

**ATTACHMENT 1B**

**Cultivation and Operations Plan**



---

Plan of Operation

# Fairhaven Battery Energy Storage Project

---

**JUNE 2022**

*For Submittal to:*

**HUMBOLDT COUNTY  
PLANNING DIVISION**  
825 5<sup>th</sup> Street  
Eureka, CA 95501

*Prepared and Submitted by:*

**DUDEK**

1630 San Pablo Ave  
Oakland, CA 94612



---

# Table of Contents

| <b>SECTION</b> |  | <b>PAGE NO.</b> |
|----------------|--|-----------------|
| 1              | Summary .....  | 1               |
| 2              | Introduction .....   | 3               |
|                | 2.1 Project Location.....                                      | 3               |
|                | 2.2 Project Objectives.....                                    | 3               |
| 3              | Project Setting.....   | 5               |
|                | 3.1 Land Use and Zoning .....                                  | 5               |
|                | 3.2 Biological Resources .....                                 | 5               |
|                | 3.3 Cultural Resources.....                                    | 5               |
|                | 3.4 Noise .....  | 6               |
|                | 3.5 Visual Resources .....                                     | 6               |
|                | 3.6 Air Quality.....   | 6               |
| 4              | Project Characteristics .....                                  | 8               |
|                | 4.1 Battery Energy Storage System .....                        | 8               |
|                | 4.2 Substation Interconnection .....                           | 9               |
|                | 4.3 Operations and Maintenance .....                           | 9               |
|                | 4.5 Perimeter Fencing, Landscaping, Signage, and Lighting..... | 10              |
|                | 4.6 Construction.....  | 10              |
|                | 4.7 Traffic .....  | 11              |
|                | 4.8 Water Use.....   | 11              |
|                | 4.9 Decommissioning.....                                       | 11              |
| 5              | Representative Project Photos.....                             | 12              |
| 6              | Exhibits .....   | 14              |

INTENTIONALLY LEFT BLANK

---

# 1 Summary

Fairhaven Energy Storage, LLC (subsidiary of Broad Reach Power LLC) is proposing to construct and operate the Fairhaven Battery Energy Storage System (BESS) Project within Humboldt County, California (the "Project"). Utilizing similar battery technology used in electric vehicles, the Project would provide additional capacity to the electrical grid to assist with serving load during periods of peak demand by charging when demand is low and discharging when demand is high. This accommodates the integration of additional intermittent renewable such as biomass, wind and solar and reduces the need to operate fossil fuel power plants. The Project would interconnect to an existing substation located within the footprint of the Fairhaven biomass plant.

This Plan of Operation has been prepared to provide an overview of the facilities that are proposed to be constructed and operated as part of the Project. The Project site is shown in Figure 1.

INTENTIONALLY LEFT BLANK

---

## 2 Introduction

### 2.1 Project Location

The Project site is located at the northeast corner of the Bay Street / New Navy Base Road intersection at 97 Bay Street, within the County of Humboldt (See Figure 1). The Project site is located on a portion of APN 401-121-011. While the parcel totals approximately 18 acres, less than 5.0 acres will be improved for development of BESS facilities. The project site is highly disturbed and is currently being used to generate renewable energy associated with the Fairhaven biomass plant. Fairhaven biomass plant is an 18 MW generation facility located in northern California. Since operations began in 1987 the power generated is supplied to Pacific Gas & Electric under a long-term power purchase agreement. The plant uses over 250,000 tons of various forms of wood waste from local sawmills and forest operations annually. Fairhaven biomass plant is certified by the State of California as a renewable energy generator. The Project site has a land use designation of Industrial General (MG) and is located within a MG/W Industrial (See Figures 2 and 3).

### 2.2 Project Objectives

California's electric grid is a complex system providing reliable power to California residents. The state relies increasingly on renewable sources of energy, such as solar, wind, geothermal, hydroelectricity, and biomass. California has installed 22,250 megawatts of utility-scale renewable energy systems, and is home to some of the largest solar, wind, and geothermal power plants in the world (CEC 2018). Grid energy storage technologies provide for multiple applications, such as energy management, backup power, load leveling, frequency regulation, voltage support, and grid stabilization. Importantly, not every type of storage is suitable for every type of application, motivating the need for a portfolio strategy for energy storage technology. As noted by the U.S. Department of Energy, "energy storage can reduce the need for major new transmission grid construction upgrades as well as augment the performance of existing transmission and distribution assets." Furthermore, "energy storage will also play a significant role in emergency preparedness and increasing overall grid resilience" (USDOE 2013).

