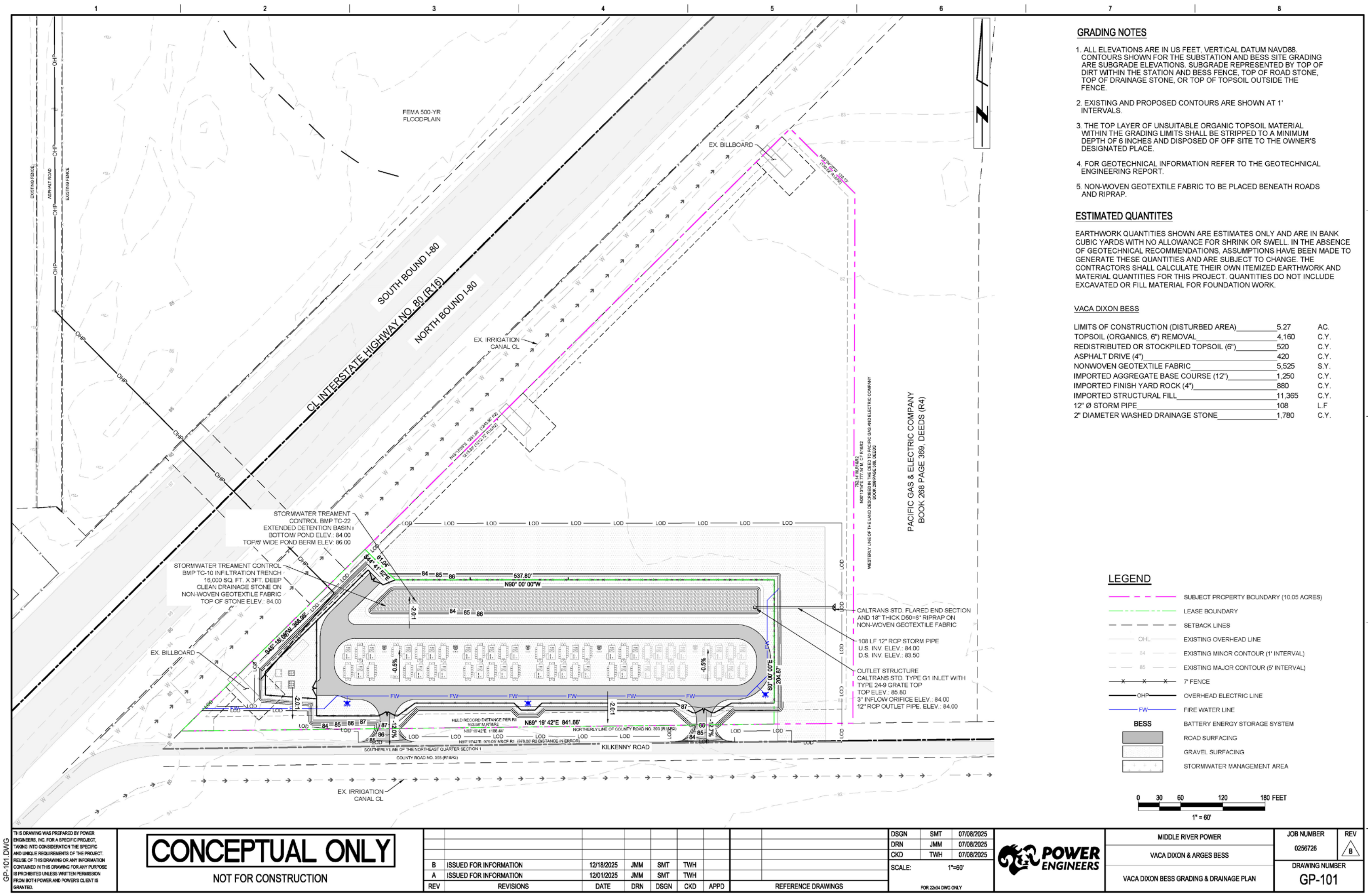
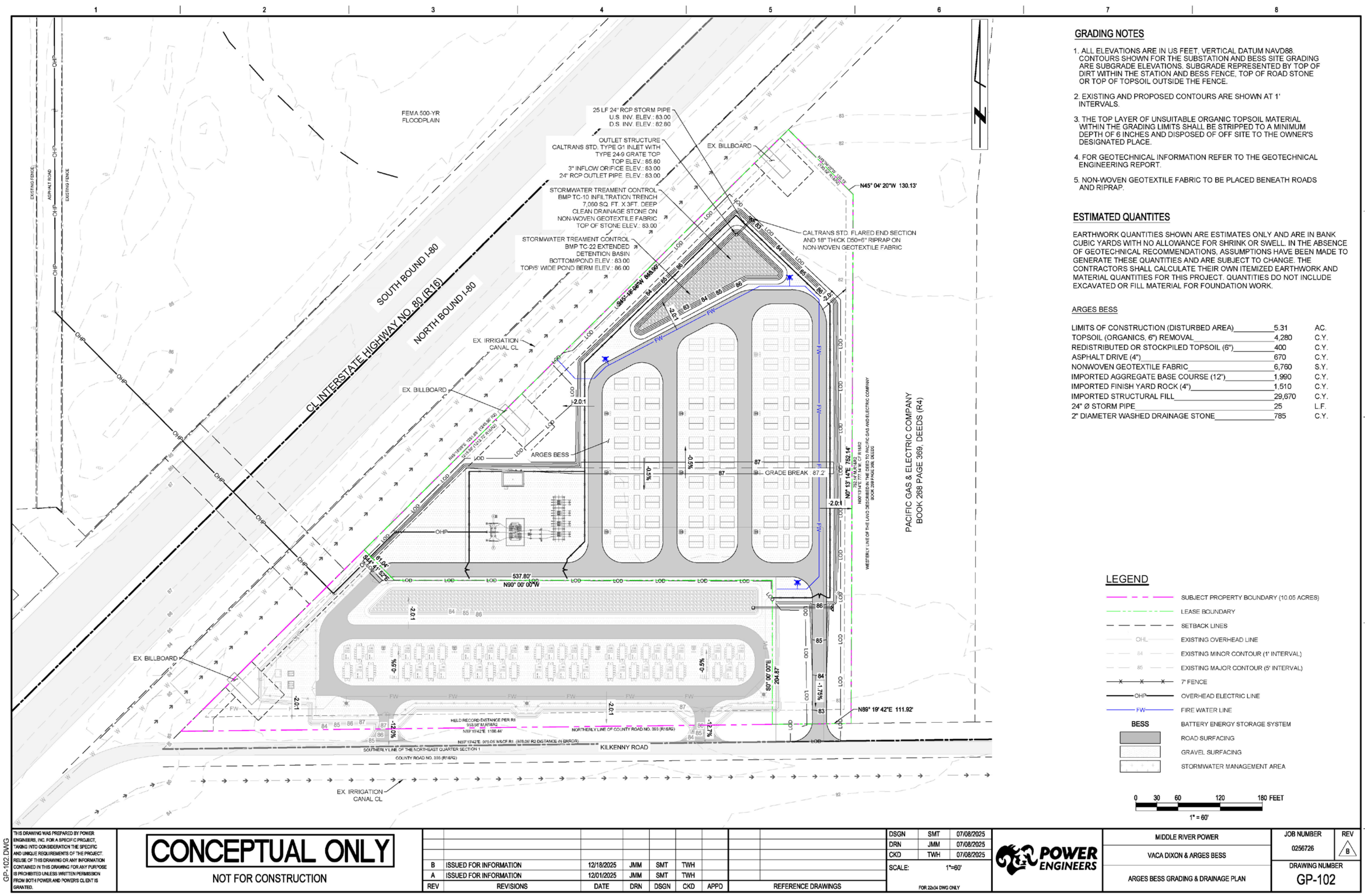


