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# Small Power Plant Exemption Application

## Bowers Backup Generating Facility



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## **SECTION 1.0 INTRODUCTION**

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GI Partners files this Application for a Small Power Plant Exemption (SPPE Application) pursuant to Public Resources Code Section 25541 and Section 1934 et seq. of the California Energy Commission (Commission) regulations for the 72 MW<sup>1</sup> Bowers Backup Generating Facility (BBGF). The BBGF will consist of 32 diesel-fired backup generators arranged in a generation yard located on the north side of the Bowers Data Center (BDC). All 32 of the generators would be dedicated to replacing the electricity needs of the data center in case of a loss of utility power, and, additionally, to support redundant critical cooling equipment and other general building and life safety services. Project elements will also include switchgear and distribution cabling to interconnect the generators to their respective portion of the building.

Unlike the typical electrical generating facility reviewed by the Commission, the BBGF is designed to operate only when electricity from Silicon Valley Power (SVP) is unavailable to the BDC. The BBGF will not be electrically interconnected to the electrical transmission grid. Rather, it will consist of one generation yard electrically interconnected solely to the BDC.

Section 2 of the SPPE Application provides a detailed description of the proposed construction and operation of the BBGF. To describe the context of the BBGF and its role in serving the BDC. Section 2 also includes a detailed description of the BDC.

Section 3 through 6 of the SPPE Application includes environmental information and analyses in sufficient detail to allow the Commission to conduct an Environmental Impact Report (EIR) consistent with of the California Environmental Quality Act (CEQA).

Section 7 of the SPPE Application includes a discussion of Alternative backup generation configurations, technology, and alternative fuels considered by GI Partners.

Section 8 of the SPPE Application contains a list of applicable agencies and contact information that have jurisdiction over laws, ordinances, regulations, and standards (LORS) that may be applicable to the BBGF as required by Subsection (i) of Appendix F of the CEC SPPE Regulations.

Section 9 provides a list of references relied upon in this SPPE Application.

Section 10 provides a list of consultants who prepared the SPPE Application.

### **1.1 NEED FOR BACKUP GENERATION**

The primary goal of the Bowers Data Center (BDC) is to be a state-of-the-art data center that provides greater than 99.999 percent reliability. The BDC has been designed to reliably meet the increased demand of digital economy, its customers and the continued growth. The BDC's purpose is to provide its customers with mission critical space to support their servers, including space conditioning and a steady stream of high-quality power supply. Interruptions of power could lead to server damage or corruption of the data and software stored on the servers by GI Partner's clients.

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<sup>1</sup> Maximum electrical demand of the BDC.

The BDC will be supplied with electricity by SVP through a new distribution substation constructed on the BDC site and owned and operated by SVP.

To ensure a reliable supply of high-quality power, the BBGF was designed to provide backup electricity to the BDC only in the event electricity cannot be supplied from SVP and delivered to the BDC building. To ensure no interruption of electricity service to the servers housed in the BDC building, the servers will be connected to uninterruptible power supply (UPS) systems that store energy and provide near-instantaneous protection from input power interruptions. However, to provide electricity during a prolonged electricity interruption, the UPS systems will require a flexible and reliable backup power generation source to continue supplying steady power to the servers and other equipment. The BBGF provides that backup power generation source.

The BDC's Project Objectives are as follows:

- Develop a state-of-the-art data center large enough to meet projected growth;
- Develop the Data Center on land that has been zoned for data center use at a location acceptable to the City of Santa Clara;
- To incorporate the most reliable and flexible form of backup electric generating technology into the BBGF considering the following evaluation criteria.
  - **Reliability.** The selected backup electric generation technology must be extremely reliable in the case of an emergency loss of electricity from the utility.
    - The BBGF must provide a higher reliability than 99.999 percent in order for the BDC to achieve an overall reliability of equal to or greater than 99.999 percent reliability.
    - The BBGF must provide reliability to greatest extent feasible during natural disasters including earthquakes.
    - The selected backup electric generation technology must have a proven built-in resilience so if any of the backup unit fails due to external or internal failure, the system will have redundancy to continue to operate without interruption.
    - The selected backup electric generation technology must include achieved in practice engineering methods, procedures and equipment.
    - The BDC must have on-site means to sustain power for 24-hours minimum in failure mode, inclusive of utility outage.
  - **Commercial Availability and Feasibility.** The selected backup electric generation technology must currently be in use and proven as an accepted industry standard for technology sufficient to receive commercial guarantees in a form and amount acceptable to financing entities. It must be operational within a reasonable timeframe where permits and approvals are required.
  - **Technical Feasibility.** The selected backup electric generation technology must utilize systems that are compatible with one another and be maintainable in a reasonable fashion achieving timely switch outs, repairs and maintenance. Warranty and support must be within practical means to achieve optimum uptime during failures within the utility power supply.

## 1.2 COMMISSION SPPE JURISDICTION

GI Partners acknowledges that the Commission's authorizing statute grants exclusive authority for the Commission to issue licenses for the construction and operation of thermal power plants with generating capacities in excess of 50 MW.<sup>2</sup> For thermal power plants with generating capacities greater than 50 MW but less than 100 MW, the Commission can grant an exemption from its licensing authority<sup>3</sup>. The BBGF is not a typical power generating facility in that it consists of generators that can operate independently. In addition, the generators are arranged to support individual portions of the building within the data center. None of the generators will be interconnected to the electrical transmission system and therefore no electricity can be delivered off site.<sup>4</sup>

### 1.2.1 Data Center Facilities Not Within Scope of SPPE

The BDC is not within the scope of the Commission's jurisdiction because it is not a thermal power plant. The BDC is the sole consumer of the electricity produced by the BBGF. GI Partners is submitting an application for a Master Plan and General Plan conformance amendment to construct and operate the BDC to the City of Santa Clara (City) for review. The City has commenced its Project Clearance Committee (PCC).

GI Partners believes that although the CEC is the lead agency for making a determination of whether the BBGF is a thermal power plant that can qualify for a SPPE, the ultimate decision does not extend to the BDC facilities. GI Partners does acknowledge that the CEC should include the potential effects of the BDC in its CEQA analysis, but the ultimate determination of whether the BDC should be approved, denied, or subject to mitigation measures is solely within the City's jurisdiction. To assist the CEC in preparing its Environmental Impact Report GI Partners provides a description of the BDC in Section 2 of this SPPE Application. The potential effects of the BDC are considered in environmental analyses of Section 4 in a manner to assist the Commission in evaluating combined impacts from the co-location of the BBGF and the BDC.

To enable the City to timely conduct its review of the modified BDC, Gi Partners requests the Commission complete its review of the BBGF by August 2023.

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<sup>2</sup> Public Resources Code (PRC) Section 25500.

<sup>3</sup> PRC Section 25541 and Title 20 California Code of Regulations (CCR) Section 1934.

<sup>4</sup> The Commission Staff has determined that notwithstanding these facts, the Commission has jurisdiction over the BBGF. GI Partners reserves all its rights regarding whether or not the Commission has jurisdiction over the BBGF and the filing of this SPPE Application is not an admission by GI Partners that the Commission has exclusive jurisdiction over the BBGF or the BDC.



## **SECTION 2.0      PROJECT INFORMATION AND DESCRIPTION**

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### **2.1                      OVERVIEW OF PROPOSED GENERATING FACILITIES**

Bowers Backup Generating Facility (BBGF) will be an emergency backup generating facility with a generation capacity of up to 72 MW to support the need for the Bowers Data Center (BDC) to provide uninterruptible power supply for its tenant's servers. The BBGF will consist of 32 diesel-fired backup generators arranged in a generation yard located on the north side of the BDC. All 32 of the generators would be dedicated to replacing the electricity needs of the data center in case of a loss of utility power, and, additionally, to support redundant critical cooling equipment and other general building and life safety services. Project elements will also include switchgear and distribution cabling to interconnect the generators to their respective portion of the building.

