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SECTION 2.0 PROJECT DESCRIPTION

2.1 OVERVIEW OF PROPOSED GENERATING FACILITIES

GOSBGF will be a backup generating facility with a generation capacity of up to 99.0 MW to support the need for the GOSDC to provide uninterruptible power supply for its tenant's servers. The GOSBGF will consist of thirty-six (36) diesel-fired back up generators, arranged in six generation yards, each designed to serve one of the three data center buildings that make up the GOSDC. Project elements will also include switchgear and distribution cabling to interconnect the six generation yards to their respective buildings. In addition, the GOSBGF will include three (3) life safety diesel fired generators, each capable of generating 0.50 MW.

2.2 GENERATING FACILITY DESCRIPTION, CONSTRUCTION, AND OPERATION

2.2.1 Site Description

The GOSDC site is located within the City of San Jose. The site is associated with three addresses, each address designated to one building assigned by the City of San José. The addresses are as follows: SV12 – 123 Great Oaks Blvd., San José, CA; SV18 – 127 Great Oaks Blvd, San José, CA; SV19 – 131 Great Oaks Blvd, San José, CA. The site consists of parcel numbers APN 706-02-057 and APN 706-02-060. The site is located in an office park area and is surrounded by one- to two-story commercial office buildings to the west, north, and east. There is no development south of the site.

The approximately 18-acre project site is flat, undeveloped, and consists of an open vacant lot with scattered trees, including a large valley oak, a City designated Heritage Tree, at the corner of Via Del Oro and Great Oaks Boulevard. The project site is located in an urban area and bound by Via Del Oro (a two-lane roadway with a center turn lane) to the north, Great Oaks Boulevard (a four-lane roadway with a center median) to the east, vacant land to the south, and San Ignacio Avenue (a two-lane roadway with a center turn lane) to the west. Surrounding development consists of one- to two-story modern office buildings, constructed with stucco, steel, and reflective glass windows. Street trees are planted on Via Del Oro, Great Oaks Boulevard, and San Ignacio Avenue on the opposite side of the street (not along the project frontage). See Figure 1.1-1, Figure 1.1-2, and Figure 1.1-3 for regional, vicinity, and aerial site location maps.

2.2.2 General Site Arrangement and Layout

The 99.0 MW backup generators will be located at the site in generation yards at six separate locations within the GOSDC. Each of the generation yards will be located adjacent to the building it serves. Figure 2.2-1 shows the general arrangement and site layout of the GOSBGF within the GOSDC site. Of the 99 MW generators, 32.5 MW of the backup generation will be dedicated to support its respective building. In addition, each of the 0.50 MW life safety generators will be located within the generation yard supporting each respective building. The total generation demand for each building will be 33.0 MW.

Figure 2.2-1: Site Plan

Each backup generator is a fully independent package system with dedicated fuel tanks located on a skid below the generator. Each generation yard will be electrically interconnected to the building it serves through above ground cabling to containerized electrical skids located outside of the building that house electrical distribution equipment.

2.2.3 Generating Capacity

In order to determine the generating capacity of the GOSBGF, it is important to consider and incorporate the following critical and determinative facts.

1. The GOSBGF uses internal combustion engines and not turbines.
2. The GOSBGF internal combustion engines have a peak rating and a continuous rating.
3. The GOSBGF is controlled exclusively by the GOSDC through software technology and electronic devices.
4. The GOSBGF has been designed with three 10+2 configurations for feeding data center critical equipment:
    a. Each building will have total of 12 generators with each generator rated at 3.25 MW. Two of twelve generators are designated as redundant generators and will only support building load when two of the primary generators have failed.
5. The life safety generators are separate from the data center systems to serve for building safety services including Fire Alarm system, Fire Pumps, general lighting, administration office space, shipping receiving, and common building systems such as elevators. This building's generator is sized at 0.50 MW.
7. The GOSBGF will only be operated for maintenance, testing and during emergency utility power outages.
8. The GOSBGF will only operate at a load equal to the demand by the GOSDC during an emergency utility outage.
9. The GOSBGF is not interconnected to the transmission grid.

Based on the methodology adopted by the Commission's Final Decision Granting a SPPE for the McLaren Backup Generating Facility, the maximum generating capacity of the GOSBGF is determined by the maximum of capacity of the load being served. The maximum capacity of the load being served is the maximum demand of the GOSDC on its design day. In addition to using the maximum data center demand, SV1 offers the following methodologies that will be reasonable, not arbitrary and capricious, and will take into account the unique features of a backup generating facility such as the GOSBGF.

2.2.3.1 *Data Center Load Demand*

The generating capacity of the GOSBGF is calculating by recognizing that the load of the backup generators is completely dictated by the demand of the data center. Using this methodology reflects the most accurate way of describing the relationship between the GOSBGF and the GOSDC and describes the actual physical constraint to the generating capacity.

In other words, the GOSDC employs physical electronic devices and software technology (Automatic Throw-over main breakers, Building Load Management System) that limits the output of the GOSBGF.

The GOSDC will include engine control software and electronic equipment automatically that will adjust the output of the GOSBGF based only on the demand of the GOSDC. The demand of the data center is not some ethereal concept derived for purposes of determining generating capacity, but is instead a physical constraint that is not controlled by SV1, but rather controlled through software and electronic control devices that match the output of the GOSBGF during a power outage where PG&E cannot serve the GOSDC load. The fact that the GOSBGF is not electrically connected to anything other than the data center creates this unique factual circumstance.

This unique situation must be distinguished from the case of a conventional power facility that is interconnected to the transmission grid and responds to calls from the California Independent System Operator (CaISO). In the case of a conventional power facility, the CaISO, can call on any portion of the generator's capacity, including its maximum generating capacity, as the CaISO can direct the electricity to different parts of the system. For the GOSBGF there is only one place the electricity can go – the GOSDC. Therefore, the most accurate way of calculating generating capacity from a backup generating facility that solely supports a data center is to understand the potential load of the receiving data center.

It is also important to note that the design demand of the GOSDC, which the GOSBGF has been designed to reliably supply with redundant components during an emergency, is based on the maximum critical IT load occurring during the hottest ASHRAE design day temperature for this facility. Such conditions are possible but extremely unlikely to ever occur. The GOSDC load on that worst-case day is just under 99.0 MW below the SPPE threshold.

The generators are dedicated to serve the critical IT requirement of six large server rooms on two floors in each building as well as the mechanical equipment supporting these server rooms In addition, the smaller 0.50 MW generator will serve common spaces of the building (lobby, conference area, hallways, etc.). The GOSDC will serve three buildings designed to provide 25.0 MW of critical IT load per building. The mechanical systems will impose a load of 7.5 MW per building on the GOSDC for the hottest design day. Therefore, the maximum GOSDC load is 75.0 MW critical IT + 22.5 MW of Total Mechanical Building Load for a total load of 97.5 MW excluding the 1.5 MW for building general safety purposes.

It is important to note that while the GOSDC has been designed to accommodate full critical IT load, it is SV1's experience that clients rarely utilize the entire critical IT load available inside a server room(s) that it rents. Also, the average ambient temperature conditions for a data center in the San Jose area are much lower than the hottest design day. The average critical IT load is expected to be more on the order of 56.0 MW and the average total mechanical building load is expected to be approximately 17.0 MW.

The data center industry utilizes a factor called as the Power Utilization Efficiency Factor (PUE) to estimate the efficiency of its data centers. The PUE is calculated by dividing the total demand of the data center by the critical IT load. For the worst-case day, the peak PUE for the GOSDC would be 1.30 (Total 97.5 MW demand of Building on Worst Case Day divided by 75.0 MW total critical IT load). The average annual PUE for the GOSDC will be 1.23 (total 92.25 MW demand of building average conditions divided by 75.0 MW expected critical IT load). These PUE estimates are based on design assumptions and represent worst case. SV1's experience with operation of other data centers is that the actual PUE will be closer to 1.2.

2.2.3.2 *Capacity Less Redundant Generation*

The GOSBGF has been designed with a 36-to make-30 design basis. That is, there are 30 primary generators with six redundant generators. Therefore, if a primary generator failed, the load that generator could be served by one of the six redundant generators. The six redundant generators are designed to only carry load when one or up to six primary generators fail. At all time, there will only be maximum 30 generators loaded when all three buildings have been fully constructed.