Operation of the California electric grid involves management, regulatory oversight, and participation from numerous stakeholders. The grid is managed by the non-profit public benefit corporation California Independent System Operator (CAISO). Although utilities still own transmission assets, CAISO controls the routing of electrons, maximizing transmission system efficiency and generation resources, and supervising maintenance of the lines. CAISO matches buyers and sellers of electricity, facilitating more than 28,000 market transactions every day to ensure enough power is on hand to meet demand (CAISO 2021).

Battery storage technology allows the energy generated by renewables to be stored and tapped when the need arises. The technology is advancing rapidly as a grid resource and will support system load balancing by CAISO when sun and wind resources are intermittently not available. Power from these renewable generation sources often is produced at different times of day, which may not align with peak use (CAISO 2014).

Construction of the Project would accomplish the following:

- Establish a new energy storage facility to reliably capture and manage renewable energy in an economically feasible and commercially financeable manner.



- Provide economic benefit to the County, the region, and the state, through construction jobs, property and sales taxes, construction and maintenance services, and increased energy efficiency and reliability.
- Use a proven and established energy storage technology that is efficient, has low maintenance requirements, and is recyclable.
- Assist California in meeting its greenhouse gas emissions reduction goals by 2030 as required by the California Global Warming Solutions Act (Assembly Bill 32), as amended by Senate Bill 32 in 2016.
- Assist California in achieving its switch from fossil-fueled generation by allowing electricity from renewables to be stored and discharged back to the market when necessary.

In addition to these benefits to the region and California, specific benefits to the County are shown below:

- Annual property tax revenues would be payable to the County from the Project.
- A sales tax benefit may accrue during construction of the Project.
- Local benefits would accrue to the County from having the storage facility located within the County. While this helps the entire region, it would also benefit the County by maintaining the reliability and resiliency of the grid locally.
- The Project would provide significant economic benefits without burdening local transportation infrastructure, sewage infrastructure, or the local public services.

---

## 3 Project Setting

The approximately 5.0-acre project site is located at the northeast corner of Bay Street / New Navy Base Road intersection, in Humboldt County. Land uses in the area consist of staging biomass materials for use at the Fairhaven biomass plant, undeveloped lands and warehouse distribution facilities.

### 3.1 Land Use and Zoning

The location of the Project was selected because of the existing biomass energy generation facility and that no new lands would need to be disturbed beyond those currently being disturbed for the Fairhaven biomass plant. The Project would utilize the existing substation onsite to receive and deliver power and will also use existing access roads, etc. No new disturbance would be required which results in an excellent opportunity to provide energy grid resiliency in the area.

**Zoning:** The project site is located within MG Industrial General zone (see Figure 2). The MG Industrial General zone allows minor generation and distribution facilities.

**General Plan Land Use:** Under the County General Plan, the project site has a land use designation of Industrial General (see Figure 3). This designation (IG in inland areas; MG in coastal areas) provides for general industrial and manufacturing uses, typically in urban areas, convenient access to transportation systems and full range of urban services are available.

It is anticipated that because the project is located within the footprint of an existing renewable energy generation facility and will be used to provide energy reliability to the region, it will be processed with a Coastal Development Permit.

### 3.2 Biological Resources

Habitat within the project footprint consists of disturbed habitat associated with the Fairhaven biomass plant. Dune Habitat is located to the west of New Navy Base Road and the Dune Hollow Wetland is located to the south of Bay Street. National Wetland Inventory (NWI) mapped wetlands are located approximately 380 feet northeast of proposed BESS facilities. Thru implementation of standard best practices and compliance with existing regulations (i.e. nesting bird surveys, stormwater management plan, dust control, etc.) no impacts to biological resources would result.

### 3.3 Cultural Resources

The project site is highly disturbed due to existing energy generation facilities and no historic resources are anticipated to be present given the ongoing energy generation onsite. As such, significant cultural resources are unlikely to occur on the Project site and be encountered during earthwork activities.

## 3.4 Noise

The Project site is in a developed area surrounded by industrial uses. Per noise modeling completed for similar facilities, sound emission from a 1-hour-long period of all operating battery energy storage enclosures, MV transformers, and the HV transformer stays below 63 dBA Leq within 10 feet of the operating components. Consequently, noise sources affecting noise levels on the Project site and in the vicinity include industrial land use noise sources, primarily of vehicular traffic and existing energy generation production. As described in the following sections, the proposed BESS would be housed in storage systems that may consist of containers or purpose-built enclosures. The proposed Project facilities are not anticipated to generate significant noise and the Project would be designed to meet the requirements of County municipal code.