Figure 2-9 Grading and Drainage Plan – Arges 400 MWh BESS Component



Construction of the above-ground components of the Project (e.g. BESS facilities, access roads, and related infrastructure) would introduce approximately 7.6 acres of impervious surfaces to the BESS Project Area. New impervious surfaces would be designed to drain to the stormwater management area for quality and quantity control. The stormwater detention basins would be designed with subsurface infiltration trenches to allow on-site percolation. Above the infiltration trench, the ponds would store additional runoff volume temporarily, releasing water slowly to mimic the pre-construction site runoff characteristics. A preliminary Hydrology and Stormwater Management Report for the Project was conducted by POWER Engineers (POWER) in June 2025 (Appendix D) and is described in more detail in Section 5.13, *Water Resources.*

2.1.7 Waste Management

Waste produced at Project facilities would be properly collected, treated if necessary, and disposed of. Waste would include nonhazardous waste and hazardous waste, both liquid and solid. Waste management is discussed below and in more detail in Section 5.11, *Waste Management*.

2.1.7.1 Wastewater Collection, Treatment, and Disposal

During Project construction and operation, sanitary facilities would consist of portable sinks and toilets that would be regularly maintained by a permitted provider. No wastewater generated through Project construction or operations would be disposed of through discharge to a sanitary sewer or directly to open waterbodies.

2.1.7.2 Solid Nonhazardous Waste

Solid nonhazardous waste would be produced during Project construction and operation. Nonhazardous construction waste would generally include soil, scrap wood, excess concrete, empty enclosures, scrap metal, insulation, and sanitary waste. Nonhazardous waste generated during Project operation would generally include scrap metal, spent battery and transformer components, sanitary waste, and typical refuse generated by workers.

Construction materials would be sorted on-site throughout construction and transported to appropriate waste management facilities. Recyclable materials would be separated from non-recyclable items and stored until they can be transported to a designated recycling facility. Recycling would be conducted in accordance with applicable California state requirements. Wooden construction waste (such as wood from wood pallets) would be sold, recycled, or chipped and composted. Other compostable materials, such as non-invasive vegetation, may also be composted off-site.

Non-hazardous construction materials that cannot be reused or recycled would be disposed of at a Class II/III landfill when feasible. All contractors and workers would be educated about waste sorting, appropriate recycling storage areas, and how to reduce landfill waste.

Waste management is discussed further in Section 5.11, *Waste Management.*

2.1.7.3 Hazardous Wastes

Hazardous waste would be produced during Project construction and operations. Hazardous construction waste would generally include small amounts of waste oil, solvents, detergents, fuels, oily rags/sorbents, and empty hazardous material containers. Hazardous waste generated during operations would generally include small amounts of used oil, solvents, fuels, oily rags/sorbents, and spent batteries.

Several methods would be used to properly manage and dispose of hazardous wastes. Hazardous waste would not be placed in a landfill, but rather would accumulate on-site to be transported to a treatment, storage, and/or disposal facility by a licensed hazardous waste transporter. Waste lubricating oil would be recovered and recycled by a waste oil recycling contractor. Spent lubrication oil filters would either be recycled or disposed of in a Class I landfill. Workers would be trained to handle hazardous wastes generated at the Project Site.

Hazardous materials management is further discussed in Section 5.9, *Hazardous Materials Handling*, and Section 5.11, *Waste Management.*

2.1.8 Management of Hazardous Materials

A variety of chemicals would be used during the construction and operation of the Project. The handling and use of all chemicals would be conducted in accordance with applicable laws, ordinances, regulations, and standards. However, no chemicals or hazardous materials would be stored on-site.

Personnel would use approved personal protective equipment during chemical spill containment and cleanup activities, would be properly trained in the handling of these chemicals, and would be instructed in the procedures to follow in case of a chemical spill or accidental release. Adequate supplies of emergency response equipment, such as absorbent material, would be stored on-site for spill cleanup. Worker safety and training is further discussed in Section 5.10, *Worker Safety*.

A list of the chemicals anticipated to be used at the Project facility is provided in Section 5.9, *Hazardous Materials Handling.*

2.1.9 Fire Protection

Fire protection would be provided to limit the risk of Project and emergency response personnel injury, property loss, and possible disruption of the electricity generated by the Project. A Fire Protection and Prevention Plan would be implemented during both Project construction and operations and is discussed in Section 5.10, *Worker Safety*. Additionally, a discussion on Project fire risks and prevention is included in Section 5.17, *Wildfire*. Individual Project component fire protection is discussed below.

Battery Energy Storage System Facilities

The Project would be designed in compliance with National Fire Protection Association (NFPA) Section 855. A hazard mitigation analysis developed by the BESS manufacturer would be provided to the local authorities and would comply with California Codes 1207.1.4.1 and 1207.1.4.2.

Each BESS enclosure would house approximately 80 battery modules. The battery banks would have ventilation systems to keep battery cores at optimal operating temperature, and the BESS enclosures would have a robust network of water cooling and associated chilling systems to maintain the modules in a safe operating temperature regime. Fire suppression systems in the BESS enclosures would include a gaseous fire suppressant agent (e.g., FirePro 200, 3M™ Novec™ 1230 Fire Protection Fluid, or similar) designed to flood the entire container in the event of a fire. The enclosure would be equipped with combustible gas detection, early smoke detection, alarms, emergency ventilation, and remote monitoring. A fire water loop would also be installed around the BESS facilities.