Redundant generation should not be counted as part of a facility's generating capacity because by definition it will only replace the primary generation. Therefore, the Commission could calculate the generating capacity of the GOSBGF by looking at the nameplate rating of each generator and discount the generating capacity of all of redundant generators to arrive at the generating capacity of the GOSBGF. This calculation is as follows:

36 Generators – (30+6), Primary Generators = 30 Generators

30 Generators x 3.25 MW (Nameplate Rating) = 97.5 MW

3 Life Safety Generator x 0.5 MW (Nameplate Rating) = 1.5 MW

97.5 MW + 1.5 MW = 99 MW Facility Generating Capacity

2.2.3.3 *Continuous Rating*

A third method that the Commission could use to calculate generating capacity would be to recognize that unlike a turbine nameplate rating, a backup internal combustion engine has two ratings; a peak rating and a continuous rating. Use of the continuous rating will be more accurate since the design, including redundant generators, is based entirely on the continuous rating as described in Appendix AQ-2 located within the Air Quality Report in Appendix A. Ignoring redundancy and using the continuous rating of the 36 generators and the three life-safety generator the calculations will be:

36 Generators x 2.5 MW = 90.0 MW
3 Life Safety Generator x 0.5 MW = 1.5 MW
90.0 MW + 1.5 MW = 91.5 MW Facility Generating Capacity

Although this method reflects the design basis of the GOSBGF, it does not reflect the actual constraint of the data center demand and its software and electronic equipment that dictate how the GOSBGF will operate. It does; however, recognize and incorporate the concepts outlined in Section 2003 of the Commission Regulations that look at average continuous operations and not peak operations.

2.2.4 Backup Electrical System Design

2.2.4.1 *Overview*

To place the role of the GOSBGF into context, the following information about the overall GOSDC design is provided. The design objective of the backup electrical system is to provide sufficient equipment and redundancy to ensure that the servers housed in the GOSDC buildings will never be without electricity to support critical loads. The critical loads include the load to support the building operation in addition to the electricity consumed by the servers themselves. The largest of these building loads is to provide cooling for the server rooms.

For backup supply for a data center, it is commonplace to build levels of systems and equipment redundancy and concurrent maintainability into the overall electrical and mechanical infrastructure. The base quantity of systems that are required to serve the design load of the facility is referred to as "N". When reliability requirements dictate that redundant systems are added to the base quantity of systems, it is commonplace in the industry to refer to the number of redundant systems as "X" in the representation "N+X".

Each redundant electrical system will consist of an Uninterruptible Power Supply (UPS) system that will be supported by batteries, electrical switchgear, an electrical inverter and portions of the GOSBGF backup generation. The UPS systems that will be deployed at the GOSDC will be consist of two (2) 1,250 KW UPS units will be paralleled together to provide "N Unit" of redundant Critical Capacity of 2.5 MW. The two UPS units will share a potential 2.5 MW of critical load by employing load sharing capabilities inherent to the UPS design. The power inputs of the two UPS units will be electrically connected to a single main switch board. This main switchboard will be connected to a dedicated 3,000 KVA Utility Transformer as well as dedicated to one of the GOSBGF proposed backup generators.

The original design selected a 3.25 MW peak rated generator. SV1 completed an analysis of the individual generator system loads as designed in the 36 to make 30 load sharing distribution. In this analysis, it was discovered that at design day conditions an individual generator would only be tasked to a maximum load just under 3.25 MW. This peak loading will only be realized during a normal utility power loss and if a single generator in a group of 12 were to fail while the 12 to make 10 electrical system was providing power to a maximum 24 MW of critical load, which is 100 percent of the IT loading demand, all during design day temperatures. The design day temperature is the hottest day of the year for the San Jose region. As the analysis further detailed, the design day conditions are dynamic based on the outside temperature, and thus over the period of 24 hours, the load analysis showed the average loading of the generator met the manufactures ratings for

continuous loading. Therefore, SV1 was able to modify the generator size from a 3.5 MW peak capacity to a 3.25 MW peak capacity.

2.2.5 UPS System and Batteries

2.2.5.1 *UPS System*

The UPS System and Batteries are part of the GOSDC and are not part of the GOSBGF. However, the following description is provided to describe how the UPS will dispatch the individual generators of the GOSBGF. The UPS will protect the load against surges, sags, under voltage, and voltage fluctuation. The UPS will have built-in protection against permanent damage to itself and the connected load for all predictable types of malfunctions. The load will be automatically transferred to the bypass line without interruption in the event of an internal UPS malfunction. The status of protective devices will be indicated on a liquid crystal display (LCD) graphic display screen on the front of the UPS. The UPS will operate in the following modes:

- **Normal** – Insulated Gate Bipolar Transistor (IGBT) Rectifier converts AC input power to DC power for the inverter and for charging the batteries. The IGBT inverter supplies clean and stable AC power continuously to the critical load. The UPS Inverter output will be synchronized with the bypass AC source when the bypass source is within the AC input voltage and frequency specifications.
- **Loss of Main Power** - When Main Power is lost, the battery option will automatically back up the inverter so there is no interruption of AC power to the critical load.
- **Return of Main Power or Generator Power** - The system will recover to the Normal Operating Mode and will cause no disturbance to the critical load while simultaneously recharging the backup battery.
- **Transfer to Bypass AC source** - If the UPS becomes overloaded, or an internal fault is detected, the UPS controls will automatically transfer the critical load from the inverter output to the bypass AC source without interruption. When the overload or internal warning condition is removed, after a preset "hold" period the UPS will automatically re-transfer the critical load from the bypass to the inverter output without interruption of power to the critical load.
- **Maintenance Bypass** - An optional manual make-before-break maintenance bypass panel may be provided to electrically isolate the UPS for maintenance or test without affecting load operation.

2.2.5.2 *Batteries*

The battery system will consist of lithium-ion batteries, circuit breaker for isolating the battery rack from the UPS and control interface to the UPS module. The circuit breaker will be sized to allow discharge at the maximum published rating of the battery. A single interface between the lithium-ion battery racks and the UPS module will provide status and control of the battery cabinet's internal breaker.

The battery rack will be rated NEMA 1 with front door, side covers and rear cover, will be suitable for installation in a limited-access area, and UL 9540A Listed Overhead-installed cabling will be accommodated. The battery rack will be provided with an optional conduit box and will provide terminals suitable for two-hole, long-barrel compression lugs. Cable installation will not require removal of batteries or any other battery rack assemblies.

The installer will provide all cabling necessary to interconnect the UPS and the battery cabinets. The battery system will be sized to support a 1250 kW load for 6.5 minutes. The battery system will provide 100 percent initial capacity upon delivery.

The battery will be Samsung 67Ah 8S1P (lithium magnesium oxide/lithium nickel manganese cobalt oxide) with a ten (10) -year full warranty under full float operation.

The battery system will be provided with an integrated battery monitoring system. The system will provide battery safety and on-line remote monitoring.

The system will include system, rack and battery module monitoring of these battery parameters:

- Individual cell voltage
- Individual cell temperature
- Cell balance per battery module
- Rack voltage
- Rack average cell voltage
- Rack current
- Rack average cell temperature
- Rack state of health
- Rack state of charge
- Rack major and minor alarms
- Rack disconnect position
- System average state of charge
- System major and minor alarms (also reported to the UPS)

2.2.6 Electrical Generation Equipment

Each of the 36 generators will be a ~~Tier 2~~4 emergency diesel fired generator equipped with Miratech Selective Catalytic Reduction (SCR) system and Diesel Particulate Filters (DPF) to achieve compliance with Tier 4 emission standards. The generators will be Cummins model C3250D6e. The maximum peak generating capacity of each model is 3.25 MW with a steady state continuous generating capacity of 2.5 MW. Specification sheets for each manufacturer and evidence of the steady state continuous ratings are provided in Appendix J.