## 3.5 Visual Resources

The project site is not located on, near, or within view of a state scenic highway. Although no highways in Humboldt County are “officially designated” as California State Scenic highways, several State Highways are eligible for official designation: Route 36 from Route 101 near Fortuna to the Trinity County line; Route 96 from Route 299 at Willow Creek north to Siskiyou County; Route 101 for its entire length in Humboldt County; and Route 299 from Arcata to Willow Creek. This project site is not readily visible from any of these locations.

The Project is sited in a location where existing large-scale energy production facilities dominate the visual landscape (see photos 3 and 4). Vehicles traveling on the New Navy Road will have intermittent views of the project site; however the proposed project would not be noticeable given the existing energy production facilities at the site.

## 3.6 Air Quality

The Project would not increase long-term operational criteria air pollutant emissions. The Project would collect and store energy but would not itself be a source of air pollutant emissions. The Project would not increase operational mobile source emissions as minimal vehicle trips would be added by the Project. Emissions of criteria pollutants during construction would be minimal for all construction phases for all pollutants and construction activities would be required to implement standard measures as required by County grading permit to minimize air emissions during construction.

INTENTIONALLY LEFT BLANK

---

## 4 Project Characteristics

The Project is designed to input or output electricity via several battery storage containers with associated on-site support facilities consisting of inverters, collector lines, fencing, access roads, supervisory control, a supervisory control and data acquisition (SCADA) system, and other ancillary facilities or equipment (see site plan submitted under separate cover).

The Project is expected to create approximately 50 jobs during construction, many of which can be sourced from the County and adjacent counties. Labor would be sourced as locally as possible based on the qualifications of the task being performed. The Project would be operated remotely but would require periodic maintenance to be performed by regional employees and contractors.

### 4.1 Battery Energy Storage System (BESS)

The Project would include placement of battery energy storage enclosures and power conversion system (PCS) units. Each unit would be fully integrated with pre-installed components housed in a storage enclosure/non-occupiable steel cabinet. The actual number of energy storage enclosures and PCS units and types are approximate and subject to change based on available battery technology at the time of construction. Each battery energy storage enclosure would have insulation, a module cooling system, a battery management system, and fire detection with a separate PCS enclosure containing the electronic controls, inverters, and step-up transformer. The primary storage components would consist of self-contained electrochemical battery systems using conventional storage technologies with proven safety and performance records. The BESS enclosures would be designed such that the periodic maintenance and replacement of underperforming battery components can be easily performed on an as-needed basis without replacing the entire module.

Fire detection measures would be incorporated in the Project design in accordance with National Fire Protection Association safety standards. It should be noted that selection of batteries that would be used are not yet finalized; as such, the capacity and size of the containers may change, as may the ratings of the conversion equipment (inverters and transformers). The number of containers, inverters, transformers and expected total megawatt capacity are an estimate based on currently available technology as the storage industry has matured in the last few years and continues to mature. While the components and total megawatts of the Project may change, the overall size of the area for the Project (approximately 5.0 acres) will remain consistent.

Individual lithium-ion, or similar technology, battery cells form the core of the BESS. Cells are assembled either in series or parallel connection in sealed battery modules. The battery modules would be installed in self-supporting racks electrically connected either in a series or parallel configuration to deliver the BESS power rating. At this time, the battery technology for the Project has not yet been finalized; Fairhaven Energy Storage, LLC will determine battery type based on the technology available at the time of construction.

The BESS facility would be unstaffed and would include remote operational control; inspections/maintenance would be performed as necessary. The BESS facility would be uninhabited with no bathroom facilities, running water, or office space. Project operations would be monitored remotely through the SCADA system that would be housed in an enclosure adjacent to the Project substation. Periodic inspections and maintenance activities would occur on the Project site.



## 4.1.2 Battery Energy Storage System Enclosures and Controller

The BESS batteries, battery racks, cooling system, direct-current disconnect, and other ancillary equipment would be housed in outdoor-rated enclosures. Enclosure height would not exceed 15 feet. The structure may also have a heating, ventilation, and air conditioning (HVAC) system for optimal performance and safety. Power for the HVAC system, lighting, and other electrical systems would be provided through a connection to the on-site station service transformer with connection lines installed above and/or below ground.

The BESS controller would provide a system of controls for the battery modules, PCS, medium-voltage system, and up-to-the-point of connection with the electrical grid. The controllers would ensure that the BESS effectively responds to grid emergency conditions and would provide a secondary safety system designed to safety shutdown the facility.

## 4.1.3 Power Conversion System

The PCS would consist of an inverter, protection equipment, direct current (DC) and alternating current (AC) circuit breakers, harmonic filters, equipment terminals, and connection cabling system. Electric energy would be transferred from the existing power grid to the Project batteries during a battery charging cycle, and from the Project batteries to the power grid during a battery discharge cycle. The PCS would convert electric energy from 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. The energy conversion is enabled by a bi-directional inverter that connects the DC battery system to the AC electrical grid. The PCS would also include a transformer that converts the AC side output of the inverter to medium AC voltage to increase the overall efficiency of the BESS and to protect the PCS in the event of system electrical faults.