Fire safety and suppression measures would be installed and available at the control enclosures, in accordance with current CFC. Enclosures would be equipped with a fire and gas detection and alarm system.

2.1.10 Emergency Power

BESS enclosure designs would protect against deflagration[3] through approved NFPA Part 68 or NFPA Part 69 certified designs, as required. NFPA Part 68 designs would allow for venting via the release of the doors under pressure, preventing an explosive release. NFPA Part 69 designs would include a backup Uninterruptible Power Supply that would allow the gas detection and ventilation system to operate for up to 24 hours to minimize equipment down times from maintenance activities, unexpected events, or emergencies.

2.1.11 Auxiliary Systems

2.1.11.1 SCADA and Telecommunications Facilities

The facility would be designed with a comprehensive SCADA system to allow remote monitoring of facility operation and/or remote control of critical components. The fiber optic or other cabling required for the monitoring system would be installed in buried conduit within the access road or planned trenching leading to a SCADA system cabinet at the on-site switchyard for the Project facility, or a SCADA system cabinet within the control enclosure. External telecommunications connections to the SCADA system cabinets could be provided through wireless or hard-wired connections to locally available commercial service providers.

The Project's SCADA system would interconnect to an external fiber optic network or fixed wireless service at the on-site collector switchyard and would require installation of buried fiber optic cables or fixed wireless antennas. External telecommunications connections to the SCADA system cabinets could be provided through wireless or hard-wired connections to locally available commercial service providers, so no additional disturbance associated with telecommunications is anticipated. As such, the Project would not require any substantial construction efforts regarding telecommunications facilities and structures. No relocation of existing telecommunication structures would occur.

2.1.12 Fuel Types, Handling, and Use Scenarios

A description of hazardous materials to be used during Project construction and operations and maintenance, handling, and use scenarios are included in Section 5.9, *Hazardous Materials Handling.*

2.1.13 Safety

The Project would be designed to maximize safe operation. Potential hazards could occur during both Project construction and operation. Facility operators would be trained in safe operation, maintenance, and emergency response procedures to minimize the risk of personal injury and

[3] Deflagration is defined by NFPA as propagation of a combustion zone at a velocity less than the speed of sound in the unreacted medium.

damage to the facilities. The Project BESS components would comply with the current CFC, which governs the code requirements to minimize the risk of fire and life safety hazards specific to BESS used for load shedding, load sharing and other grid services (Chapter 12 Section 1206 of the 2019 CFC). In accordance with the CFC, the battery enclosure and site installation design are all required to be approved by the local or State Fire Marshal.

Section 5.10, *Worker Safety*, provides a hazards analysis and describes Project training and safety programs.

2.1.14 BESS Site and Facilities Selection

The Project Site was selected primarily due to its proximity to existing electrical interconnection infrastructure (e.g., the VDPP). The Project Site is located in an area of growing electrical demand and is adjacent to appropriate electrical infrastructure to operate and service demand efficiently. The Project Site is located in the direct vicinity of the existing VDPP and the CAISO-controlled grid at the PG&E-owned 115 kV Vaca-Dixon Substation. The proposed BESS facilities would be strategically located in the direct vicinity of their respective interconnection facilities, thereby minimizing the need for construction of lengthy electrical connection lines. In addition, the Vaca Dixon 57 MWh BESS component would interconnect to the PG&E Vaca-Dixon Substation through the existing VDPP switchyard, which would allow for hybridized operation of the Vaca Dixon 57 MWh BESS and the VDPP. The proposed Project would utilize the existing access road that connects the VDPP to Quinn Road to the south for gen-tie access, and the BESS Project Area and gen-tie routes would be strategically located near I-80 for convenient access during construction and operations. The area surrounding the Project also includes existing generation and transmission facilities that would be similar in form, function, and visual character to the proposed Project facilities.

2.2 Transmission Lines Description, Design, and Operation

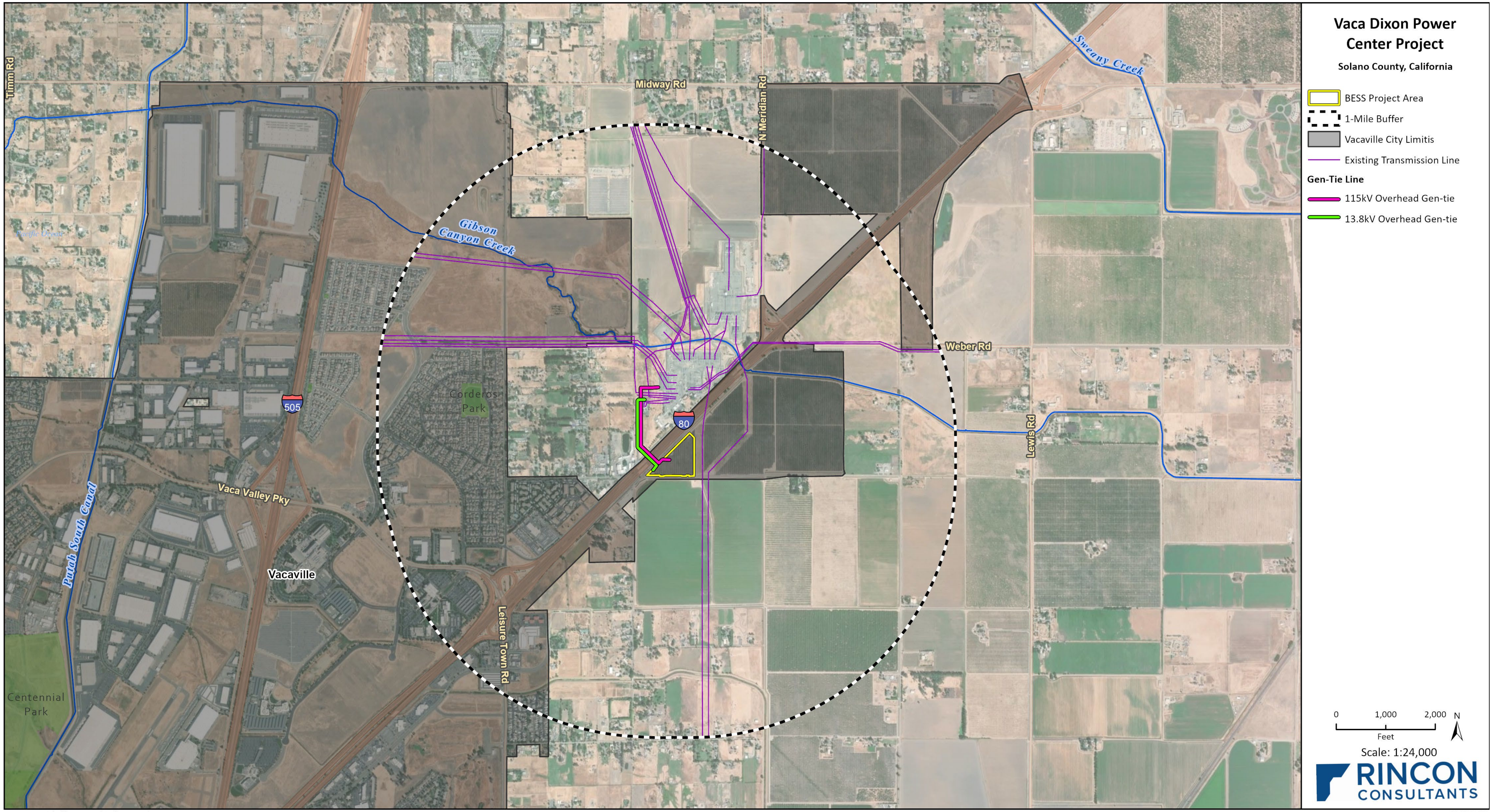
The Project gen-tie lines would cross I-80 to connect the BESS facilities to the existing PG&E Vaca-Dixon Substation located on a PG&E-owned parcel (APN 0133-060-070). Both BESS components would interconnect to the existing PG&E Vaca-Dixon Substation at 115 kV. The Vaca Dixon 57 MWh BESS is proposed to connect to the existing 13.8/115 kV GSU transformer at the existing CalPeak Power - VDPP on the PG&E parcel via a new overhead 13.8 kV line from the proposed BESS switchyard to the low side of the VDPP GSU transformer to the north. The existing GSU transformer in the VDPP switchyard is connected to the PG&E substation by an existing 115 kV line. The Arges 400 MWh BESS would interconnect to the PG&E substation via a new overhead 115 kV gen-tie to be constructed from the Arges 400 MWh BESS switchyard at the BESS Project Area south of I-80 to the PG&E substation to the north.