Each individual generator will be provided with its own package system. Within that package, the prime mover and alternator will be made ready for the immediate call for the request for power controlled by the UPS. Each generator package will integrate a dedicated fuel tank with a capacity of 9,200 gallons and a urea tank for operating the SCR system. There will be total of six generators yards for the three buildings, two generators yards per each building. The 10+2 generators per each building will be configured and installed on concrete slab. Half of the generators in each building will be installed in the first equipment yard and the other half will be located in the second equipment yard next to the building. The generators are approximately 13.3~~0~~ feet wide, 52.5~~0~~ feet long and 24 feet high. Each generator will have a stack height of approximately 27~~10~~ feet 3 inches. When placed on slab, they will be spaced approximately 56 feet apart horizontally. Each generator yard will be located adjacent to the GOSDC building it serves. The generator yards will be housed in pre-manufactured and UL Listed metal enclosures.

2.2.7 Major Electrical Equipment and Systems

At the Generator Alternator, there will be a load disconnect breaker that is normally closed while the generator is both in and out of operation. From that load disconnect, 600V rated power cables in conduit, rated for the full ampacity output rating of the generator will traverse from the generator into the data center facility terminating on a dedicated main generator input breaker. This breaker is an electrically operated breaker that is normally open when the generator is not in operation, and the main switchboard has not requested generator power. This generator main breaker is electrically interlocked with an adjacent utility transformer main breaker, such that the generator main breaker can never close unless the utility transformer main breaker is in the open state. The generator main breaker will only close based upon a gen start request from a Programmable Logic Controller (PLC) control logic that indicates that the utility transformer main breaker's source power is unavailable, the generator has started and is producing 480VAC power, and the utility transformer main breaker is in the open state. Once the generator main breaker is closed, the power created from the individual generator is then transmitted to the dedicated load of the N Unit two MW critical load system and connected mechanical. This load is the exact same load that the dedicated utility transformer was supplying power to prior to the utility interruption. Power from this individual generator cannot be transferred to any other load or system, an adjacent N Unit System or mechanical load, or anywhere outside the GOSDC.

2.2.8 Fuel System

The backup generators will use ultra-low sulfur diesel as fuel (< 15 parts per million sulfur by weight). Each generator package will include an integrated fuel tank with a capacity of 9,200 gallons, which is sufficient for operating at steady state continuous load for at least 30 hours.

2.2.9 Cooling System

Each generator will be air cooled independently as part of its integrated package and therefore there is no common cooling system for the GOSBGF.

2.2.10 Water Supply and Use

The GOSBGF will not require any consumption of water.

2.2.11 Waste Management

The GOSBGF will not create any waste materials other than minor amounts of solid waste created during construction and maintenance activities.

2.2.12 Hazardous Materials Management

The GOSBGF will prepare a Spill Prevention, Control and Countermeasure Plan (SPCC) to address the storage, use and delivery of diesel fuel for the generators.

Each generator unit and its integrated fuel tanks have been designed with double walls. The interstitial space between the walls of each tanks is continuously monitored electronically for the existence of liquids. This monitoring system is electronically linked to an alarm system in the security office that alerts personnel if a leak is detected. Additionally, the standby generator units are housed within a self-sheltering enclosure that prevents the intrusion of storm water.

Diesel fuel will be delivered on an as-needed basis in a compartmentalized tanker truck with maximum capacity of 8,500 gallons. The tanker truck parks at the gated entrances to the generator yard for re-fueling.

There are no loading/unloading racks or containment for re-fueling events; however, a spill catch basin is located at each fill port for the generators. To prevent a release from entering the storm drain system, drains will be blocked off by the truck driver and/or facility staff during fueling events.

Rubber pads or similar devices will be kept in the generation yard to allow quick blockage of the storm sewer drains during fueling events.

To further minimize the potential for diesel fuel to come into contact with stormwater, to the extent feasible, fueling operations will be scheduled at times when storm events are improbable.

Warning signs and/or wheel chocks will be used in the loading and/or unloading areas to prevent vehicles from departing before complete disconnection of flexible or fixed transfer lines. An emergency pump shut-off will be utilized if a pump hose breaks while fueling the tanks. Tanker truck loading and unloading procedures will be posted at the loading and unloading areas.

Spill containment kits will always be kept onsite to address any unlikely spill events.

To guard against degradation, fuel will be polished a minimum of every 12 months. Fuel polishing is a process that removes contamination from fuels in storage. Sources of contamination include water, microbial growth, and solid particles such as dirt.

To meet the Tier 4 emission standards, urea is used to enable the SCR system to achieve NOx emission reduction. Urea is required to be stored and managed appropriately. Urea does not trigger the CalARP Program and therefore neither an offsite consequence analysis nor Risk Management Plan are required.

2.2.13 Project Construction

Construction of the GOSBGF will take place in three phases. Each phase represents a generation yard which will be constructed to serve each of the three GOSDC buildings. Therefore, Phase I will include 12 generators and one life safety emergency generator for Building SV-12. Phase II will include 12 generators and the life safety emergency generator for Building SV-18, and Phase III will include 12 generators and the life safety emergency generator for Building SV-19.

Since the site preparation activities for the GOSDC will include the ground preparation and grading of the entire GOSDC site, the only construction activities associated with the GOSBGF will involve construction within each generation yard. This will include construction of concrete slabs, fencing, above ground conduit to install the electrical cabling to interconnect to the GOSDC Building switchgear, and placement and securing the generators. Drilled piles would be used for the construction of foundations.

The generators themselves will be assembled offsite and delivered to site by truck. Each generator will be placed within its respective generation yard by a crane.

Construction of the generation yard to support the first GOSDC building is anticipated to begin in the fourth quarter of 2020. Construction of each generation yard and placement of the generators is expected to take nine months. Construction personnel are estimated to range from 15 to 20 workers per generation yard including one crane operator.

Project construction includes three separate phases for each of the three buildings. Construction of the first GOSDC building, SV12, would begin in the fourth quarter of 2020 and is anticipated to finish in the first quarter of 2022, for a total of up to 15 months. Construction of the second GOSDC building, SV18, would begin in the second quarter of 2023 and is anticipated to finish in the fourth quarter of 2024, for a total of up to 18 months. Construction of the third GOSDC building, SV19, would begin in the second quarter of 2026 and is anticipated to finish in the fourth quarter of 2027, for a total of up to 18 months.

2.2.14 Facility Operation

The backup generators will be run for short periods for testing and maintenance purposes and otherwise will not operate unless there is a disturbance or interruption of the utility supply. Bay Area Air Quality Management District's (BAAQMD) Authority to Construct and the California Air Resources Board's Airborne Toxic Control Measures (ATCM) limits each engine to no more than 50 hours annually for reliability purposes (i.e., testing and maintenance). However, it is SV1's experience that maintenance and testing of each engine rarely exceeds 12 hours annually and has agreed to limit hours for routine testing and maintenance to 20 hours per engine. In addition, SV1

proposes to limit operation to one engine at a time for maintenance and testing activities. Please see Section 4.5 for a complete description of the testing and maintenance frequencies and loading proposed for the GOSBGF.

2.3 GREAT OAKS SOUTH DATA CENTER FACILITIES DESCRIPTION

2.3.1 Overview

As described in Section 1.2 and 1.3 of this application, the GOSDC is not part of this SPPE. However, as discussed with Commission Staff in the pre-filing meeting SV1 are providing the following complete description of the GOSDC, beginning with the modifications to the previously approved configuration. This will allow the Commission to focus on evaluation of the potential effects of the modifications to support the City's final authorization. The GOSDC modifications include:

- Construction of three 182,350 square foot, two-story data center buildings instead of three 191,000 square foot, two-story data center buildings.
- Water-cooled chilled water system with water-side economizer and Computer Room Air-Handling (CRAH) units for each building. The new mechanical system will consist of 33 total 1000-ton chillers, 11 per building. Each buildings cooling system will operate in a 9+2 redundancy configuration.

2.3.2 Complete Description of the GOSDC

The new data center buildings will house computer servers and supporting equipment for private clients in environmentally controlled structures. A conceptual site plan is provided on Figure 2.2-1. The proposed data center buildings will each include twelve generators (ten primary and two redundant) located adjacent to the buildings. Each generator will have an electric capacity of 3.25 megawatts (MW) and provide standby backup electricity for the new buildings. Diesel fuel for the generators will be stored in 9,200 gallon above ground tanks under each generator.