### **2.2                      GENERATING FACILITY DESCRIPTION, CONSTRUCTION, AND OPERATION**

#### **2.2.1                  Site Description**

The proposed BDC site encompasses approximately 5.12 acres and is located at 2805 Bowers Avenue in Santa Clara, California, APN 216-28-063, as shown in Figure 2.1, Figure 2.2, and Figure 2.3. The property is zoned ML-Light Industrial. The site is currently developed with an approximately 55,000 square foot two-story office building and associated paved surface parking. The existing building consists of concrete and stucco. The building facade consists of mission style stucco archways with sloping tile roof.

The existing building would be demolished. The main entrance to the BDC site will be located on Bowers Avenue near the intersection at Mead Street on the western portion of the property, with a secondary entrance also on Bowers Avenue near the northwest corner of the site.

Native and non-native trees and ornamental landscaping are located along the Bowers Avenue frontage of the property, as well as the northern and eastern property boundaries. Additionally non-native trees are located in the existing park lot. The project proposes to remove 47 trees and the existing shrubs and groundcovers on the site, while protecting-in-place trees not in conflict with proposed utilities, grading, stormwater treatment facilities, and architectural improvements.

The property is irregularly shaped and is bound to the north by an existing one-story office building, to the east by a material testing laboratory and a one-story office building, to the South by an existing Silicon Valley Power (SVP) substation (Uranium Substation) and the west by Bowers Avenue. The closest residential uses are located more than 500 feet south of the site, across the existing Union Pacific CalTrain railroad right-of-way.

The project area consists primarily of commercial and industrial land uses to the north, east and west and residential uses to the southeast. Buildings in the area to the north are similar in height and scale to the existing building on the project site. Buildings to the east of Walsh Avenue are similar in height and scale to the proposed BDC building. The Norman Y. Mineta San José International Airport is located approximately 1.85 miles southeast of the site.

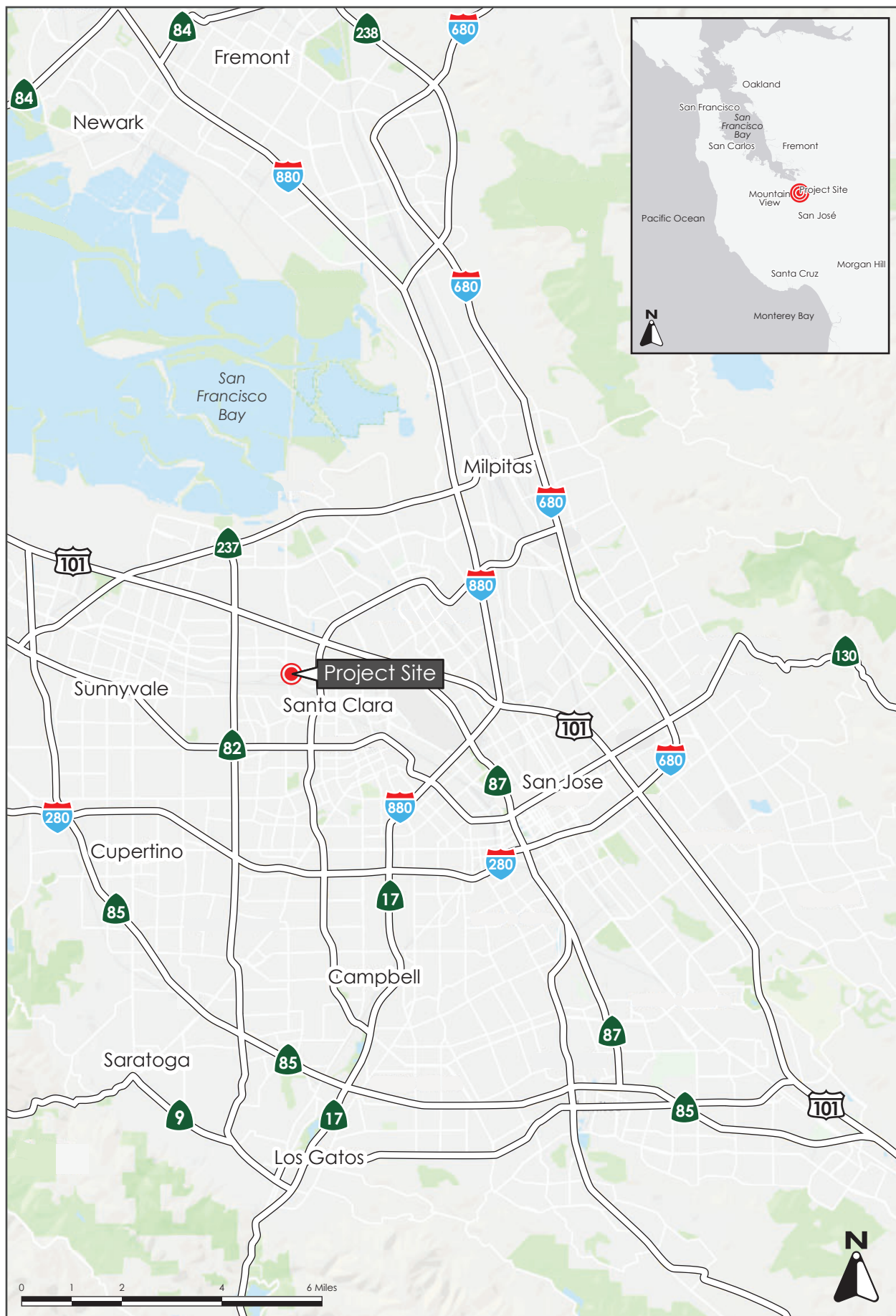
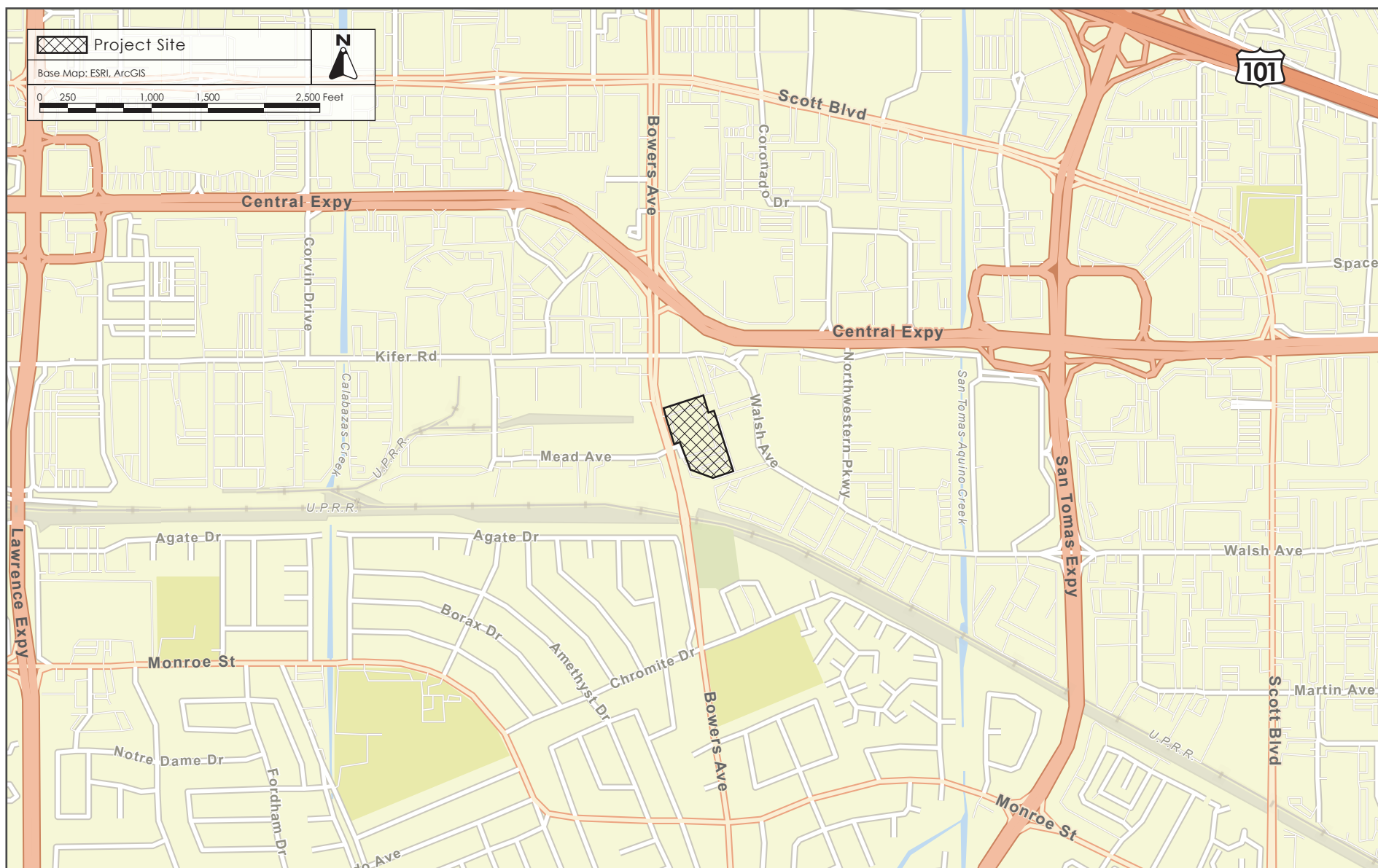