## 4.2 Substation Interconnection

The Project would interconnect to the existing Fairhaven biomass substation that would be the termination point of the collection system of 34.5 kV AC electricity. The power to and from the BESS would be passed through a final interconnection step-up transformer to convert it from 34.5 kV to 69 kV at the existing substation.

## 4.3 Operations and Maintenance

Once constructed, the Project would operate 7 days per week, 365 days per year. The facility would be operated remotely by Broad Reach or an affiliated company. Project operations would be monitored remotely through the SCADA system. Periodic augmentation of batteries within the Project site would occur. Only occasional, on-site maintenance is expected to be required following commissioning, including replacement of inverter power modules, filters, and miscellaneous electrical repairs on an as-needed basis. No permanent sanitary facilities would be required. Maintenance trucks would be utilized to perform routine maintenance, including but not limited to equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventative maintenance. Routine operations would require one or two workers in a light utility truck to visit the facility on a weekly basis. Typically, one major maintenance inspection would take place annually.

## 4.5 Perimeter Fencing and Lighting

The Project would be enclosed by a 8 foot tall chainlink fence. Access into the Project would be provided through existing drive-through gates off New Navy Base Road with secondary access provided off Bay Street. Low-elevation (less than 14 feet) controlled security lighting would be installed at the access gates and would comply with the International Dark-Sky Association's requirements for reducing waste of ambient light (that is, would be "dark sky compliant"). Lighting would only be switched on when personnel enter the area through a manual activation (switch). Lighting would only be in areas where it is required for safety, security, or operations, and would be directed on site and include shielding as necessary to minimize illumination of the night sky or potential impacts to surrounding viewers.

## 4.6 Construction

Construction would be primarily composed of the following activities:

- **Site Preparation:** The site would be prepared for construction. For example, rough grading may be performed where required to accommodate the support structures and access roads. Retention basins, if required, would be created for hydrologic control. Access roads would be gravel or aggregate base depending on fire code requirements. Existing structures and materials located onsite would be removed prior to grading.
- **Electrical Work and BESS Container Installation:** Following site preparation, electrical work will be completed to connect the BESS containers to the PCS structures that would then connect to the 34.5 kV line that would interconnect to the existing onsite substation. BESS modules would be installed on piers to ensure placement above the modeled flood elevations.

The Project is anticipated to be built over an approximately 6-month period from the onset of site preparation activities through testing and commissioning of the facility. It is anticipated that construction crews would work 8 or 10 hours per day, with work occurring Monday through Friday. Overtime and weekend work would be used only as necessary to meet scheduled milestones or accelerate schedule and would comply with applicable California labor laws. Estimated durations of construction activities are presented in Table 1.

**Table 1. Estimated Construction Activity Duration and Workforce**

| Construction Activity               | Duration | Expected Construction Workforce (Number of Employees) |
|-------------------------------------|----------|---|
| Site Preparation                    | 2 Weeks  | 10  |
| Project Substation Site Preparation | 1 Month  | 5   |
| Grading                             | 1 Month  | 10  |
| Battery/Container Installation      | 5 Months | 30  |

Although the Project site is fairly level, grading would be required throughout most of the site, especially for the construction of roads, the battery enclosures, and inverter pads with associated foundations. This would be accomplished with scrapers, graders, water trucks, dozers, and compaction equipment. The enclosure modules would be off-loaded and installed using cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes,

and other small- to medium-sized construction equipment, as needed. Construction equipment would be delivered to the site on low-bed trucks unless the equipment can be driven to the site (e.g., boom trucks).

## 4.7 Traffic

Access to the Project site would be provided by existing access on New Navy Base Road as indicated in the site plan. Delivery of material and supplies would reach the site through on-road truck delivery via Highway 101, Route 255 to New Navy Base Road. The majority of the truck deliveries would be for the self-contained containers with batteries, as well as any aggregate material that may be required for site preparation. The heaviest delivery loads to the site would consist of rock truck deliveries and concrete trucks. Typically, the rock is delivered in “bottom dump trucks” or “transfer trucks” with six axles. Low-bed transport trucks would transport the construction equipment to the site as needed. The size of the low-bed trucks (axles for weight distribution) would depend on the equipment/materials transported.

## 4.8 Water Use

Water consumption during construction would be required for seasonal dust suppression and earthwork. Construction and operational water would be provided by existing water connections. It is anticipated that approximately 5 acre-feet of water would be used for construction activities.