The proposed gen-tie components for the Vaca Dixon 57 MWh and Arges 400 MWh BESS facilities would be co-located on shared transmission structures carrying both 13.8 kV and 115 kV conductors for approximately 1,500 feet of the gen-tie lengths, from the vicinity of the BESS switchyards across I-80 and up to the northwest corner of the VDPP facility site. As shown in Figure 2-2, from that point, the 13.8 kV gen-tie component for the Vaca Dixon 57 MWh BESS would continue approximately 150 feet to the east for connection to the low side of the 13.8/115 kV GSU transformer at the VDPP. The Arges 400 MWh BESS 115 kV gen-tie route would continue approximately 725 feet north and east to the connection point at the PG&E Vaca-Dixon Substation. The gen-tie crossing of I-80 would require an encroachment permit Caltrans.

Figure 2-10 provides a map of the proposed gen-tie route, Vacaville city limits, and existing transmission lines within one mile of the Project. There are no parks, recreational areas, or scenic areas within one mile of the gen-tie route. Section 5.5, *Visual Resources*, provides photographic simulations of the Project. The design details upon which the photographic simulations are based are located in Appendix C.

The interconnecting Arges 400 MWh BESS 115 kV transmission circuit would consist of single-circuit, overhead configuration installed on steel monopoles. The Arges 400 MWh BESS gen-tie line would be constructed with approximately 12 steel monopoles, six of which would also carry 13.8 kV circuits for the Vaca Dixon 57 MWh BESS. The interconnecting Vaca Dixon 57 MWh BESS 13.8 kV gen-tie circuit would also consist of single-circuit, overhead configuration, steel monopoles. The Vaca Dixon 57 MWh BESS gen-tie line would be constructed with approximately eight steel monopoles, six of which would also carry the Arges 400 MWh BESS 115 kV circuits. The total number of gen-tie structures would be determined by final design. Detailed descriptions of the gen-tie structures are included below. All Project transmission facilities would be designed consistent with the *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (Avian Power Line Interaction Committee [APLIC] 2006) where feasible. Transmission facilities would also be evaluated for potential collision reduction devices in accordance with *Reducing Avian Collisions with Power Lines: The State of Art in 2012* (APLIC 2012).

Figure 2-10 Existing Transmission Lines Within One Mile of the Project Site



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Additional by the California Energy Commission, 2025.

25-17851 EPS
Fig 2-X Existing Transmission Lines

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Vaca Dixon 57 MWh BESS

The Vaca Dixon 57 MWh BESS component, located in the southern portion of the BESS Project Area, would connect to the low side of the existing 13.8/115 kV GSU transformer at VDPP via a new 13.8 kV overhead line, approximately 1,815 feet in length, from the proposed BESS switchyard to the existing VDPP GSU transformer to the north (see Figure 2-2 and Figure 2-5). The VDPP GSU transformer is connected to the PG&E Vaca-Dixon Substation by an existing overhead 115 kV line. The Vaca Dixon 57 MWh BESS would be charged and discharged from the grid at 13.8 kV. The BESS facilities would be connected together utilizing underground cables in a duct bank. All Project underground 13.8 kV feeder cables would be collected in the Project distribution switchyard with a 13.8 kV switchgear. The Project 13.8 kV gen-tie line would share gen-tie steel monopole structures with the Arges 400 MWh BESS for the majority of the route. The 13.8 kV gen-tie line would be twin-bundled 1590 kcmil Falcon ACSR mounted under the 115 kV Arges gen-tie conductors for the shared structures portion of its route. The Project gen-tie would terminate at the existing VDPP substation's main power transformer.

Arges 400 MWh BESS

As shown in Figure 2-2 and Figure 2-6, the Arges 400 MWh BESS switchyard would be interconnected to PG&E's Vaca-Dixon Substation by a new overhead 115 kV gen-tie line, approximately 2,350 feet in length.

The Arges 400 MWh BESS would be charged and discharged from the grid at 115 kV. The BESS facilities would be connected together and operate at 34.5 kV utilizing underground cables in a duct bank. All Project underground 34.5 kV feeder cables would be collected in the BESS yard step up/down 34.5 kV/115 kV switchyard. The Project voltage would be stepped up to 115 kV with a main power transformer before transmitting to PG&E's Vaca-Dixon Substation. The Project 115 kV gen-tie line would share gen-tie steel monopole structures with the Vaca Dixon 57 MWh BESS for the majority of the route. The 115 kV gen-tie line would be 477 kcmil Hawk ACSR mounted above the 13.8 kV Vaca Dixon gen-tie conductors for the shared structures portion of its route. The Project gen-tie would terminate at the existing PG&E's Vaca-Dixon Substation.