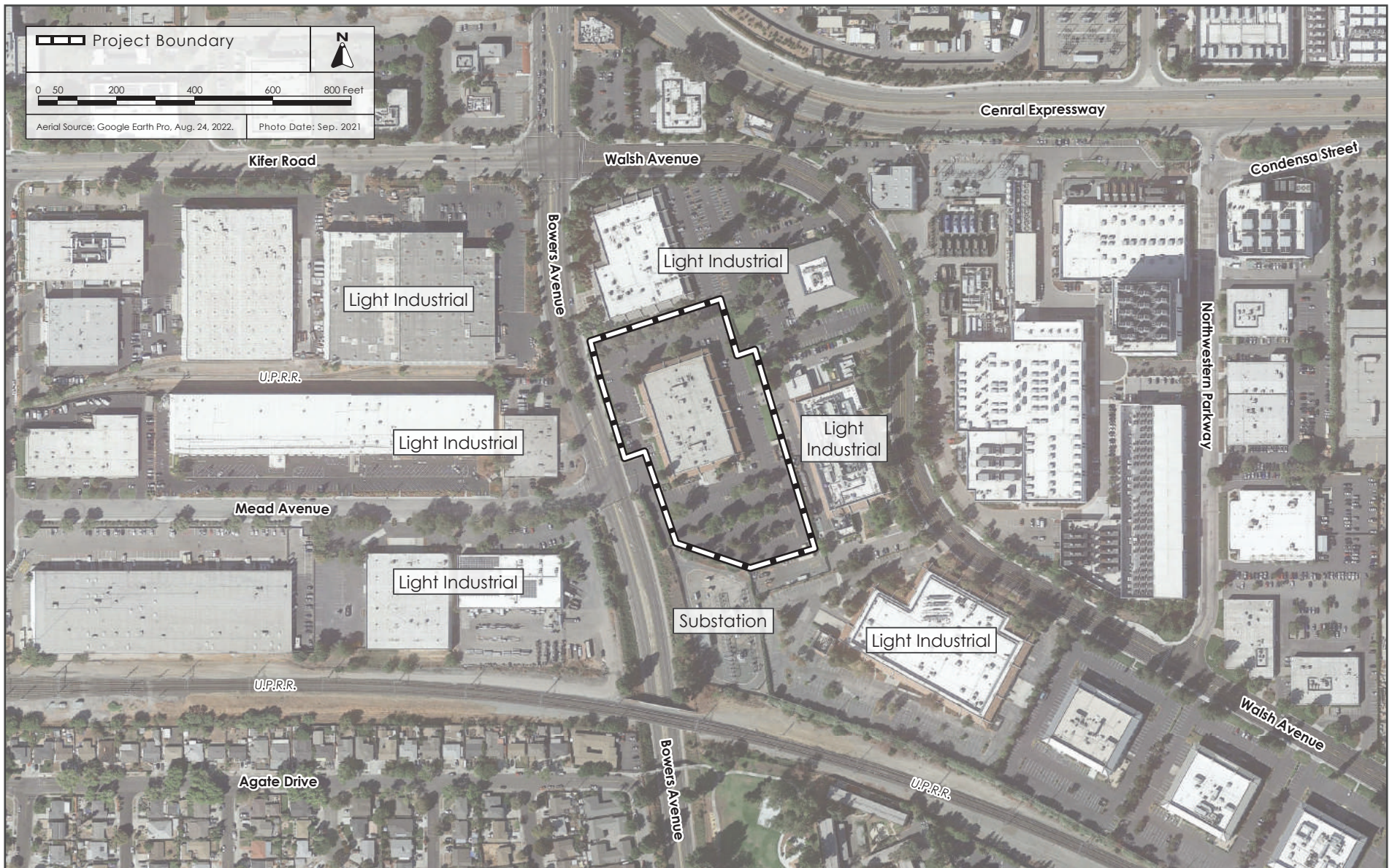
FIGURE 2.1



VICINITY MAP

FIGURE 2.2





AERIAL PHOTOGRAPH AND SURROUNDING LAND USES

FIGURE 2.3

### **2.2.2        Land Use**

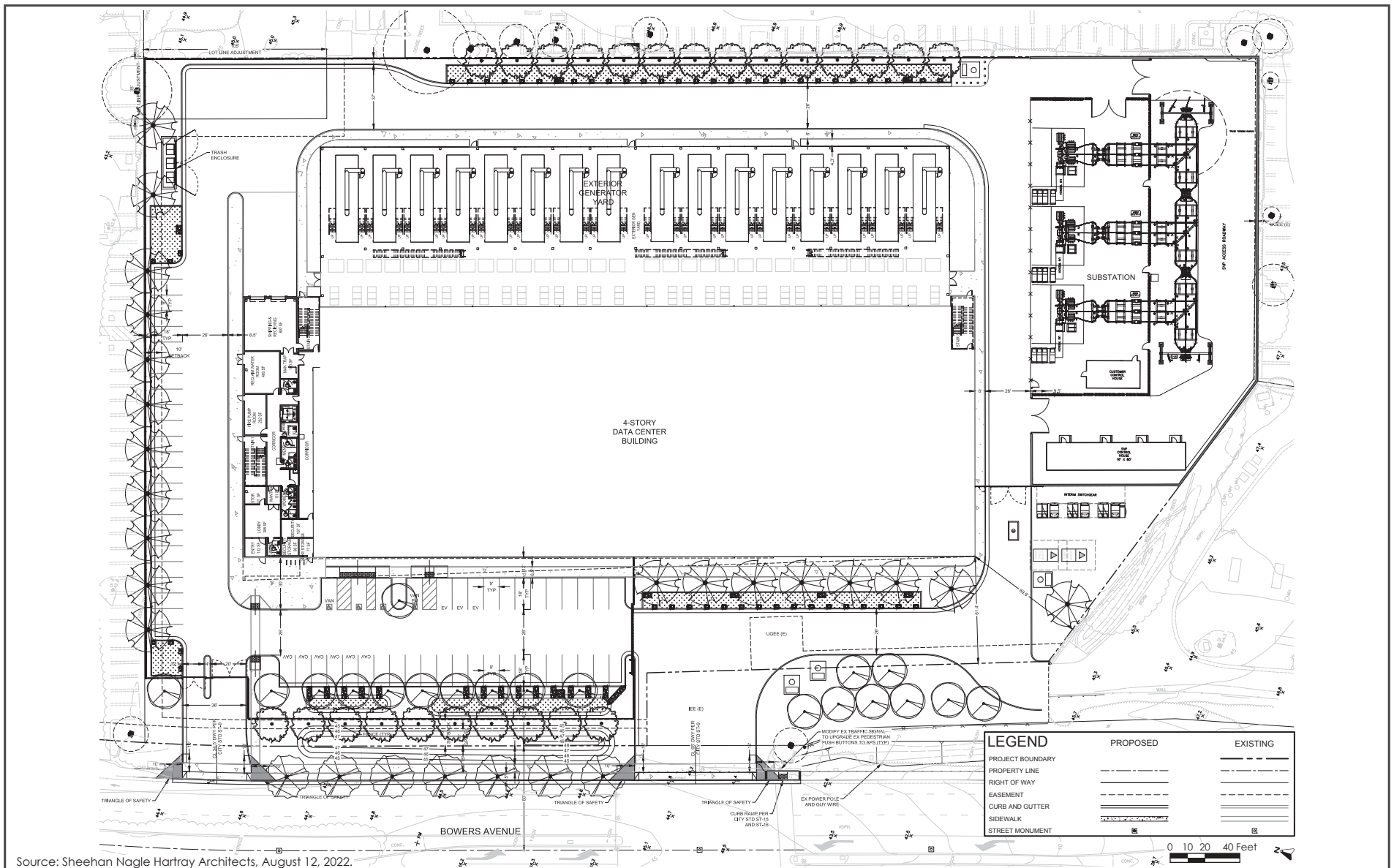
The City of Santa Clara has requested the applicant request a General Plan Amendment to conform the General Plan designation to the zoning designation. Therefore, the project proposes a General Plan Amendment to Light Industrial, a land use designation under which data centers serving off-site uses are an allowed use.