## 4.9 Decommissioning

In general, the BESS would be recycled at the expiration of the Project’s life (30 years). Most parts of the proposed system are recyclable. Batteries include lithium-ion, which degrades but can be recycled or repurposed. Site structures would include steel or wood and concrete, each of which can be recycled. Concrete from deconstruction would be recycled. Local recyclers are available. Metal and scrap equipment and parts that do not have free-flowing oil may be sent for salvage.



---

## 5 Representative Project Photos



Photo 1: Overview of a typical Battery Energy Storage System (BESS) containers.



Photo 2: Aerial view of a typical BESS Project site.



Photo 3: Overview of the project site looking east.



Photo 4: Overview of the project site looking south along New Navy Base Road.

# 6 Exhibits

INTENTIONALLY LEFT BLANK



SOURCE: NAIP 2019, Open Street Map 2019



**FIGURE 1**  
Vicinity Map  
Fairhaven BESS





**FIGURE 2**  
Zoning Map  
Fairhaven BESS



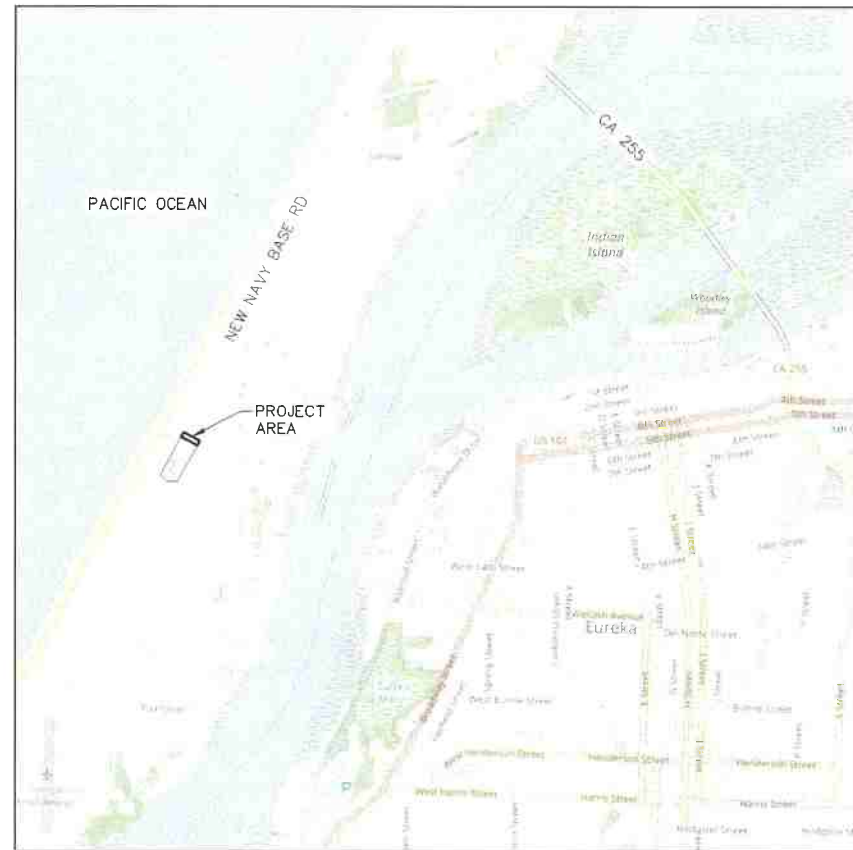
SOURCE: NAIP 2019, Open Street Map 2019



**FIGURE 3**  
General Plan Map  
Fairhaven BESS



# FAIRHAVEN BESS SAMOA, CALIFORNIA



**VICINITY MAP**  
NOT TO SCALE

### SHEET INDEX

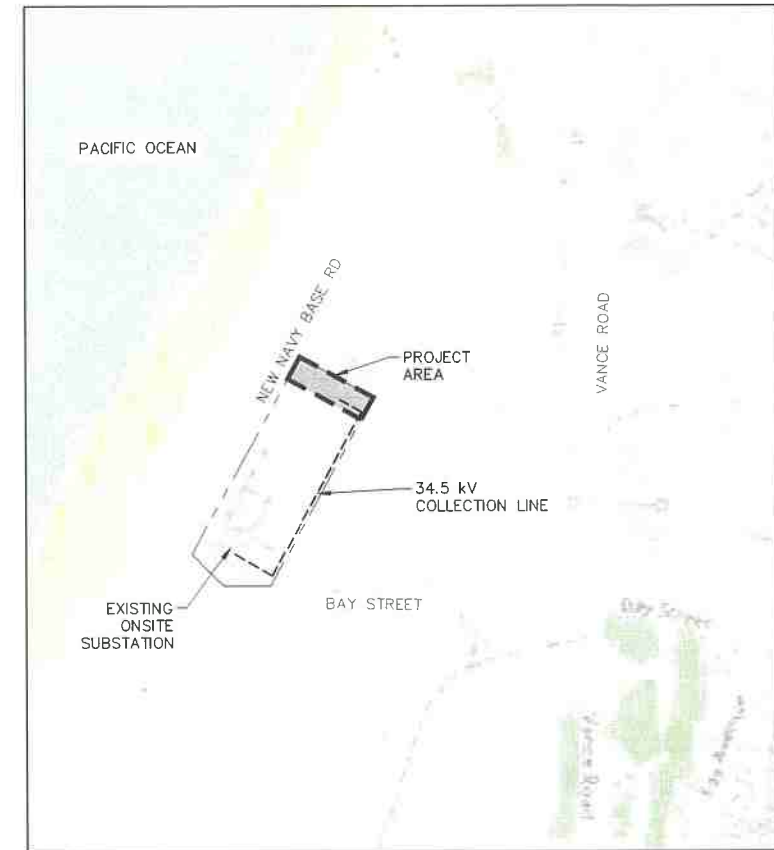
| SHT. NO. | DWG. NO. | DESCRIPTION           |
|----------|----------|-----------------------|
| 1        | G-1      | TITLE SHEET           |
| 2        | C-1      | PRELIMINARY SITE PLAN |

### PROPERTY OWNER

DG FAIRHAVEN POWER, LLC  
115 REDMOND ROAD  
EUREKA, CA 95503

### PROJECT APPLICANT

BROAD REACH POWER  