The project will be supported from a new PG&E substation (Santa Teresa Substation), a 115 kV transmission line extension to the substation from the existing Metcalf-Edenvale 115 kV transmission line, and five new 21 kilovolt (kV) distribution feeders that will extend along Via Del Oro to the data center site. Our understanding is that PG&E is currently constructing the substation. The primary components of the project are described below.

2.3.2.1 *Data Center Buildings*

The project proposes to construct three, two-story data center buildings that will each be approximately 182,350 square feet in size with a building footprint of approximately 92,000 square feet. Each building will contain server cabinets on each floor and three loading docks for shipping and receiving uses.

A two-story office component, approximately 49 feet in height (53 feet to top of parapet) and 15,000 square feet in size, will also be part of each building. The office space will provide customer care, security, building operations, and flex office functions. See Figure 2.3-1.

2.3.2.2 *Site Access, Circulation, and Parking*

The site will be accessed by three entry points: two for passenger vehicles and one for delivery trucks. The main passenger vehicle driveway will be located on Great Oaks Boulevard near an existing curb cut in the boulevard median. The secondary passenger vehicle access point will be located on San Ignacio Avenue. Delivery trucks will be able to access the main loading dock areas via a truck driveway located on Via Del Oro. Each access point will be gated and electronically secured.

The project proposes to construct 266 surface parking spaces to be located throughout the approximately 18-acre site (refer to Figure 2.2-1). In addition, 21 bicycle parking spaces will be provided and there will be nine loading dock spaces for delivery trucks.

2.3.2.3 *Site Design: Energy Demand and Efficiency Measures*

Maximum Load Demand

The projected maximum load demand for each of the proposed data center buildings is approximately 33.0 megawatts (MW). This load includes the power required to operate tenant information technology (IT) equipment as well as mechanical cooling systems, uninterruptible power systems (UPS) and general building lighting and power loads. The project applicant estimates the demand for maximum load anticipated with the proposed site improvements based on the occupancy of the data center buildings with data center uses supported by the proposed mechanical and electrical infrastructure.

Energy and Water Efficiency Measures

Due to heat generated by the data center IT equipment, cooling systems are one of the primary uses of energy in the buildings. In order to reduce greenhouse gas emissions and reduce the use of energy related to building operations, the project proposes to implement a number of efficiency measures related to selection and operation of electrical and mechanical equipment for building cooling (Appendix A). Table 2.3-1 lists the proposed efficiency measures related to mechanical and electrical systems in the buildings. Additional energy efficiency measures associated with tenant improvements and water use reduction are listed in Table 2.3-2.

Figure 2.3-1: Building Elevations

Table 2.3-1: Efficiency Features – Project Mechanical and Electrical Systems	
Optimize Energy Performance	• **Standards** CA Title 24 energy requirements will be exceeded. ASHRAE TC9-9 extended thermal envelope values will be utilized to allow economizer operation during greater periods of the year with A/C compressors operating only during peak load periods. • **Measurement & Verification** Metering will be provided to validate conservation measures. • **Efficient Equipment** High efficiency (96%+) UPS, High Efficiency Water-Cooled Chilled Water system with water-side economizer for the data halls & Variable Refrigerant Flow (VRF) cooling systems. • **Enhanced Commissioning** Independent commissioning agent reviews system design and verifies the performance of the installed systems (CAPCOA Best Management Practice; Measure BE-3). • **Cool Roof**: • Reduce Heat Island effect, the roofing materials meet Solar Reflectance Index value (SRI) of at least 82 for low sloped roofs, as well as meeting the following regulations: • EnergyStar/Title 24 Requirements for Cool Roofing • LEEDv4/Green Globe Requirements for Cool Roofing
Heating, Ventilation & Air Conditioning (HVAC)	• **High-Efficiency Systems** High Efficiency Air-Cooled Chilled Water System with refrigerant-side economizer ~~Water-Cooled Chilled Water systems with water-side economizer~~ for data halls and Variable Refrigerant Flow (VRF) systems for office/support areas. Systems designed using ASHRAE TC9-9 extended thermal envelope values (max. 26.5 deg. C/79 deg. F) to allow economizer operation during greater periods of the year with A/C compressors operating only during peak load periods. Scalable cooling systems with only those units required to serve the actual load in operation to improve efficiency. Highly efficient Variable Refrigerant Flow (VRF) cooling systems for office/support areas to reduce fan energy. • **Airflow Management** Hot aisle containment, separated ceiling plenum to provide physical separation of hot and cool air in data halls. Use of blanking panels and other measures to avoid bypass of cold air into hot aisles.
Lighting	• **LED Lighting** High-efficiency, low mercury content LED lamping used throughout • **Lighting Controls** Automatic-off and occupancy-based lighting control. Dimming control for all spaces with lighting loads >0.5 watts/sf. Automatic demand-limiting control of lighting per Title 24

	requirements.
Electrical	• High-efficiency (96%+) UPS systems. • Separate metering of building mechanical and lighting loads to validate compliance and conservation measures.
Table 2.3-2: Efficiency Measures for Tenants and Water Use Reduction	
Recycling Program	• During Operation: Implementation of LEED guidelines for the storage and collection of recyclables (LEEDv4 Core and Shell (CS)) Materials and Resources/ Prerequisite 1), intended to facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills. • During Construction: The Owner has implemented a Construction Waste Management Plan in line with LEEDv4-CS MRp2 – Construction Waste Management Plan and MRc5 Construction and Demolition Waste Management. A 75% construction waste diversion rate has been pursued, with an attempt at meeting the 95% diversion threshold for Exemplary Performance.
Operation Practices	• The building Owner has implemented the LEED policy for Green cleaning (LEEDv4 CS - Innovation in Design – EBOM Starter Kid), intended to reduce the exposure of building occupants and maintenance personnel to potentially hazardous chemical, biological and particulate contaminants, which adversely affect air quality, human health, building finishes, building systems and the environment.
IT Equipment	• Energy Star equipment will be installed where applicable.
Materials	The building Owner has implemented the following LEED policies regarding Materials and Resources: • At least 10 products have been installed with Environmental Product Declarations (EPDs), reports disclosing the environmental impacts of the manufacturing processes. • At least 10 products have been installed with Material Ingredient Disclosures, reporting on the ingredients in the building materials and the related health impacts. • At least 20%, by cost, of the total materials cost for the project are comprised of materials with recycled content or FSC-certified wood products. FSC-certified wood products meet the Forest Stewardship Council (FSC)'s principles and criteria for sustainably managed forests.
Indoor Environmental Quality	The building Owner has implemented the following LEED policies regarding Indoor Environmental Quality: • LEEDv4 CS – IEQc1 Enhanced Indoor Air Quality Strategies ensuring that CO2 concentrations are monitored within all densely occupied spaces, and an alarm is triggered if the CO2 levels differ by more than 10% from the setpoint. In addition, MERV13 filters are used on all outdoor air intakes and ventilation rates to all occupied spaces are increased by 30% above the ASHRAE Standard 62.1-2010.

	• LEEDv4 CS – IEQc3 Construction IAQ Management Plan (LEED CS 2009 - Indoor Environmental Quality/Credit 3), implementing the following strategies: o During construction, meet or exceed the recommended control measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines For Occupied Buildings Under Construction, 2nd Edition 2007, ANSI/SMACNA 008-2008 (Chapter 3). o Protect stored on-site and installed absorptive materials from moisture damage. o Providing filtration media at the return air grille of air handlers utilizing filtration media with a Minimum Efficiency Reporting Value (MERV) of 8 as determined by ASHRAE Standard 52.2-1999. • LEEDv4 CS – IEQc2 Low Emitting Materials: o Adhesives, Sealants, Paints, and Coatings used within the building's weatherproofing system meet the minimum VOC content as prescribed by LEED. o Paints, Coatings, Insulation, and Ceiling finishes meet the Greenguard Gold standard for emissions testing. o Flooring Systems, meet the following criteria: ▪ Carpet: Must meet the testing and product requirements of the CRI Green Label Plus program. ▪ Cushion: Must meet the testing and product requirements of the CRI Green Label program. ▪ Hard surface flooring must be certified as compliant with the FloorScore standard. ▪ Concrete, wood, bamboo and cork floor finishes such as sealer, stain and finish must meet the requirements of South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings, rules in effect on January 1, 2004. ▪ Tile setting adhesives and grout must meet South Coast Air Quality Management District (SCAQMD) Rule 1168. VOC limits correspond to an effective date of July 1, 2005 and rule amendment date of January 7, 2005. o Composite Wood & Agrifiber Products meet the California Air and Resources Board (CARB) requirements for No Added Formaldehyde or Ultra Low Emitting Formaldehyde.
Water Use Reduction	• Ultra-low flow toilets and faucets will be used throughout.