### **2.2.3        General Site Arrangement and Layout**

The 32 emergency backup generators will be located at the site in a generation yard adjacent to the east side of the BDC building. Figure 2-4 shows the General Arrangement and Site Layout of the BBGF within the BDC site.

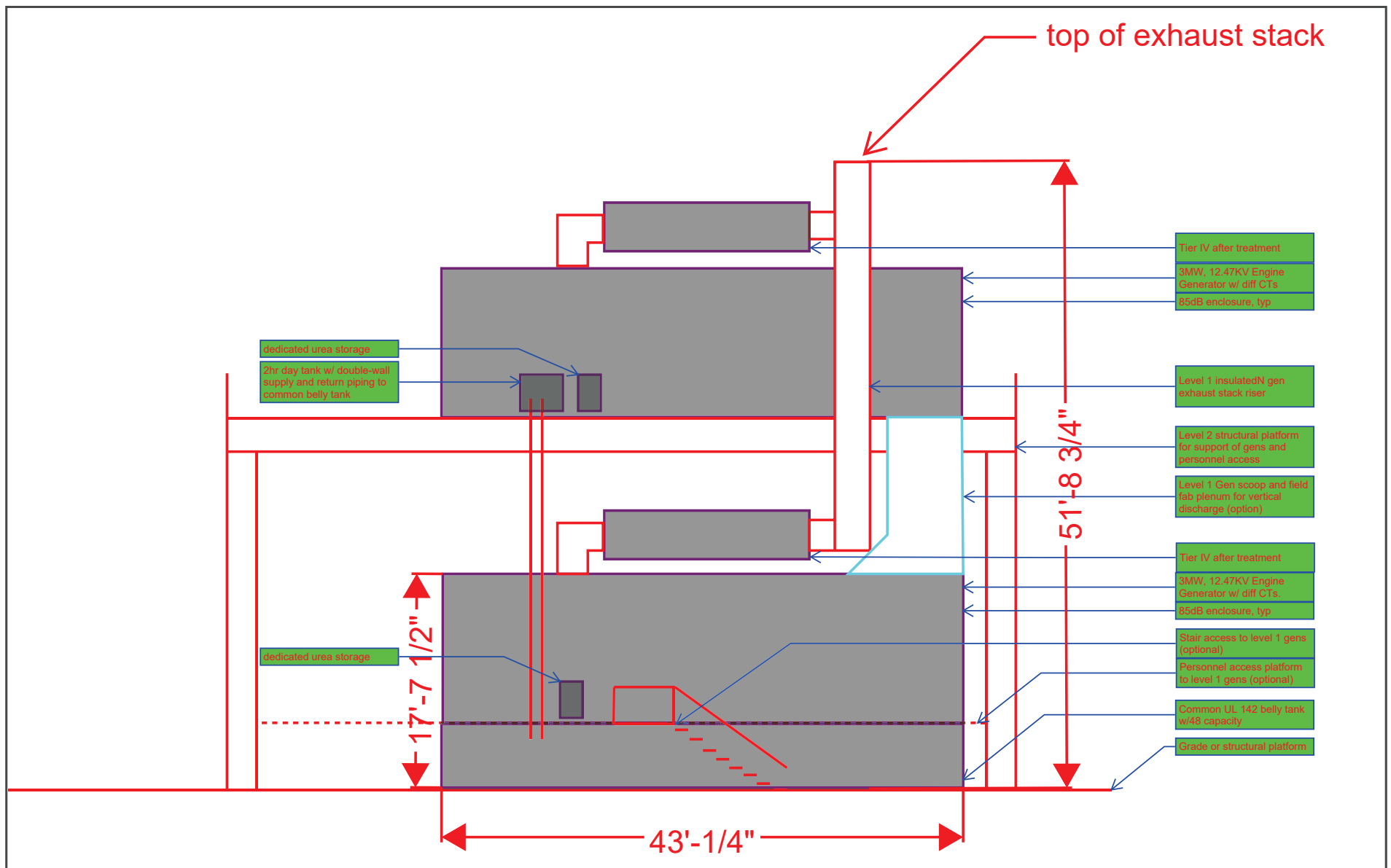
The generators will be installed in a stacked configuration as shown on Figure 2-5. Each stacked pair of generators will be supported by a 12,000-gallon diesel fuel tank at the base of the stacking structure with a 500-gallon diesel fuel tank installed within the upper generator package. Each stacked pair of generators will be supported by a main urea tank installed below the lower generator. The generators packages and tanks will be enclosed in acoustical enclosures.





SITE PLAN

FIGURE 2.4



STACKED CONFIGURATION OF GENERATORS

FIGURE 2.5

## 2.2.4 Generating Capacity

### *Overview*

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

1. The BBGF uses internal combustion engines and not turbines.
2. The BBGF internal combustion engines have a peak rating and a continuous rating.
- 2.2.4.1 3. The BBGF through software technology and electronic devices, is controlled exclusively by the (BDC).
4. The BBGF has been designed with a distributed redundant system with a 4 to make 3 redundancy. Each system will serve one and one half of the 12 lineups as described in Section 2.2.4.1.
5. There will be a total of thirty-two (32) data center generators, eight [8] of which are redundant.
6. The BBGF will only be operated for maintenance, testing and during emergency utility power outages.
7. The BBGF will only operate at a load equal to the demand of the BDC during an emergency utility outage.
8. The BBGF is only interconnected to the BDC and is not interconnected to the transmission or distribution grid.

### 2.2.4.2 *Generating Capacity and PUE*

Based on the methodology recently adopted by the Commission's Final Decisions Granting SPPEs for the last five Data Center Backup Generating Facilities, the maximum generating capacity of the BBGF is determined by the maximum of capacity of the load being served.

The design demand of the BDC, which the BBGF has been designed to reliably supply with redundant components during an emergency, is based on the maximum critical IT load and maximum mechanical cooling electrical load occurring during the hottest hour in the last 20 years. Such conditions are possible but extremely unlikely to ever occur. The BDC load on that worst-case day will be 72 MW.