333 CLAY STREET, SUITE 2800  
HOUSTON, TX 77002



**LOCATION MAP**  
NOT TO SCALE

PRELIMINARY SITE PLAN  
FOR PLANNING PURPOSES ONLY.  
SITE PLAN WILL BE REVISED PER  
ENVIRONMENTAL CONSIDERATIONS  
AND FURTHER ENGINEERING DESIGN.

P:\1\01\_Engineering\148\_dba\148\_040\_Projects\Fairhaven BESS\_12755\151\CA01\12755\_Fairhaven\_Site.dwg 09/29/22 3:33 pm

|     |             |      |      |                   |  |  |                       |                      |
|-----|-------------|------|------|-------------------|--|--|-----------------------|----------------------|
| REV | DESCRIPTION | APPD | DATE | SCALE<br>AS SHOWN | <b>PLANS PREPARED BY:</b><br><b>DUDEK</b><br>605 Third Street Encinitas, CA 92024<br>760.942.5147 Fax 760.632.0164 | <b>BROAD REACH POWER</b><br>333 CLAY STREET, SUITE 2800<br>HOUSTON, TX 77002 | <b>FAIRHAVEN BESS</b> | PROJECT NO.<br>12755 |
|     |             |      |      | DATE<br>MAY 2022  |  |  |                       | TITLE SHEET          |
|     |             |      |      |                   |  |  |                       | 1 OF 3 SHEETS        |



10/10/2022 10:00 AM User: Administrator Project: FAIRHAVEN BESS 12755 30/04/2022 10:00 AM Site Map 01/28/22 1/10mm

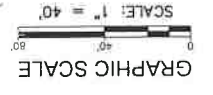
| REV | DESCRIPTION | DATE     | APPD | DATE |
|-----|-------------|----------|------|------|
|     |             | MAY 2022 |      |      |
|     |             |          |      |      |
|     |             |          |      |      |

PLANS PREPARED BY:  
**DUDEK**  
 605 Third Street, Emeryville, CA 94604  
 760.942.5147 Fax 760.632.0164