2.3.2.4 *Cooling Systems*

Each building will be cooled by an Air-Cooled Chilled Water System with refrigerant-side economizer. The new mechanical system will consist of (72) total 400-ton chillers, (24) per building. Each building's cooling system will operate in a 22+2 redundancy configuration. ~~water-cooled chilled water system consisting of (11) high-efficiency water-cooled chilled water modules mounted on the roof. Each module will include a water-cooled chiller, cooling tower and chilled water and condenser water pump and have a nominal capacity of 1,000 Tons. The chilled water distribution loops will be installed on the roof and second floor with branches routing to the first floor. The air-system will consist of up to (48) high-efficiency chilled water Computer Room Air Handling (CRAH) units with a cooling capacity of 465 kW each~~. The administrative and service areas of the building will be cooled with high-efficiency split system variable refrigerant flow (VRF) cooling systems with simultaneous heating, cooling and heat recovery capabilities for optimum efficiency operation.

2.3.2.5 *Landscaping*

Landscaping will be planted throughout the main project site in accordance with General Plan policies. Approximately 133,500 square feet of landscaping is proposed around the data center buildings. In addition, street trees will be planted along the project frontages to help soften views of the project site from the surrounding area.

Prior to the approval of the original SUP on January 23, 2017, there were 15 on-site trees (including the one heritage tree) and five off-site trees within the right of way of the street fronting the property. After approval of the original SUP, 13 of the on-site trees were removed. For this Amendment to the SUP, it is anticipated that six additional trees will be removed (one on-site and five off-site), four of which are ordinance size trees. The landscape plan for this SUP Amendment proposes to plant 51 new street trees and 177 on-site trees. See Figure 2.3-2 for a landscape plan, and Figure 2.3-3 for a tree removal plan.

2.3.2.6 *Stormwater Management*

According to the Hydromodification Management Applicability Map for the City of San José, published by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP), the property is located in a catchment or sub-watershed that is less than 65 percent impervious. Development of any property located in such a catchment area that results in more than one acre of impervious surfaces will require the incorporation of hydromodification management controls in accordance with Provision C.3.g of the Regional Water Quality Control Board's "Municipal Stormwater NPDES Permit" and City of San José Policy 8-14: Post-Construction Hydromodification Management. The project proposes to implement an underground detention basin with a storage volume of about 100,000 cubic feet. See Figure 2.3-4.

Since development of the property will result in the construction of new impervious surfaces totaling more than 10,000 square feet, the project will be required to incorporate post-construction stormwater treatment control measures adhering to the current requirements of Provision C.3 of the

Regional Water Quality Control Board's "Municipal Stormwater NPDES Permit" and City of San José Policy 6-29: Post-Construction Urban Runoff Management.

The measures to be implemented will include but are not limited to:

- Site Design Measures:
    - Protect existing trees, vegetation, and soil
    - Plant trees adjacent to and in parking areas and adjacent to other impervious areas
    - Cluster structures/pavement
    - Parking will not be provided in excess of Code

Figure 2.3-2: Landscape Plan

Figure 2.3-3: Tree Removal Plan

Figure 2.3-4: Stormwater Management Plan

- Source Control Measures:
    - Beneficial landscaping (minimize irrigation, runoff, pesticides and fertilizers)
    - Good housekeeping (sweep pavement and clean catch basin)
    - Label storm drains
    - Connect covered trash/recycling enclosures and covered loading docks to the sanitary sewer

- Treatment Systems
    - Bioretention/biotreatment basin area approximately 3,000 square feet

2.3.2.7 *Water Use*

The GOSDC estimates that it will use approximately 1.3-acre feet of water for each phase of construction, and approximately 4~~2~~17 acre-feet per year for operation of ~~each~~all three building~~s~~. The theoretical maximum operational usage for each building is ~~343~~ is approximately 1.2 acre-feet per year.

The site is within the jurisdiction and service territory of the Great Oaks Water Company and will supply the GOSDC with water. SV1 met with the South Bay Water Recycling Program (SBWRP) who explained that the Great Oaks Water Company will have to join its program in order for the SBWRP to serve recycled water to the site. SV1 met with Great Oaks Water Company who explained that they have no plans to join the SBWRP Program and as a condition of it serving the site with potable water, no recycled water could be delivered to the site. Therefore, recycled water is not feasible for the GOSDC.

2.3.2.8 *Utility Lines*

Existing Utility Lines

There are 48-inch diameter and 54-inch diameter storm drainpipes in Great Oaks Boulevard. There is a 48-inch diameter storm drainpipe along the entire San Ignacio Avenue frontage. In Via Del Oro, there are two storm drainpipes. One is an 18-inch diameter pipe flowing towards Great Oaks Boulevard and the other is a 24-inch diameter pipe flowing towards San Ignacio Avenue.

There are 12-inch diameter water pipes along Great Oaks Boulevard, Via Del Oro and San Ignacio Avenue.

There is a 15-inch diameter sanitary sewer pipe along the entire Great Oaks Boulevard frontage, an 8-inch diameter sanitary sewer pipe along the entire frontage of Via Del Oro and a 15-inch diameter sanitary sewer pipe along the entire San Ignacio Avenue frontage.

Proposed Utility Connections

The following sections describe the GOSDC facilities that will interconnect to the existing utilities. See Figure 2.3-5.

Figure 2.3-5: Utility Plan

Storm Drainage

Drainage from the site will discharge from the hydromodification basin into an on-site 24-inch diameter pipe that will then flow out to an existing 48-inch diameter storm drain pipe in Great Oaks Boulevard at approximately eight feet deep.

Domestic Water

Each building will have a four-inch diameter and a 2.5-inch diameter domestic water service. Two 4-inch diameter and two 2.5-inch diameter domestic water services will connect to an existing 12-inch diameter water pipe in Via Del Oro. One four-inch diameter domestic water service will connect to an existing 12-inch diameter water pipe in San Ignacio Avenue located in an easement on the far side of the street, behind the west curb and gutter. The depth of domestic water services will be 4 feet minimum.

Fire Water

There will be four 10-inch diameter fire water services. One will connect to an existing 12-inch diameter water pipe in Great Oaks Boulevard. One will connect to an existing 12-inch diameter water pipe in Via Del Oro. Two will connect to an existing 12-inch diameter water pipe in San Ignacio Avenue located in an easement on the far side of the street, behind the west curb and gutter. The depth of fire water services will be 4 feet minimum.

Sanitary Sewer

Sewer discharge from the buildings will be collected in an on-site eight-inch diameter pipe and connect to an existing 15-inch diameter sanitary sewer pipe in Great Oaks Boulevard at approximately 15 feet deep.

2.3.2.9 *Electrical Power Delivery to Site Distribution Feeders*

The original project was approved with electrical power for the site coming from a new PG&E Santa Teresa Substation through new distribution feeders. The Santa Teresa Substation and the distribution feeders was reviewed by the City in its prior MND and approved as part of the prior approval. The substation and distribution feeders are not affected by the modifications proposed in this Application and the substation is currently under construction by PG&E.

2.3.3 Construction and Operation Workforce

The data center buildings will be constructed in three separate phases. One building will be constructed per phase, with construction over an approximately 13 to 15-month period per phase. The first phase is anticipated to start construction in late 2020. SV1 estimates approximately 200-225 construction workers during the peak month and an average of 125-150 construction workers for each phase.

SV1 anticipates that for operation, each building will have eight employees/external staff (i.e. security guards) per day shift, three per mid shift, and three per night shift. SV1 estimates that for each building, visitors will average about seven per day shift, two per midshaft, and one per night shift.