The data center industry utilizes a factor called 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 infrastructure serving the critical IT spaces (including IT load) by the Critical IT load itself. The theoretical peak PUE for the Worst Day Calculation would be 1.50 (Total 72 MW demand of Building on Worst Case Day divided by 48 MW Total Critical IT Load). The average annual PUE would be 1.25 (Total 60 MW demand of Building average conditions divided by 48 MW Design Critical IT Load). These PUE estimates are based on design assumptions and represent worst case.

As described above, the expected PUE is much lower because the Critical IT that is leased by clients is rarely fully utilized. GI Partners' experience with operation of other data centers is that the actual annualized PUE will be closer to 1.25.



## 2.2.5 Backup Electrical System Design

### *Overview*

As discussed above there will be 12 data center suites in the BDC. Each data center suite will be designed to handle 4 MW (megawatts) of IT equipment load. The total maximum load of each data center suite will be 6 MW which includes the IT equipment load, mechanical equipment to cool the IT equipment load, lighting and data center monitoring equipment. The sum of the 12-center suite will result in 48 MW of IT equipment load and 72 MW of total electrical load.

There are 12 data center suites or lineups. The backup electrical system has been designed to serve the lineups in pairs. Each redundant system of 4, 3 MW generators serves 1.5 data center lineups. Each 4-generator redundant system is designed for one generator to be taken out of service at any moment in time (called “4 to make 3”). During an emergency all 4 generators will start and carry load up to approximately 75% of their nameplate rating supporting the two lineups they serve. If one of the generators fails or needs to be taken out of service during the emergency, the 4 to make 3 design allows the failing generator to be removed from operation automatically with the remaining 3 generators to continue to serve the lineups up to the maximum design load of the one- and one-half data center suites.

Each redundant backup generation system is made up of 4 “capacity groups” with each electrical capacity group sized at 3 MW (3000 kW) of total power. An electrical power block consists of one 3 MW generator, one 3,000kVA 12kV-480V medium voltage transformer, one 4,000 ampere 480 volt service switchboard (MSB) and two 1,000 kW uninterruptible power supply (UPS) system. The IT equipment will have dual cords that will take power from two different capacity groups. The dual cords are designed to evenly draw power from both cords when power is available on both cords, and automatically draw all of its power from a single cord when power becomes un-available on the other cord.

Each of the 4-to-make-3 electrical systems will be designed to continue supporting all of the IT equipment load in the two data center suites it serves any time one of the four capacity groups is either scheduled to be out-of-service for maintenance or becomes un-available due to equipment failure. Therefore, the 12 MW of total power equipment capacity installed for each 4-to-make-3 system effectively provides only 9 MW of total power.

The dual corded IT equipment load gets power from two independent capacity groups. Ten different cord configurations exist and are used to evenly balance the loads between these pairs of capacity groups: A-B, A-C, A-D, B-C, B-D, and C-D.

As an example of the electrical system design, when electrical capacity group A becomes un-available, the IT equipment connected to the A and B electrical capacity group will automatically shift its entire load to the B electrical capacity group. IT equipment connected between the A-C, A-D, and B-C electrical capacity groups also performs a similar power transfer in the event of an A capacity group failure.

The electrical load on each electrical capacity group is monitored by the building automation system. When the any of the electrical capacity groups reach 67.5 percent loaded (based on 90 percent of the

75 percent maximum loading under normal operation), an alarm is activated in the engineering office. The operations staff will work with the tenants to ensure that the leased power levels are not exceeded.

The consequence of electrical capacity groups exceeding 75 percent loaded could lead to dropping IT equipment when coupled with a capacity group failure event. If all the capacity groups serving a data center suite (four capacity groups) are loaded over 75 percent and an electrical capacity group fails, the resulting load transferring to the four available capacity group would exceed the rating of the capacity groups and would lead to over-current protection devices tripping open due to the overload condition. Therefore, it is vital to the reliability of the data center to make sure that all capacity groups remain below the 80 percent threshold.

### ***Utility-to-Generator Transfer Control Components and Logic***

2.2.5.1 Transfer pair circuit breakers will be located in each main distribution switchboard (MSB). The MSB switchboards will be located in separate electrical rooms. The transfer pair circuit breakers function as an ATS switching between utility and generators depending on available power. All transfer switching is open transfer using ‘break-before-make’ logic. 480V rated power cable bus, rated for the full ampacity output rating of the generator and transformer connects each generator and transformer to the MSB Switchboard.

This Generator Main Breaker is electrically interlocked with an adjacent Utility Transformer Main Breaker to allow only one of the Breakers to closed at any time. Upon the loss of utility power, the ATS transfer controller will send a start signal to the generator, followed by the Utility Breaker opening, followed by a confirmation that the generator has started leading to the Generator Main Breaker being closed.

Once the Generator Main Breaker is closed, the power created from the individual generator is then transmitted to the IT equipment (via two 1.0 MW (1,000 kW) uninterruptable power supply (UPS) system) and mechanical equipment designed to cool the IT equipment load served by the UPS. This load is the 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, or anywhere outside the facility.

2.2.5.3 The uninterruptible power supply (UPS) system includes back-up batteries sized for five minutes of battery back-up time. During the time between a transfer between utility and generator power, the UPS system continues to support the IT equipment load without interruption. During a utility-to-generator transfer, the duration of the power outage between the sources will typically be around 15 seconds; it takes around ten seconds to get the generator started and up to voltage. During a generator-to-utility transfer, the duration of the power outage between the sources will typically be around five seconds.

### ***Uninterruptible Power Supply (UPS) System Description***

The UPS System and Batteries are part of the BDC and are not part of the BBGF. However, the following description is provided to describe how the UPS system is intended to operate. 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 an LCD graphic display screen on the front of the UPS. The UPS will operate in the following modes:

- Normal - 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 shall 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 shall 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 shall recover to the Normal Operating Mode and shall 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 shall 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.

The UPS system batteries will have tab washers mounted on front terminal posts capable of accepting the wiring components of a battery monitoring system. Batteries will have an expected life of ten years. Each battery bank will provide a minimum of five minutes of backup at 100 percent rated inverter load of 1000kW, @ 77°F (25°C), 1.67 end volts per cell, beginning of life.

### **2.2.6 Generator System Description**

Each of the 32 generators for the data center suites will be Cummins QSK95 standby emergency diesel fired generators equipped with Selective Catalytic Reduction (SCR) equipment and diesel particulate filters (DPF) to comply with Tier 4 emissions standards.

The maximum peak generating capacity of each generator is 3 MW for standby applications (short duration operation). Under normal operation when all four generators in a group capacity are active, the maximum load on each generator is designed to be 75 percent of the peak capacity. Manufacturer specification sheets for the proposed generators are provided in Appendix A-1.

Each individual generator will be provided with its own package system. Within that package, the prime mover and alternator will be automatically turned on and off by a utility-generator PLC transfer controller located in the 480-volt main switchboard located within the BDC. Each generator will be controlled by a separate, independent transfer controller. The generator will be turned on if the electrical utility power becomes unavailable and will be turned off after utility power has been restored and the transfer controller has returned the utility to the active source of power serving the computer and mechanical loads within the BDC.

The generator package will integrate a dedicated fuel tank urea tank within the generator enclosure. The generators will be constructed in a stacked configuration. The lower generator will be placed on a concrete slab with the upper generator located on a structural steel platform.

The generators enclosures are approximately 10 feet wide, 30 feet long and 29 feet high. Each generator will have a stack height of approximately 33 feet. When placed on slab, they will be spaced approximately five feet apart horizontally. The generator yard will be enclosed with 42'-9" feet high perforated metal screen walls on the north, east, and south ends. The fence will include a sound attenuation blanket to ensure the noise from the generator testing and maintenance meets the City noise limits. Additionally, an 8-foot high fence will be provided around the property perimeter for security purposes. The mechanical penthouse will include a screen wall 14'-11" tall not only to screen the equipment but will also include sound attenuation blanket to reduce the noise of the air chillers.