BROAD REACH POWER  
 333 CLAY STREET, SUITE 2800  
 HOUSTON, TX 77002

FAIRHAVEN BESS  
 PRELIMINARY SITE PLAN

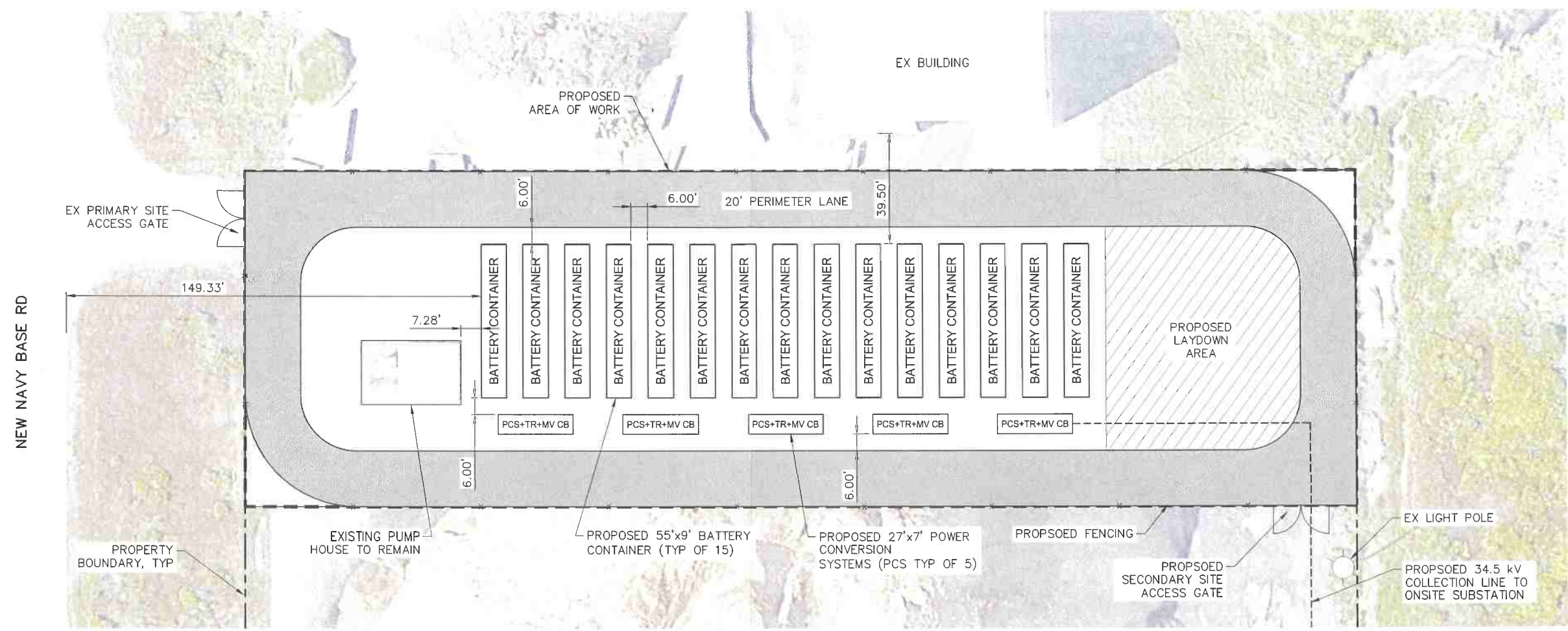
PROJECT NO. 12755  
 DRAWING NO. C-1  
 2 OF 3 SHEETS



PRELIMINARY SITE PLAN FOR PLANNING PURPOSES ONLY. SITE PLAN WILL BE REVISED PER ENVIRONMENTAL CONSIDERATIONS AND FURTHER ENGINEERING DESIGN.







PRELIMINARY SITE PLAN  
 FOR PLANNING PURPOSES ONLY.  
 SITE PLAN WILL BE REVISED PER  
 ENVIRONMENTAL CONSIDERATIONS  
 AND FURTHER ENGINEERING DESIGN.

| REV | DESCRIPTION | APPD | DATE |
|-----|-------------|------|------|
|     |             |      |      |
|     |             |      |      |
|     |             |      |      |
|     |             |      |      |

PLANS PREPARED BY:  
**DUDEK**  
 605 Third Street Encinitas, CA 92024  
 760.942.5147 Fax 760.632.0164

BROAD REACH POWER  
 333 CLAY STREET, SUITE 2800  
 HOUSTON, TX 77002

**FAIRHAVEN BESS**  
 ENLARGED PLAN

PROJECT NO.  
**12755**  
 DRAWING NO.  
**C-3**  
 3 OF 3 SHEETS



---

Plan of Operation - Addendum

# Fairhaven Battery Energy Storage Project

---

NOVEMBER 2022

*For Submittal to:*

**HUMBOLDT COUNTY  
PLANNING DIVISION**

825 5<sup>th</sup> Street  
Eureka, CA 95501

*Prepared and Submitted by:*

**DUDEK**

1630 San Pablo Ave  
Oakland, CA 94612

---

# Table of Contents

| <b>SECTION</b> |                              | <b>PAGE NO.</b> |
|----------------|------------------------------|-----------------|
| 1              | Purpose.....                 | 2               |
| 2              | Addendum Components.....     | 2               |
| 2.1            | Project Site Background..... | 2               |
| 2.2            | Hazardous Materials.....     | 3               |
| 2.3            | Ground Disturbance.....      | 3               |
| 2.4            | Fence Height.....            | 4               |

---

# 1 Purpose

Fairhaven Energy Storage, LLC (subsidiary of Broad Reach Power LLC) is proposing to construct and operate the Fairhaven Battery Energy Storage System (BESS) Project as an accessory use to the existing Fairhaven biomass facility located in Humboldt County, California (the "Project"). Utilizing similar battery technology used in electric vehicles, the Project would provide additional capacity to the electrical grid to assist with serving load during periods of peak demand by charging when demand is low and discharging when demand is high. This accommodates the integration of additional intermittent renewable such as biomass, wind and solar and reduces the need to operate fossil fuel power plants. The Project would interconnect to an existing substation located within the footprint of the Fairhaven biomass plant.