2.4 MITIGATION INCORPORATED INTO PROJECT DESIGN

2.4.1 Air Quality

PD AQ-1: To ensure that fugitive dust impacts are less than significant, the project will implement the BAAQMD's recommended BMPs during the construction phase. These BMPs are incorporated into the design of the project and will include:

- All exposed surfaces (soil piles, graded areas, and unpaved access roads) shall be watered at least two times per day.
- All haul trucks transporting material offsite shall be covered.
- All track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day.
- All vehicle speeds on onsite unpaved surfaces shall be limited to 5 miles per hour.
- All roadways, driveways, and sidewalks shall be paved as soon as possible. Building pads shall be completed as soon as possible after grading unless seeding or soil binders are used.
- Equipment idling times shall be minimized to 5 minutes per the Air Toxics Control Measure (ATCM). Idling time signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer specifications. All equipment shall be checked by a certified visible emissions evaluator.
- Information on who to contact, contact phone number, and how to initiate complaints about fugitive dust problems will be posted at the site.

2.4.2 Biological Resources

PD BIO-1: In accordance with current City policies and Municipal regulations, trees removed will be replaced at the ratios identified in Table 4.6-1.

- In the event replacement/mitigation trees cannot be accommodated on the site, tree removal shall be mitigated through a donation of $300 per mitigation tree to Our City Forest for in-lieu off-site tree planting in the community. The species of trees to be planted shall be determined in consultation with the City Arborist and the Department of Planning, Building and Code Enforcement. Trees removed shall be replaced at these ratios, or the applicant shall pay an in-lieu fee to Our City Forest to compensate for the loss of trees on-site.

PD BIO-2: In accordance with guidelines established by the International Society for Arboriculture, the following tree protection measures will be implemented to reduce impacts to the Heritage Tree:

- Establish an area surrounding the Heritage Tree to be protected during construction as defined by a circle concentric with each tree with a radius 1-1/2 times the diameter of the tree canopy drip line. This "tree protection zone" is established to protect the tree trunk,

canopy and root system from damage during construction activities and to ensure the long-term survival of the protected trees. The tree protection zone shall: (1) ensure that no structures or buildings, that might restrict sunlight relative to the existing conditions, will be constructed in close proximity to the trees; and (2) that no improvements are constructed on the ground around the tree within the tree protection zone, thus ensuring that there is sufficient undisturbed native soil surrounding the tree to provide adequate moisture, soil nutrients and oxygen for healthy root growth.

- Protect tree root systems from damage caused by (a) runoff or spillage of noxious materials while mixing, placing, or storing construction materials and (b) ponding, eroding, or excessive wetting caused by incident rainfall through use of the following measures during excavation and grading:
    - Excavation: Do not trench inside tree protection zones. Hand excavate under or around tree roots to a depth of three feet. Do not cut main lateral tree roots or taproots. Protect exposed roots from drying out before placing permanent backfill.
    - Grading: Maintain existing grades within tree protection zones. Where existing grade is two inches or less below elevation of finish grade, backfill with topsoil or native soil from the project site. Place fill soil in a single un-compacted layer and hand grade to required finish elevation.
    - Apply six-inch average thickness of wood bark mulch inside tree protection zones. Keep mulch six inches from tree trunks.
- Provide 48-inch tall orange plastic construction fencing fastened to steel T-posts, minimum six feet in length, using heavyweight plastic ratchet ties. Install fence along edges of tree protection zones before materials or equipment are brought on site and construction operations begin. Maintain fence in place until construction operations are completed and equipment has been removed from site.
- Provide temporary irrigation to all trees in protection zones using a temporary on-grade drip or bubbler irrigation system sufficient to wet the soil within tree protection zones to a depth of 30 inches per bi-weekly irrigation event.

Heritage Tree Design Recommendations

- Establish the horizontal and vertical elevation of the Heritage Tree. Include the trunk location and tag number on all plans.
- Design finish grades so that no water accumulates around the base of the trunk of the Heritage Tree.
- Allow the Consulting Arborist to review all future project submittals including grading, utility, drainage, irrigation, and landscape plans.
- Maintain the tree protection zone around the Heritage Tree as depicted on the Grading and Drainage Plan prepared by Ruth and Going. The tree protection zone shall be the limit of work.

- Route underground services including utilities, sub-drains, water or sewer around the tree protection zone. Where encroachment cannot be avoided, special construction techniques such as hand digging or tunneling under roots shall be employed where necessary to minimize root injury.
- Use only herbicides safe for use around trees and labeled for that use, even below pavement.
- Design the landscape around the Heritage Tree to be compatible with the cultural requirements of native oak trees.
- Any irrigation system must be designed so that no trenching will occur within the dripline of the Heritage Tree.

Pre-construction and demolition treatments and recommendations

- The demolition contractor shall meet with the Consulting Arborist before beginning work to discuss work procedures and tree protection.
- Install protection at the tree protection zone prior to demolition, grubbing, or grading.
- No entry is permitted into a tree protection zone without permission of the project superintendent.
- The Heritage Tree should be pruned to reduce the length and weight of long, horizontal branches. Remove stubs only when there is well-developed woundwood present at the attachment. Do not remove the large stub in the center of the crown. All pruning shall be completed by an ISA Certified Arborist or Tree Worker and adhere to the latest editions of the American National Standards for tree work (Z133 and A300) and International Society of Arboriculture Best Management Practices, Pruning.
- The Heritage Tree should also be evaluated for installation of new cables to support heavy horizontal limbs.

Tree protection during construction

- Any grading, construction, demolition or other work that occurs within the tree protection zone should be monitored by the Consulting Arborist.
- If injury occurs to any tree during construction, it should be evaluated as soon as possible by the Consulting Arborist so that appropriate treatments can be applied.
- Fences are to remain until all site work has been completed. Fences may not be relocated or removed without permission of the project superintendent.
- Construction trailers, traffic and storage areas must remain outside fenced areas at all times.
- No materials, equipment, soil, waste, or wash-out water may be deposited, stored, or parked within the tree protection zone (fenced area).
- Any tree pruning needed for clearance during construction must be performed by a qualified arborist and not by construction personnel.

- Any roots damaged during grading or construction shall be exposed to sound tissue and cut cleanly with a saw.

2.4.3 Cultural and Tribal Cultural Resources

PD CUL-1: The following project-specific measures shall be implemented during construction to avoid significant impacts to unknown subsurface cultural resources:

- In the event that prehistoric or historic resources are encountered during on-site construction activities, all activity within a 50-foot radius of the find shall be stopped, the Director of Community Development shall be notified, and a Secretary of the Interior-qualified archaeologist shall examine the find and record the site, including field notes, measurements, and photography for a Department of Parks and Recreation 523 Primary Record form. The archaeologist shall make a recommendation regarding eligibility for the California Register of Historical Resources, data recovery, curation, or other appropriate mitigation. Ground disturbance within the 50-foot radius can resume once these steps are taken and the Director of Planning, Building, and Code Enforcement has concurred with the recommendations. Within 30 days of the completion of construction or cultural resources monitoring, whichever comes first, a report of findings documenting any cultural resource finds, recommendations, data recovery efforts, and other pertinent information gleaned during cultural resources monitoring shall then be submitted to the Director of Planning, Building, and Code Enforcement. Once finalized, this report shall be submitted to the Northwest Information Center at Sonoma State University.

- Prior to and for the duration of ground disturbance, the project owner shall provide Worker Environmental Awareness Program training to all existing and any new employees. This training should include: a discussion of applicable laws and penalties under the laws; samples or visual aids of artifacts that could be encountered in the project vicinity, including what those artifacts may look like partially buried, or wholly buried and freshly exposed; and instructions to halt work in the vicinity of any potential cultural resources discovery, and notify the city-approved archaeologist and Native American cultural resources monitor.