#### **2.2.7      Fuel System**

The backup generators will use ultra-low sulfur diesel as fuel (<15 parts per million sulfur by weight). Each of 16 stacked generator pairs will have an approximately 12,000-gallon diesel fuel storage tank under the ground level generator and a 500-gallon day tank for the upper generator. Approximately 5700 gallons for each generator are required for 24-hour operation. The generators would have a combined diesel fuel storage capacity of approximately 182,400 gallons, which is sufficient to provide more than 24 hours of emergency generation at full electrical worst-case demand of the BDC.

#### **2.2.8      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 BBGF.

#### **2.2.9      Water Supply and Use**

The BBGF will not require any consumption of water. The water demand for the BDC is discussed separately below.

#### **2.2.10     Waste Management**

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

#### **2.2.11     Hazardous Materials Management**

The BBGF 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 tank is continuously monitored electronically for the existence of liquids. This monitoring system is electronically linked to an alarm system in the

engineering 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 on the access road to the south of the generator yard and extends the fuel fill hose through one of multiple hinged openings in the precast screen wall surrounding the generator equipment yard.

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, storm drains will be temporarily 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.

Urea or Diesel Exhaust Fluid (DEF) is used as part of the diesel engine combustion process to meet the emissions requirements. DEF is stored in an approximately 400-gallon tank in the ground level generator enclosure for each pair of stacked generators. The tank can be filled in place from drums, totes, or bulk tanker truck at the tank top or swapped out for new using quick connection fittings at the tank top.

#### **2.2.12 BBGF Project Construction**

Construction activities for the BDC are expected to begin in October 2023 and are discussed in more detail in Section 2.3.4. Since the site preparation activities for the BDC will include the ground preparation and grading of the entire BDC site, the only construction activities for the BBGF would involve construction of the generation yard. This will include construction of concrete slabs, stacking structures, fencing, installation of underground and above ground conduit and electrical cabling to interconnect to the BDC Building switchgear, and placement and securing the generators.

The generators themselves will be assembled offsite and delivered to site by truck. Each generator will be placed within the generation yard by a crane. The full deployment of the generators will take place in the span of 4 – 6 years.

Construction of the generation yard and placement of the generators is expected to take six months per phase and is included in the overall construction schedule for the BDC described in section 2.3.4. Construction personnel for the BBGF are estimated to range from 10 to 15 workers including one crane operator.

## **2.2.13      BBGF 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. BAAQMD's 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). Please see Section 4.3 for a description of the testing and maintenance frequencies and loading proposed for the BBGF.

## **2.3              BOWERS DATA CENTER FACILITIES DESCRIPTION**

### **2.3.1          Overview**

As described in Section 1.2, the Commission SPPE's determination is limited to solely to the BBGF. However, in order for the Commission to inform the decision-makers of the potential environmental effects of the BBGF, in combination with the BDC, GI Partners has included a complete description of the BDC.

The proposed BDC site encompasses approximately 5.12 acres and is located at 2805 Bowers Avenue in Santa Clara, California, APN 216-28-063. The property is zoned ML-Light Industrial zoning. The site is currently developed with an approximately 55,000 square foot two-story office building and associated paved surface parking. The existing building consists of concrete and stucco. The building facade consists of mission style stucco archways with sloping tile roof.

The existing building would be demolished. The main entrance to the BDC building will be located on Bowers Avenue near the intersection at Mead Street on the western portion of the property, with a secondary entrance also on Bowers Avenue near the northwest corner of the site.

The BDC project will consists of construction of a four-story 244,068 square foot data center building, utility substation, generator equipment yard (the BBGF), surface parking and landscaping and utility pipeline connections. The data center building will house computer servers for private clients in a secure and environmentally controlled structure and would be designed to provide 48 megawatts (MW) of power to information technology (Critical IT) equipment. A General Arrangement and Site Layout of the proposed development is shown on Figure 2-4. Figure 2.6 and Figure 2.7 show the Building Elevations.

The four-story data center building will consist of three main components: the data halls, the administrative facilities and a two-story exterior generator yard. The administrative building will include the building lobby, security, restrooms, conference rooms, landlord office space and customer office space. The shipping and receiving area and storage will be part of the administrative building. The loading docks will be behind the building footprints hidden from the main façade. The administrative building is cladded with curtain wall and metal panel system. The data halls, which will include the client servers, is cladded primarily with an external insulation and finish system (EIFS). There will be three data halls per floor with a total of twelve. Each level will contain three data halls with its corresponding 4 electrical and UPS rooms. There will also be a MV switch gear and fiber rooms associated with the data halls. The data center is being designed with an average rack power rating of 6 kW.



Additionally, the east data hall façade includes a screen extending from 42'-6" feet above grade to shield the view of cable trays running up the façade. The top of the parapet at the administrative and data hall is at 87.5 feet. Three exterior stairs located on the N, NE, and SE, corners of the building are semi enclosed on two sides with a glass rain screen. A rooftop dunnage platform is provided at 92 feet for mechanical equipment. A sound attenuating screen topping off at 103.4 feet fully encloses the platform. Access to the platform is provided by a freight elevator near the center of the building. The mechanical equipment screen on the roof the building will extend to a height of 103.33 feet in height from the top of the slab. Floor plans of each level of the data center building are shown on Figures 2.8, 2.9, 2.10, and 2.11. The roof level plan is shown on Figure 2.12.

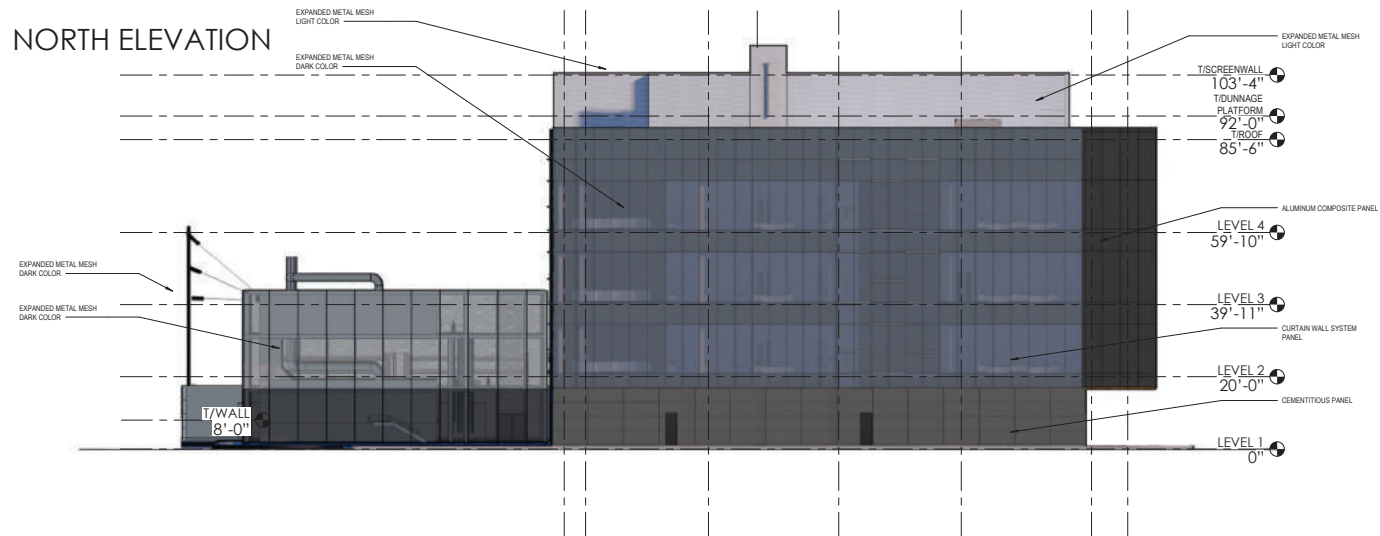
The project would construct a new 72 MVA (mega volt-ampere) electrical substation adjacent to the south side of the BDC and immediately adjacent and north of the existing SVP Uranium substation. The three-bay substation (three 30/40/50 MVA 60 kV-12kV step-down transformers and primary distribution switchgear) will be designed to allow one of the two transformers to be taken out of service, effectively providing 72 MVA of total power (a 3-to-make-2 design).