2.2.1 Transmission Facilities Selection

The selection process for transmission facilities also followed the process described in Section 2.2.1. Existing land use activities within the Project Site would be consistent with the overall region. In addition, the gen-tie route selected was the shortest possible distance connecting the Project BESS components to the Points of Interconnection at PG&E's VDPP Substation. Where possible, the proposed gen-tie abuts existing roads and parcel boundaries and circumvents existing landowner permanent infrastructure.

2.3 Project Construction

This section describes the construction of the overall Project, including the BESS facility components and transmission components. Construction of the Project is anticipated to take approximately 24 months to complete, including approximately one year each for the Vaca Dixon 57 MWh and Arges 400 MWh BESS components. Construction of the Vaca Dixon 57 MWh BESS component would begin in July of 2027 and would be operational by July 2028. Construction of the Arges 400 MWh BESS component would begin in June of 2028 and would be operational by June 2029. The Vaca Dixon 57

MWh BESS would require a peak workforce of approximately 50 personnel and Arges 400 MWh BESS would require a peak workforce of approximately 60 personnel. In compliance with City of Vacaville noise regulations (City of Vacaville Municipal Code Chapter 8.10), construction would typically occur Monday through Saturday from 7:00 a.m. to 7:00 p.m.

Table 2-2 below includes the anticipated construction phases and dates for each of the construction scenarios.

Table 2-2 Preliminary Construction Schedule

	Duration		
Construction Activity	**Start Date**	**End Date**	**Days**
Vaca Dixon 57 MWh BESS			
Access Road	Q3 2027	Q3 2027	24
Site Preparation and Grading	Q3 2027	Q4 2027	72
Foundation and Equipment Installation	Q4 2027	Q1 2027	48
Set Modules, Inverters, and Switchgear	Q1 2028	Q1 2028	48
Electrical Wire Installation and Finish Grading	Q1 2028	Q2 2028	48
Testing and Commissioning	Q2 2028	Q3 2028	72
Arges 400 MWh BESS	**Start Date**	**End Date**	**Days**
Access Road	Q2 2028	Q2 2028	24
Site Preparation and Grading	Q2 2028	Q3 2028	72
Foundation and Equipment Installation	Q3 2028	Q4 2028	48
Set Modules, Inverters, and Switchgear	Q4 2028	Q1 2029	48
Electrical Wire Installation and Finish Grading	Q1 2029	Q1 2029	48
Testing and Commissioning	Q1 2029	Q2 2029	72

Prior to site grading, the existing agricultural irrigation system would be capped where it enters the BESS Project Area and the existing pipe and drip irrigation system within the BESS Project Area would be removed. During construction, construction equipment and construction worker vehicles would be staged at a temporary staging and laydown area. As shown in Figure 2-5, the temporary staging and laydown area for the Vaca Dixon 57 MWh BESS would be located along the northern and eastern boundary of the Vaca Dixon 57 MWh BESS component layout. As shown in Figure 2-6, the temporary staging and laydown area for the Arges 400 MWh BESS would be centrally located on the western Arges component layout boundary.

Construction equipment to be utilized would include the following: backhoes, bore/drill rigs, compactors, compressors, cranes, dozers, graders, excavators, forklifts, loaders (front-end, rubber-tired, and skid steer), pavers, portable electric generators, rough terrain forklifts, sweepers, welders, dump trucks, and water trucks[4].

The following sections describe the construction methods and activities for the major Project components.

[4] Light duty helicopter usage is anticipated very briefly during the Electrical Wire Installation/Finish Grading phase to string lines between the two poles at the I-80 crossing.

2.3.1 Battery Energy Storage System Construction Methods and Activities

The Project BESS and switchyard facilities would be built on imported fill to elevate equipment, achieving positive surface drainage towards planned stormwater management areas as shown in Figure 2-8 and Figure 2-9. The new facilities are planned to be constructed on up to 4.5 feet of compacted fill material placed over prepared subgrade. Existing topsoil would be removed prior to placing the engineered fill material.

Foundation excavations for the Project BESS and switchyard facilities would be at a depth of up to two feet. Excavations for foundations to support heavy equipment inside the Project switchyard may require excavation extending to bedrock. Once the foundations are in place for the BESS, the batteries, inverters, and other electrical equipment would be mounted and installed. Equipment would be delivered to the site on trucks.

Site preparation would also include construction of drainage components to capture and direct stormwater flows around the BESS facilities to proposed stormwater basins. The proposed stormwater basins consist of open vegetated extended dry detention basins with subsurface infiltration trenches along the pond bottoms. The infiltration trench would be constructed by excavating up to two feet below existing grade, placing geotextile fabric, and backfilling with washed drainage stone. Above the infiltration trench, the ponds would store additional runoff volume temporarily, releasing water slowly to mimic the pre-construction site runoff characteristics. Site preparation and grading would include exporting topsoil and importing fill material on trucks. It is anticipated that dump trucks with a 16 cubic yard capacity would be used for both soil export and fill import, representing approximately 3,650 round trip-way truck trips. Delivery of other construction material (storm pipes and geotextile fabric) required for stormwater basins would involve additional truck trips.

2.3.2 Gen-tie Construction Methods and Activities

2.3.2.1 Overhead

The Vaca Dixon 57 MWh BESS component and Arges 400 MWh BESS component would include the use of steel monopoles, approximately 45-100 feet tall, to support the 13.8 kV and 115 kV gen-tie lines. The two BESS facilities would share gen-tie structures for most of the route. The Vaca Dixon 57 MWh BESS component's 13.8 kV gen-tie line connection would be from the BESS switchyard to the existing VDPP GSU transformer. The Arges 400 MWh BESS component's 115 kV gen-tie line connection would be from the northern Arges 400 MWh BESS component to the PG&E Vaca-Dixon Substation. All structures would be made of steel. Tangent structures would be directly embedded at 10 percent of pole length plus four additional feet (10% + 4) and angle structures would be installed on concrete pier foundations. These foundations would be between 7-10 feet in diameter and 30-40 feet deep, depending on soil conditions and wire selection. Figure 2-11, Figure 2-12, Figure 2-13, and Figure 2-14 provide examples of each structure type for the gen-tie line. During the electrical wire installations, a single helicopter may be used to assist with pulling the gen-tie lines across I-80 to connect to the PG&E Vaca-Dixon Substation. The helicopter installation support would be required twice, once for the Vaca Dixon 57 MWh BESS component and again for the Arges 400 MWh BESS component. The helicopter would likely take off from Napa County Airport, located approximately 18 miles southwest of the Project Site. Helicopter use would include retrieval of the gen-tie cable from the Project Site, and transport of it across the highway to connect to the monopole on the PG&E parcel north of I-80.