PD CUL-2: The following project-specific measures shall be implemented during construction to avoid significant impacts to unknown subsurface cultural resources:

- In the event that human remains are discovered during on-site construction activities, all activity within a 50-foot radius of the find shall be stopped. The Santa Clara County Coroner shall be notified and shall make a determination as to whether the remains are of Native American origin or whether an investigation into the cause of death is required. If the remains are determined to be Native American, the Coroner shall notify the Native American Heritage Commission. All actions taken under this mitigation measure shall comply with Health and Human Safety Code § 7050.5(b).

2.4.4 Geology and Soils

PD GEO-1: In order to ensure the project design conforms to the requirements of a final geotechnical engineering investigation and California and local building standards and codes, the following is proposed as mitigation incorporated into the project. Incorporation will ensure seismic hazards are reduced to less than significant levels.

- The project shall be constructed in conformance with the recommendations of the design-level geotechnical investigation prepared for the project, as well as at the 2017 California Building Code, or subsequent adopted codes.

2.4.5 Hazards and Hazardous Materials

PD HAZ-1: The project proposes to implement the following measures which will reduce the potential for tracking of impacted soil from the adjacent parcel to the project site.

- During construction activities (e.g. grading, vehicle travel, movement of equipment or materials, etc.), adjacent to APN 706-02-058, the project contractor shall fence the southwesterly adjacent parcel (APN 706-02-058) separately from the rest of the site.

2.4.6 Hydrology and Water Quality

PD HYD-1: The project will incorporate the following into the design and these measures should be treated as mitigation incorporated into the project. The following will reduce construction-related water quality impacts:

- Burlap bags filled with drain rock shall be installed around storm drains to route sediment and other debris away from the drains.
- Earthmoving or other dust-producing activities shall be suspended during periods of high winds.
- All exposed or disturbed soil surfaces shall be watered at least twice daily to control dust as necessary.
- Stockpiles of soil or other materials that can be blown by the wind shall be watered or covered.
- All trucks hauling soil, sand, and other loose materials shall be required to be covered trucks or maintain at least two feet of freeboard.
- All paved access roads, parking areas, staging areas and residential streets adjacent to the construction site shall be swept daily (with water sweepers).
- Vegetation in disturbed areas shall be replanted as quickly as possible.
- All unpaved entrances to the site shall be filled with rock to knock mud from truck tires prior to entering City streets. A tire wash system may also be employed at the request of the City.
- The project proponent shall comply with the City of San José Grading Ordinance, including implementing erosion and dust control during site preparation and with the City of San José

Zoning Ordinance requirements for keeping adjacent streets free of dirt and mud during construction.

- A Storm Water Permit shall be administered by the SWRCB. Prior to construction grading for the proposed land uses, the project proponents will file an NOI to comply with the General Permit and prepare a SWPPP which addresses measures that will be included in the project to minimize and control construction and post-construction runoff. Measures will include, but are not limited to, the aforementioned RWQCB Best Management Practices.
- The SWPPP shall be posted at the project site and shall be updated to reflect current site conditions.
- When construction is complete, a Notice of Termination for the General Permit for Construction shall be filed with the SWRCB. The Notice of Termination shall document that all elements of the SWPPP have been executed, construction materials and waste have been properly disposed of, and a post-construction stormwater management plan is in place as described in the SWPPP for the site.

2.4.7 Noise and Vibration

PD NOI-1: The project proposes to implement the following measures to reduce temporary construction noise to less than significant levels.

- Construction activities within 200 feet of commercial uses shall be limited to the hours between 7:00 AM and 7:00 PM, Monday through Friday.
- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Unnecessary idling of internal combustion engines within 200 feet of commercial uses is strictly prohibited. Equipment shall be turned off when not in use and the maximum idling time shall be limited to five minutes.
- Locate stationary noise-generating equipment such as air compressors or portable power generators at least 200 feet from adjacent office and commercial uses to the greatest extent feasible.
- Utilize “quiet” air compressors and other stationary noise sources where technology exists.
- Notify all adjacent business other noise-sensitive land uses of the construction schedule, in writing, and provide a written schedule of “noisy” construction activities to the adjacent land uses.
- Designate a “disturbance coordinator” who will be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g. bad muffler, etc) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.

GENERATOR DATA:

MODEL:	C3250 D6e 480V
DIMS INCHES:	311.3L X 119.25W X 144.2T
WET WEIGHT Lbs:	67,700
FUEL CONSUMPTION GPH @ 100% LOAD:	221.0
COMBUSTION AND COOLING CFM:	120,450
GEN DRAWING:	A049-P688

GENERAL DESCRIPTION:

SUB BASE FUEL SUPPLY TANK
- UL 142 LISTED DOUBLE WALL
- NORMAL VENT EXTENDED 12 FEET ABOVE GRADE
- EMERGENCY VENTS EXTENDED 12 FEET ABOVE GRADE
- LOW LEVEL, HIGH LEVEL, CRITICAL HIGH LEVEL & LEAK DETECTION FLOAT SWITCHES
- MECHANICAL OVERFILL PREVENTION VALVE SET @95% WITH CUSTOM 7.5 GALLON SPILL CONTAINER
- 1" FIRE RATED FUEL LINE SET
- ROCHESTER 6540 FUEL LEVEL GAUGE
- SPARE PORTS FOR CUSTOMER SUPPLIED FUEL POLISHER
- 2" BASIN TO PAD AIRSPACE FOR VISUAL INSPECTION

WALK-IN LEVEL 2 SOUND ATTENUATED ENCLOSURE
- ESTIMATED AVERAGE SOUND LEVEL 75 dB(A) @ 23 FEET
- SEISMIC DESIGN CATEGORY: D, IMPORTANCE FACTOR: 1.25
- RATED 100 MPH WIND LOAD - 120 MPH 3-SECOND GUST
- 12 GAUGE GALVANEAL STEEL CONSTRUCTION
- INTAKE WITH PENTHOUSE EXTENSION, AMCA FIXED VANE LOUVERS, SOUND CONTROL SECTIONS & MOTORIZED DAMPERS
- DISCHARGE WITH GRAVITY DAMPERS, SOUND DIRECTIONAL PLENUM & STACK EXTENSION WITH SOUND CONTROL SECTION
- PLENUM STACK EXTENSION CAPABLE OF ACCEPTING UP TO (4) ADDITIONAL 8'-3 1/2" STACK EXTENSIONS
- ACCESS DOOR OPENINGS:
  - 72" X 36" TYP. SINGLE DOOR
  - 72" X 72" TYP. DOUBLE DOOR

ELECTRICAL PACKAGE
- GROUND BOND PACKAGE INCLUDING GROUND STRAP ON MAJOR COMPONENTS, PAINT PIERCING WASHERS ON REMOVABLE PANELS & STAINLESS STEEL TAB ON ALL (4) CORNERS OF THE BASE FOR CONTRACTOR CONNECTION
- SUPPLY & INSTALL CUSTOM FREESTANDING 5000A SWITCHBOARD WITH SCHNEIDER MASTERPACT NW50H BREAKER & 6.0A TRIP
- 3Ø 480V NEMA 3R 125A NF PANELBOARD WITH BOLT-ON BRANCH BREAKERSTO 480VBLOCK HEATER & 30KVA TRANSFORMER WITH NEMA 3R WEATHER SHIELD (480/277 TO 120/208) WITH FEED TO
- 3Ø 200A M.L.O. LOAD CENTER WITH 100A M.C.B. (4) GFCI DUPLEX OUTLETS, (4) INTERIOR LIGHTS, (2) EXTERIOR LIGHTS, DAMPER MOTORS, BATTERY CHARGERS, ALT. STRIP HEATER & (2) UNIT HEATERS WIRED IN STEEL EMT WITH COMPRESSION FITTINGS & LIQUIDTIGHT FLEXIBLE CONDUIT
- (1) EXTERIOR MOUNTED EMERGENCY STOP SWITCH (SHIPS LOOSE, INSTALLED ON SITE)
- PNEUMERCATOR SYSTEM, TMS2000 & ETD1000 REMOTE DISPLAY IN EACH UNIT
- AP-4 TANK STATUS ALARM PANEL