The substation will have an all-weather asphalt surface underlain by an aggregate base. A concrete masonry unit screen wall, 13 feet in height, would surround portions of the substation with the remainder of the substation protected with an 8-foot height chain link fence. An oil containment pit surrounding each transformer will capture unintended oil leaks. Access to the substation will be from Bowers Avenue.

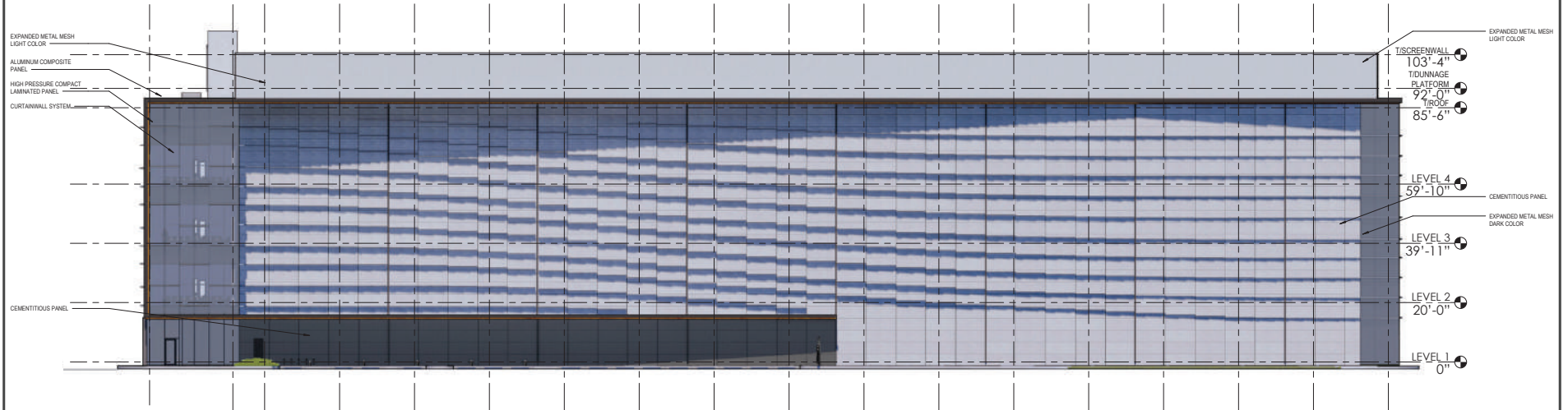
The substation will be capable of delivering electricity to the BDC from Silicon Valley Power (SVPs) new substation but will not allow any electricity generated from the BBGF to be delivered to the transmission grid. Availability of substation control systems will be ensured through a redundant DC battery backup system.

Chilled water is provided by (42) 450-ton (nominal capacity) rooftop air-cooled chillers, each with integral pumps, connected to a chilled water loop serving the entire building including data halls as well as support electrical room loads. Redundant chilled water supply and return risers at each of (3) vertical stacks of data halls from the rooftop loop shall distribute to Computer Room Air Handling (CRAH) units in each of (4) floors of data halls. Air-cooled chiller configuration is N+2 redundancy per data hall stack. Supplemental evaporative pads on air-cooled chillers are being considered and will be fully analyzed in the design process. Ventilation and pressurization air is provided to the data halls and office support spaces via (3) dedicated outdoor air handling units. Support office space conditioning is provided via a high-efficiency split system variable refrigerant (VRF) cooling system with simultaneous heating, cooling, and heat recovery capabilities for optimum efficiency operation.

## NORTH ELEVATION



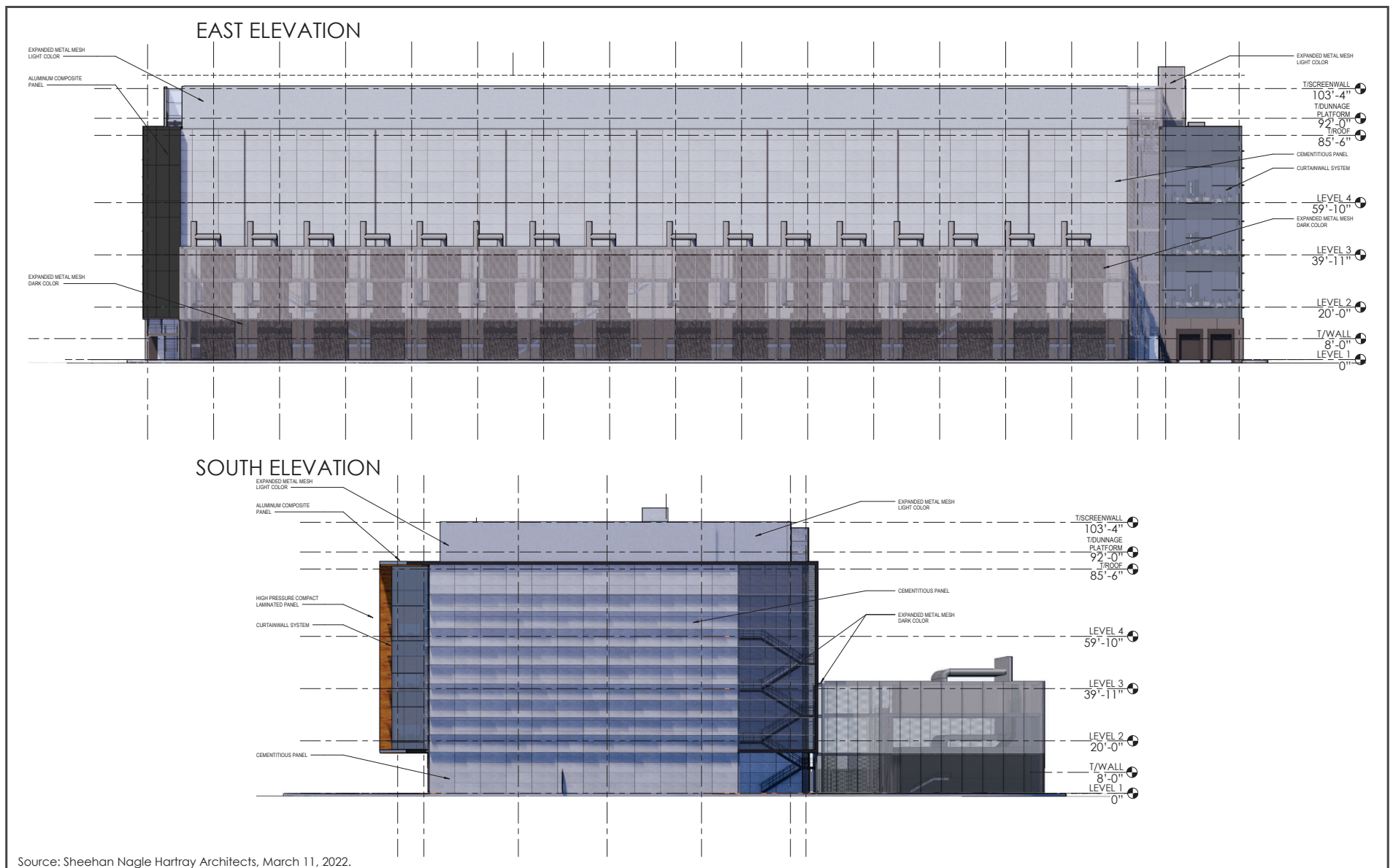
## WEST ELEVATION



Source: Sheehan Nagle Hartray Architects, March 11, 2022.