Figure 2-11 Typical Co-located 13.8 kV and 115 kV Monopole Deadend Design

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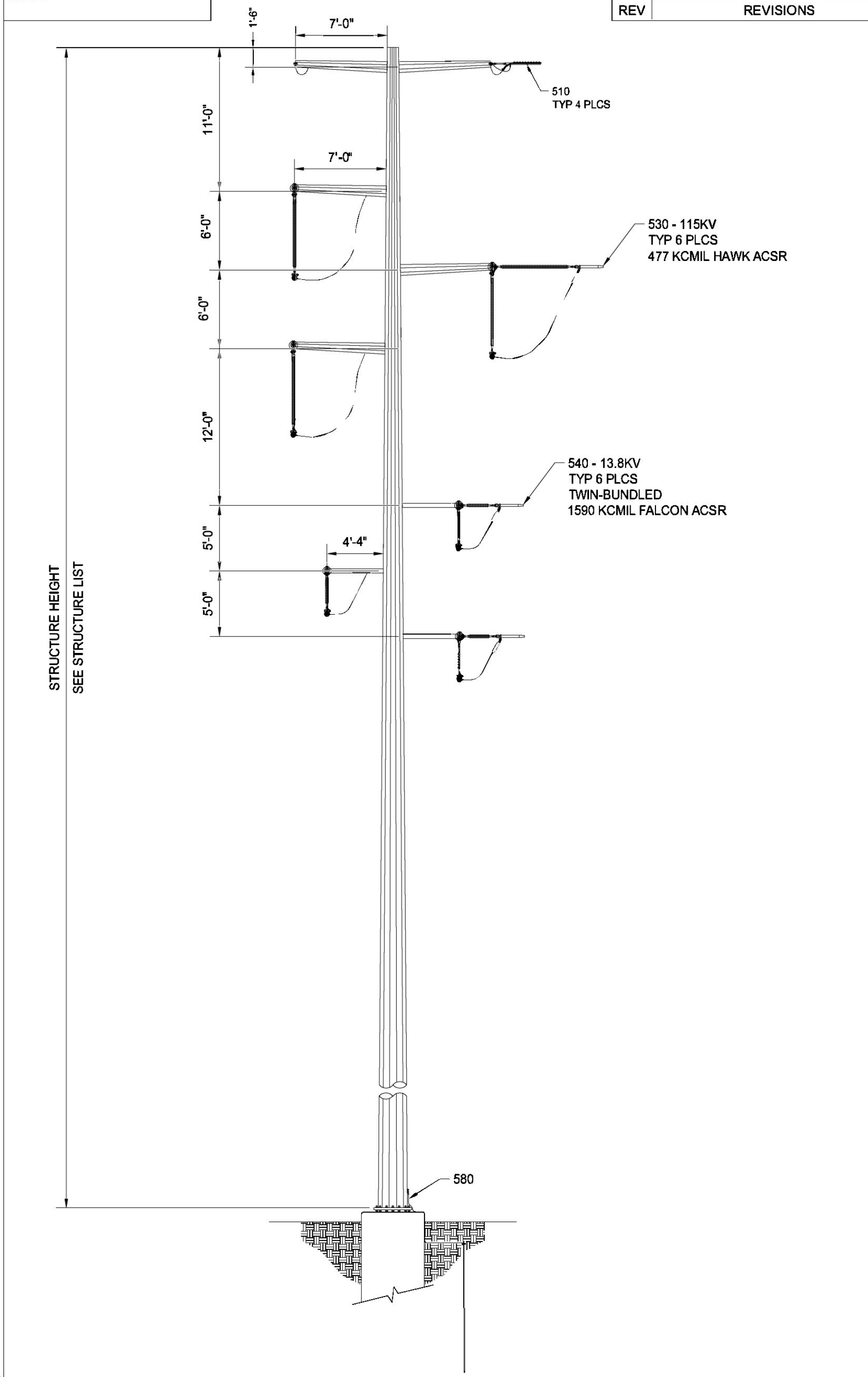
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD
A	CONCEPTUAL ONLY	06/13/2025	EJF	EJF	CAS	TWH

DETAIL	DESCRIPTION	QTY
510	OHGW ASSEMBLY	4
520	OPGW ASSEMBLY	-
530	CONDUCTOR ASSEMBLY	6
540	UNDERBUILD ASSEMBLY	6
550	COMMUNICATION ASSEMBLY	-
560	GUY & ANCHOR ASSEMBLY	-
570	BRACES & CROSSARM ASSEMBLY	-
580	GROUNDING ASSEMBLY	1
590	MISCELLANEOUS ASSEMBLY	-

* SEE STRUCTURE LIST FOR SPECIFIC ASSEMBLIES



REFERENCE DRAWINGS	DSGN EJF 06/13/2025 DRN EJF 06/13/2025 CKD CAS 06/13/2025 SCALE: NTS FOR 8.5x11 DWG ONLY	POWER ENGINEERS	GOLDEN DEVELOPMENT VACA+ARGES BESS DC DEADEND (0-90°), DELTA W/ JUMPER STEEL POLE	JOB NUMBER 0256726 DRAWING NUMBER TL-05-01	REV A