As part of the CDP application, a Plan of Operation was previously submitted to Humboldt County (County) under separate cover on October 11, 2022. After submittal of the Plan of Operation, the County requested supplemental information to be provided to clarify the following:

- *Project Site Background* – Provide an overview of the project site background in relation to prior permits issued for the ongoing operations and the projects relationship to the existing permitted uses.
- *Hazardous Materials* – Provide an overview of potential hazardous materials that may be used at the project sit, and how they may be managed.
- *Ground Disturbance* – Provide a description of the ground disturbing activities, including potential excavation, that are required for construction of the Project.
- *Fence Height* – Clarify the total height of the proposed fence around the BESS facility.

## 2 Addendum Components

### 2.1 Project Site Background

The County previously issued a conditional use permit (CUP-125-84) and subdivision (PMS-74-84) for construction and operation of a 17.25-MW wood waste/biomass fueled electrical generation facility and substation. The CUP and PMS was a discretionary action that included the County adopting a Negative Declaration (ND) to comply with the California Environmental Quality Act (CEQA). Following the County approvals, the California Coastal Commission (CCC) issued a Coastal Development Permit (CDP) # 1-84-215 that authorized construction and operation within the coastal development zone. In 2003 the County adopted a Mitigated Negative Declaration (MND) and approved a new CDP and CUP for the construction of a 16,000-sf ash building, located on the north end of the ten-acre parcel (CDP-02-93/ CUP-02-33). In 2014 the County approved a CDP and MND (CDP 14-009) for construction of an 8,000-sf stormwater pond. The project remains within the scope and footprint of the prior CEQA analysis and does not result in any new significant environmental impacts. In addition, the project falls into several of the classes of categorical exemptions enumerated in CEQA Guidelines §§ 15301-15333.

The proposed project consists of an amendment to the existing CUP and CDP issued for the site as it would augment the electrical generation and be located entirely within the footprint of the existing electrical generation facility. The proposed project will enhance energy reliability services by delivering and receiving power from the existing onsite substation, and is consistent with the electrical energy uses previously approved for this location.

## 2.2 Hazardous Materials

The facility will be required to prepare a Hazardous Materials Business Plan (HMBP), with oversight by the Certified Unified Program Agencies (CUPA), for its construction and operations in compliance with applicable regulations for any substances listed in California Occupational Safety and Health Regulations Chapter 3.2 Article 5 §339.

The hazardous materials that are anticipated to be used at the project site are safe under normal handling and operating conditions. Each individual BESS enclosure will be monitored and controlled to ensure safe and efficient operations, and every BESS enclosure will be equipped with an integrated fire suppression system, ventilation, as well as gas, heat, and smoke detection and alarms. The system will be designed, constructed, and operated pursuant to the most recently adopted California Fire Code.

The following hazardous materials are anticipated to be present at the Project site during construction, operation, and decommissioning of the Project site:

- Petroleum such as Diesel No. 2 or gasoline may be stored onsite during construction to fuel construction equipment, though it is not anticipated to be stored onsite during the operation of the site.
- Lithium-ion batteries commonly contain the heavy metals cobalt, copper, and nickel as well as other trace heavy metals depending on the location of the source of the mined components. The exact components will be provided when the batteries are sourced closer to construction. These materials are fully encased and contained in the battery modules, and will be fully removed from the site when the project is decommissioned.

Once specific properties and quantities of onsite materials are known, a hazardous materials inventory for any hazardous materials that are greater than the State of California thresholds for quantities of hazardous materials will be uploaded onto the California Environmental Reporting System (CERS).

## 2.3 Ground Disturbance

The area proposed for site improvements consists of a previously disturbed level site that is mostly compacted with a mixture of paved and non-paved surfaces (see photo to the right). The site requires minimal site preparation activities that may include approximately 1-2 feet of excavation in some locations, followed by compaction. The primary project components (i.e. battery enclosures) will be placed on pilings that will be driven into the ground via vibratory pile driver to a depth of approximately 6 feet.



## 2.4 Fence Height

The Project would be enclosed by a chainlink fence at a height that would not exceed six feet (6').