NOTE: NO CONDUIT ON FLOOR OR SUPPORTED BY CEILING

ACCESSORIES
- ROOF MOUNTED MIRATECH T4 SCR WITH DEF TANK, FLEX CONNECTIONS, EXHAUST COLLECTOR, MIRATECH AIR COMPRESSOR, PUMP & CONTROL
- 18" W-BEAM SUBFRAME WITH 6" SUPPORT TUBES, FULL NON-SLIP FLOOR, ENGINE FLUID SPILL CONTAINMENT & PROVISIONS FOR CP SUPPLIED SEISMIC SPRING ISOLATORS
- OIL & COOLANT DRAINS PIPED TO EXTERIOR WITH VALVES
- WALL MOUNTED DOCUMENT HOLDER

** INTERIOR & EXTERIOR EQUIPMENT MOUNTING MAY VARY IN LOCATION DUE TO MANUFACTURING DESIGN REQUIREMENTS

PAINT COLORS:

ENCLOSURE COLOR:	ANSI 61 - LIGHT GRAY (#42082)
SUBFRAME COLOR:	BLACK
FUEL TANK COLOR:	BLACK

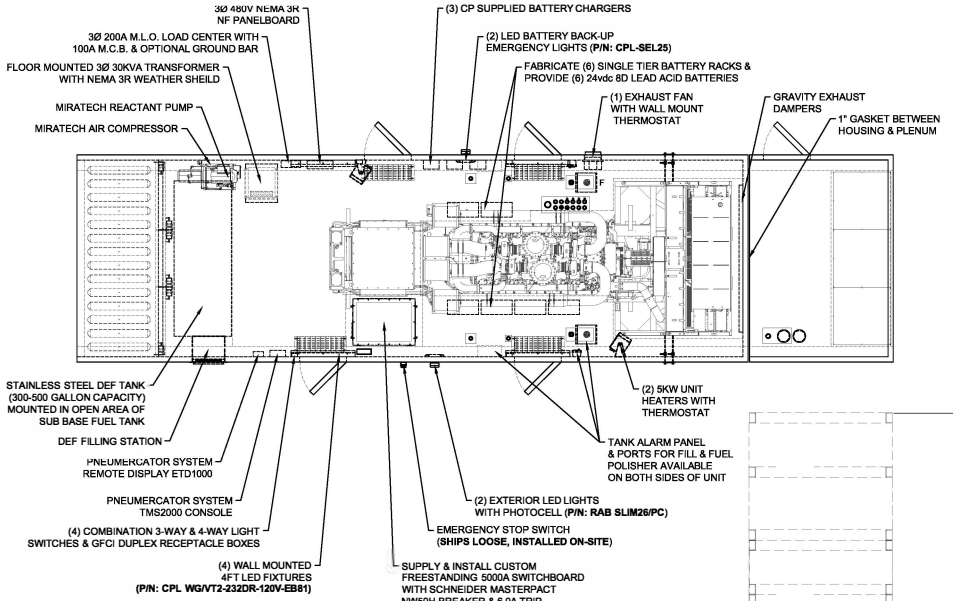
ESTIMATED WEIGHTS: (lbs)

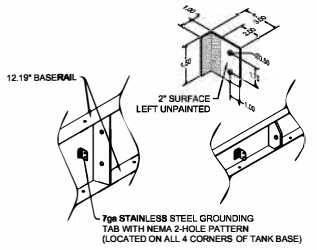
ENCLOSURE WEIGHT:	67,551
TOTAL SHIPPING WEIGHT (NOT INCLUDING TANK):	138,000
TOTALSYSTEMWET WEIGHT:	252,433

TANK DATA & NOTES:

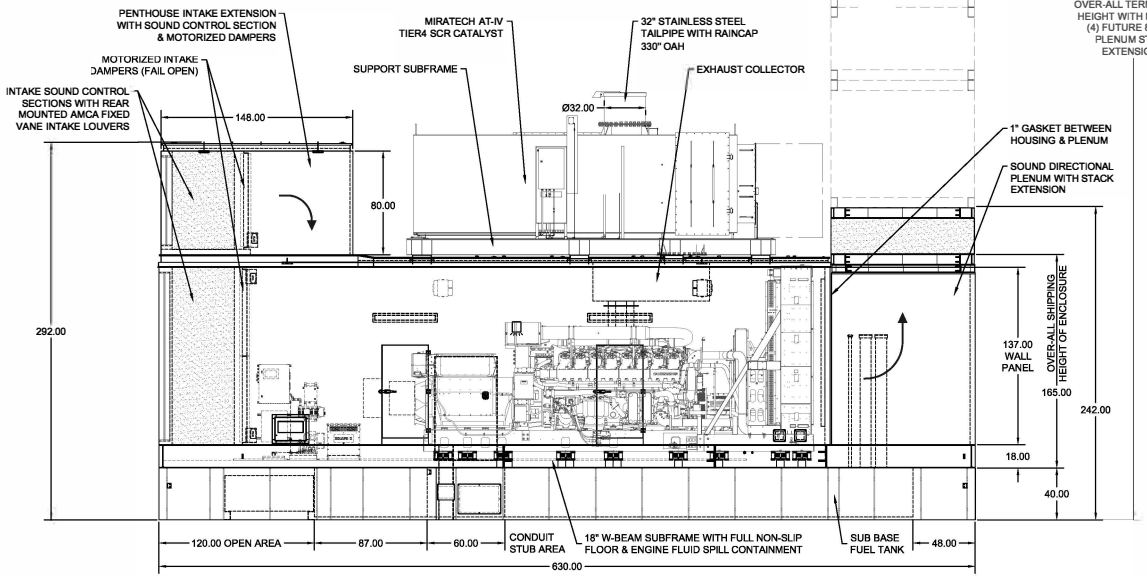
CAPACITY GALLONS:	8,250
GALLONS PER IN OF DEPTH:	244.0
RUN TIME @FULL LOAD Hrs:	36.1
TANK WEIGHT DRY lbs:	32,000
TANK WEIGHT WET: lbs:	93,933
CONDUIT STUB AREA:	TYPE C (SIDE)

1. EMERGENCY VENT SIZING BASED ON UL142 TABLE8.1
2. PORTS PER UL 142 SECTION 10
3. NORMAL VENTING PER UL 142 SECTION 8.11, TABLE 8.2
4. WELDS & JOINTS PER UL SECTION 6 FIGURE 6.1, 6.2

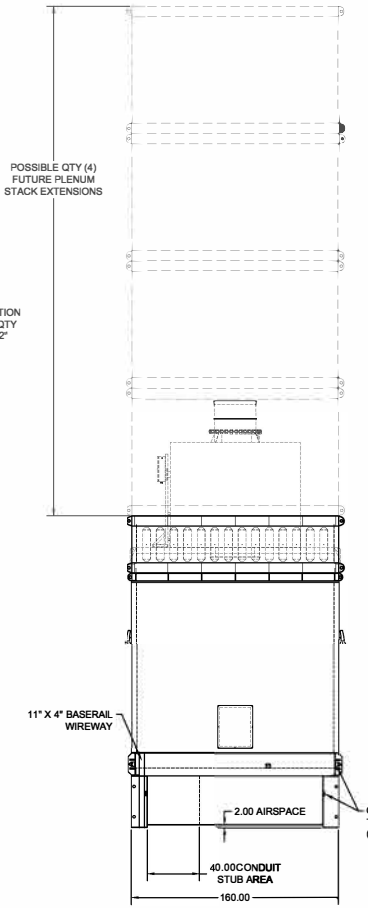




1 GROUNDING TABS
Scale: N.T.S.



53 FT
OVER-ALL TERMINATION HEIGHT WITH MAX QTY (4) FUTURE 8'-21/2" PLENUM STACK EXTENSIONS



REV	DESCRIPTION	BY	DATE
0	ORIGINAL SUBMISSION RELEASE	AW	01/28/21

CONCEPTUAL - NOT FOR CONSTRUCTION

UL SPEC	DESCRIPTION	CLASS	FILE #
UL 142	SECONDARY CONTAINMENT DOUBLE WALL TANK	EVFT	MH47836
N/A			
N/A			

EQUINIX SV-11 T4

Quote Reference	Edition
24709	0

Drawing Number: S384921 GA

Designed by	Salesperson	Date	Scale	Sheet #
AW	JD	01/28/20	N.T.S.	1/1

FREEMAN ENCLOSURE SYSTEMS