Figure 2-12 Typical Co-located 13.8 kV and 115 kV Monopole Suspension Design

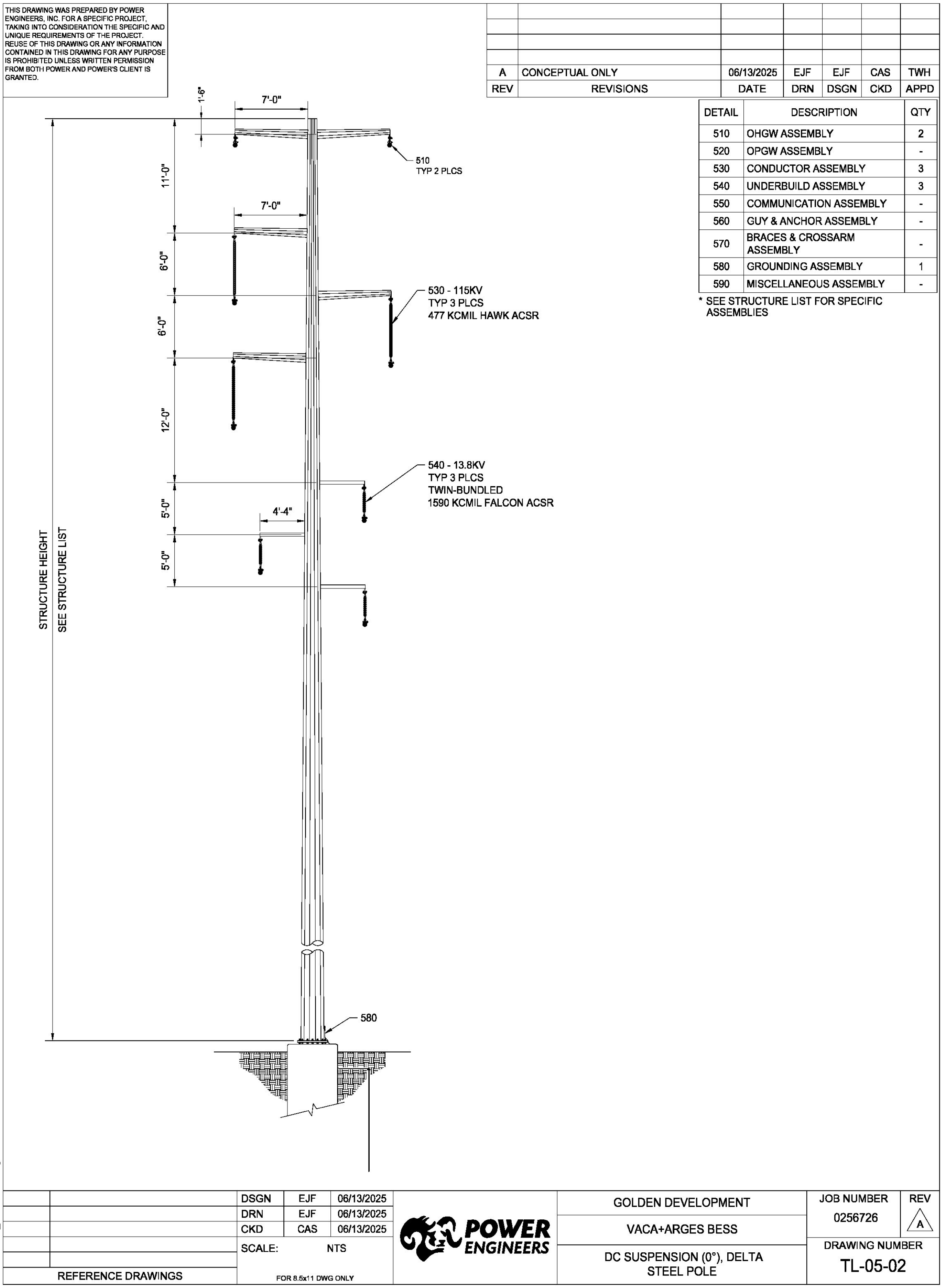


Figure 2-13 Typical 13.8 kV Monopole Design

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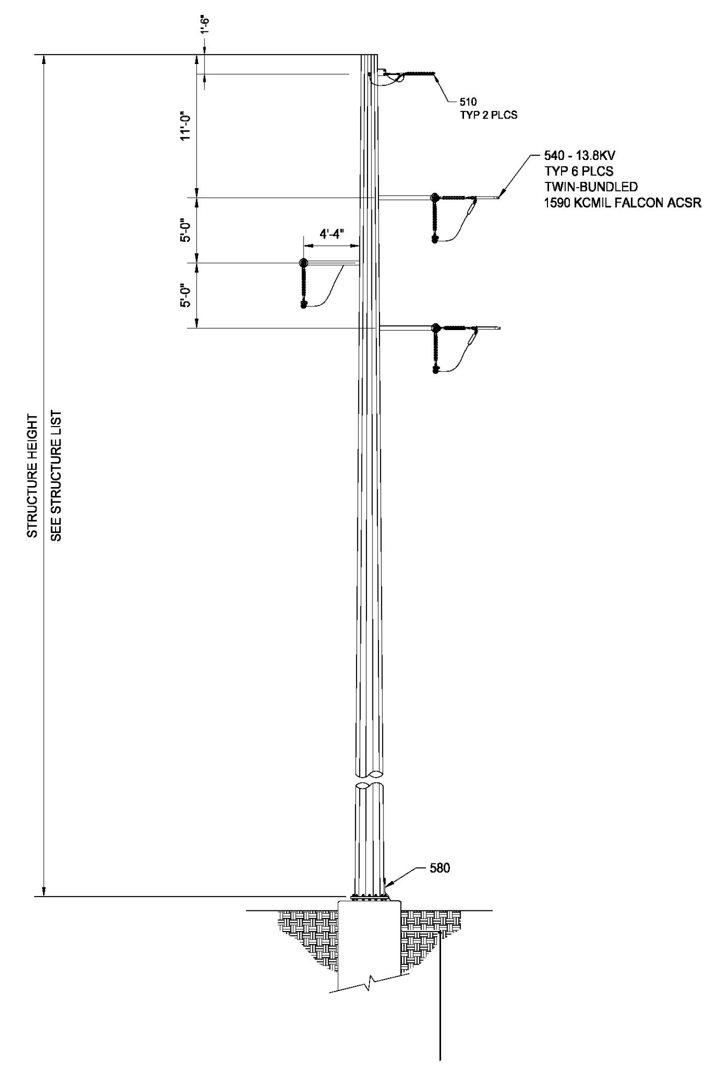
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD
A	CONCEPTUAL ONLY	06/13/2025	EJF	EJF	CAS	TWH

DETAIL	DESCRIPTION	QTY
510	OHGW ASSEMBLY	2
520	OPGW ASSEMBLY	-
530	CONDUCTOR ASSEMBLY	-
540	UNDERBUILD ASSEMBLY	6
550	COMMUNICATION ASSEMBLY	-
560	GUY & ANCHOR ASSEMBLY	-
570	BRACES & CROSSARM ASSEMBLY	-
580	GROUNDING ASSEMBLY	1
590	MISCELLANEOUS ASSEMBLY	-

* SEE STRUCTURE LIST FOR SPECIFIC ASSEMBLIES



TL-05-04_SC DE 13.dwg

DSGN	EJF	06/13/2025	GOLDEN DEVELOPMENT	JOB NUMBER 0256726
DRN	EJF	06/13/2025	VACA+ARGES BESS	REV A
CKD	CAS	06/13/2025	SC DEADEND (0-90°), DELTA W/ JUMPER STEEL POLE - 13.8KV ONLY	DRAWING NUMBER TL-05-04
SCALE:	NTS	FOR 8.5x11 DWG ONLY		

REFERENCE DRAWINGS

POWER ENGINEERS

Figure 2-14 Typical 115 kV Monopole Design

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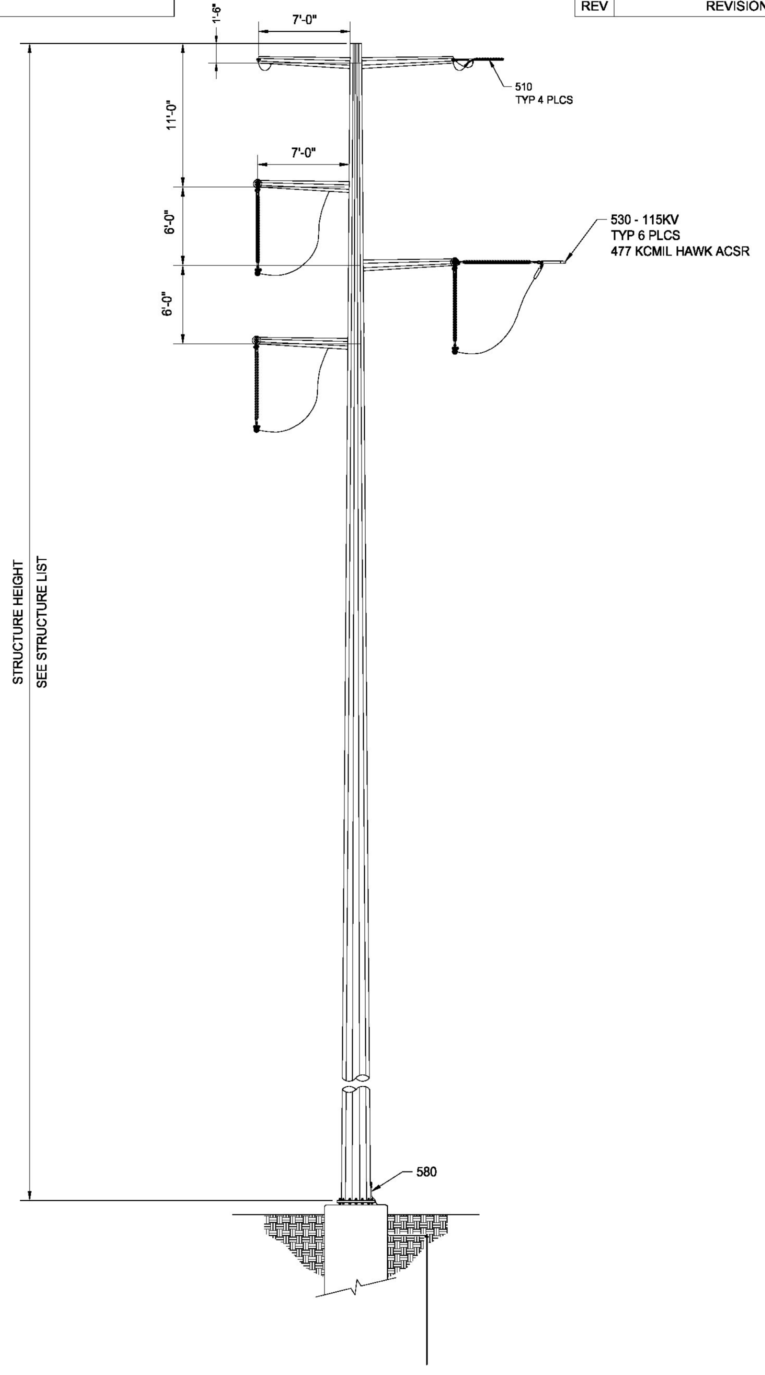
A	CONCEPTUAL ONLY	06/13/2025	EJF	EJF	CAS	TWH
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD



DETAIL	DESCRIPTION	QTY
510	OHGW ASSEMBLY	4
520	OPGW ASSEMBLY	-
530	CONDUCTOR ASSEMBLY	6
540	UNDERBUILD ASSEMBLY	-
550	COMMUNICATION ASSEMBLY	-
560	GUY & ANCHOR ASSEMBLY	-
570	BRACES & CROSSARM ASSEMBLY	-
580	GROUNDING ASSEMBLY	1
590	MISCELLANEOUS ASSEMBLY	-

* SEE STRUCTURE LIST FOR SPECIFIC ASSEMBLIES

TL-05-03_SC DE 115.dwg

REFERENCE DRAWINGS	DSGN EJF 06/13/2025; DRN EJF 06/13/2025; CKD CAS 06/13/2025; SCALE: NTS; FOR 8.5x11 DWG ONLY	POWER ENGINEERS	GOLDEN DEVELOPMENT; VACA+ARGES BESS; SC DEADEND (0-90°), DELTA W/ JUMPER STEEL POLE, 115KV ONLY	JOB NUMBER 0256726; REV A; DRAWING NUMBER TL-05-03

2.3.3 Commissioning

As the last phase of the construction process after each BESS component is completely built (i.e. once after completion of the Vaca Dixon 57 MWh BESS component and once after completion of the Arges 400 MWh BESS component), the Project would go through a commissioning phase that entails energization and testing before full site operation. Commissioning of equipment would include testing, calibration of equipment, and troubleshooting prior to commencement of commercial operations. Upon completion of successful testing, the equipment would be energized. During commissioning, qualified personnel would conduct energization procedures and troubleshoot potential anomalies to ensure proper operation and safety of the Project BESS facilities. Typically, heavy equipment and large crews would not be needed at this point, unless repairs or part replacements are required.

2.4 Agency Contacts

Table 2-3 below lists the agency contacts for the Project. Additional contacts related to specific resource areas are included in the individual sections of Chapter 5, *Environmental Analysis*.

Table 2-3 Agency Contacts

Agency	Contact
United States Fish and Wildlife Services	Megan Cook, Sacramento Division Supervisor
California Energy Commission	Eric Knight, Manager, Siting & Environmental Branch Joseph Hughes, Supervisor, Air Resources Caroline Grey, Senior Advisor to Chair David Hochschild Ryan Young, Deputy Public Advisor Jimmy Qaqundah, Assistant Chief Counsel
City of Vacaville, Community Development Department	Erin Morris, Director Claudia Garcia, Assistant Director Albert Enault, Senior Planner
City of Vacaville Fire Department	Alex Nourot, Deputy Fire Chief Jill Childers, Fire Safety Coordinator
Solano County, Resource Management Department	Allan Calder, Planning Manager
California Department of Fish and Wildlife	Brenda Blinn, Senior Environmental Scientist (Supervisor) Crystal Sinclair, Senior Environment Scientist (Specialist)
Regional Water Quality Control Board	Stephanie Tadlock, Environmental Scientist (Senior))
Department of Toxic Substances Control	Rebecca De Pont, Supervising Environmental Planner
Yolo- Solano Air Quality Management District	Emmanuel Orozoco, Engineering Manager
Airspace, Utilities, Caltrans	Michael O’Callaghan, District Office Chief