BUILDING ELEVATIONS – NORTH AND WEST

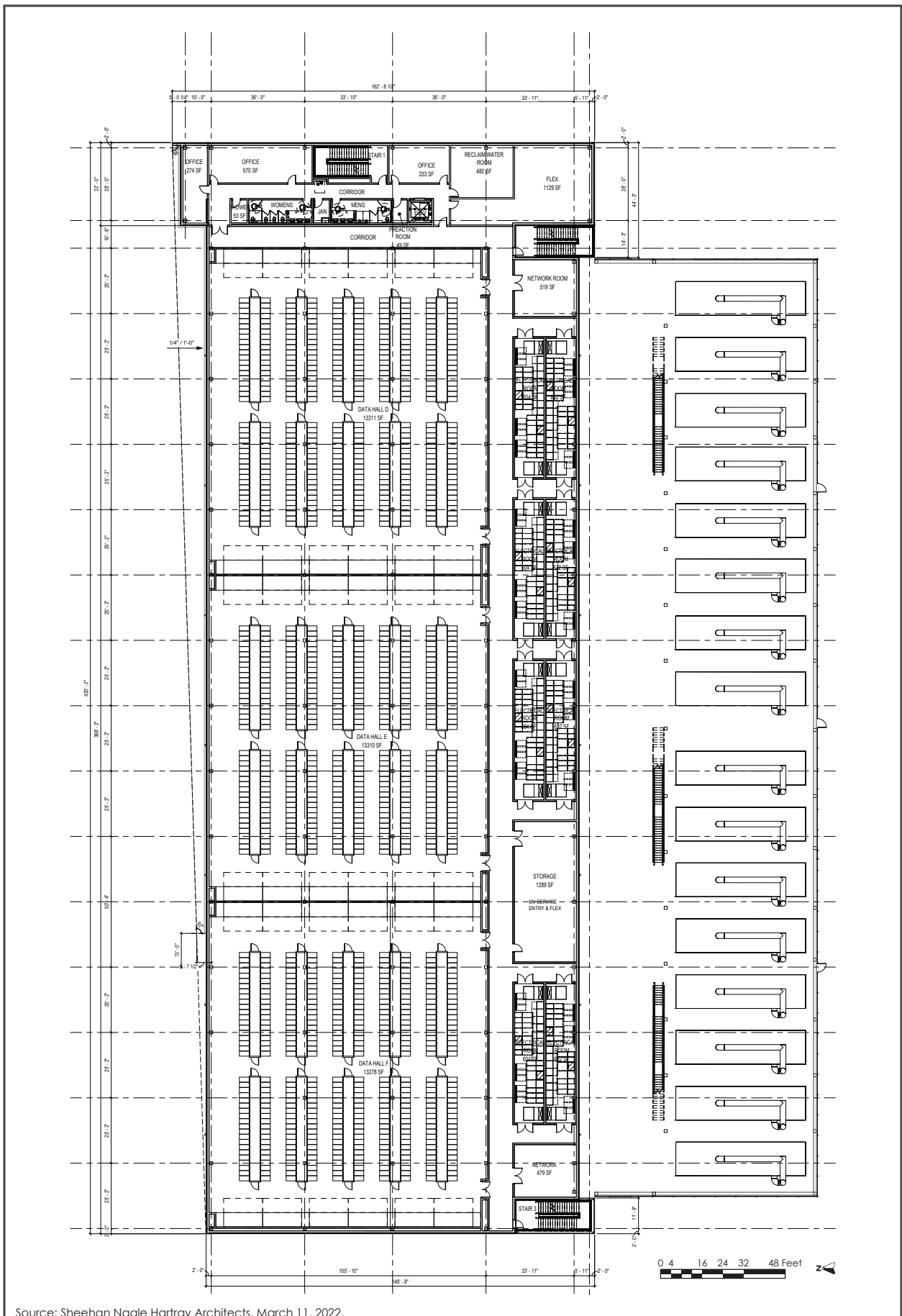
FIGURE 2.6



BUILDING ELEVATIONS – EAST AND SOUTH

FIGURE 2.7

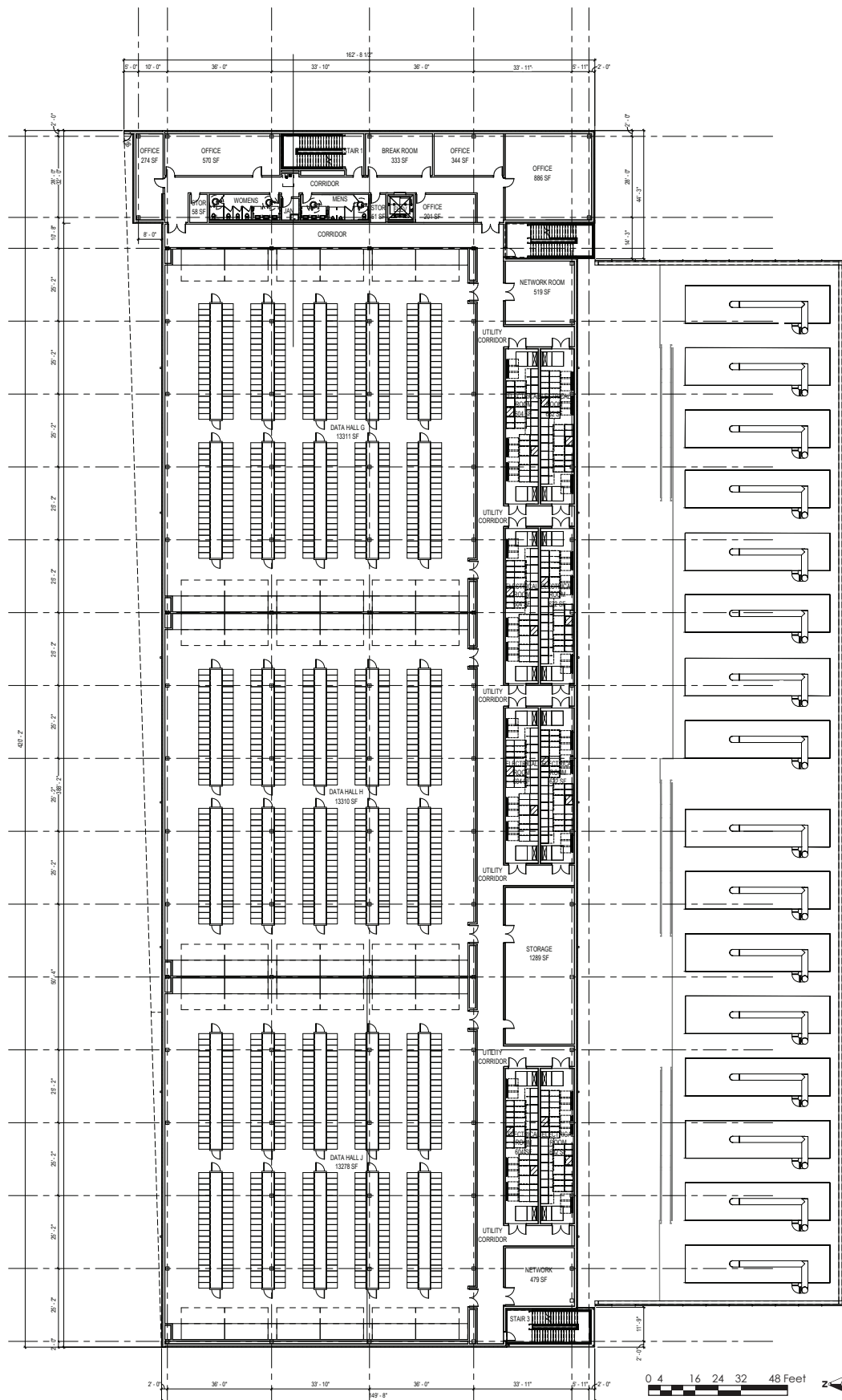




Source: Sheehan Nagle Hartray Architects, March 11, 2022.

LEVEL TWO FLOOR PLAN

FIGURE 2.9

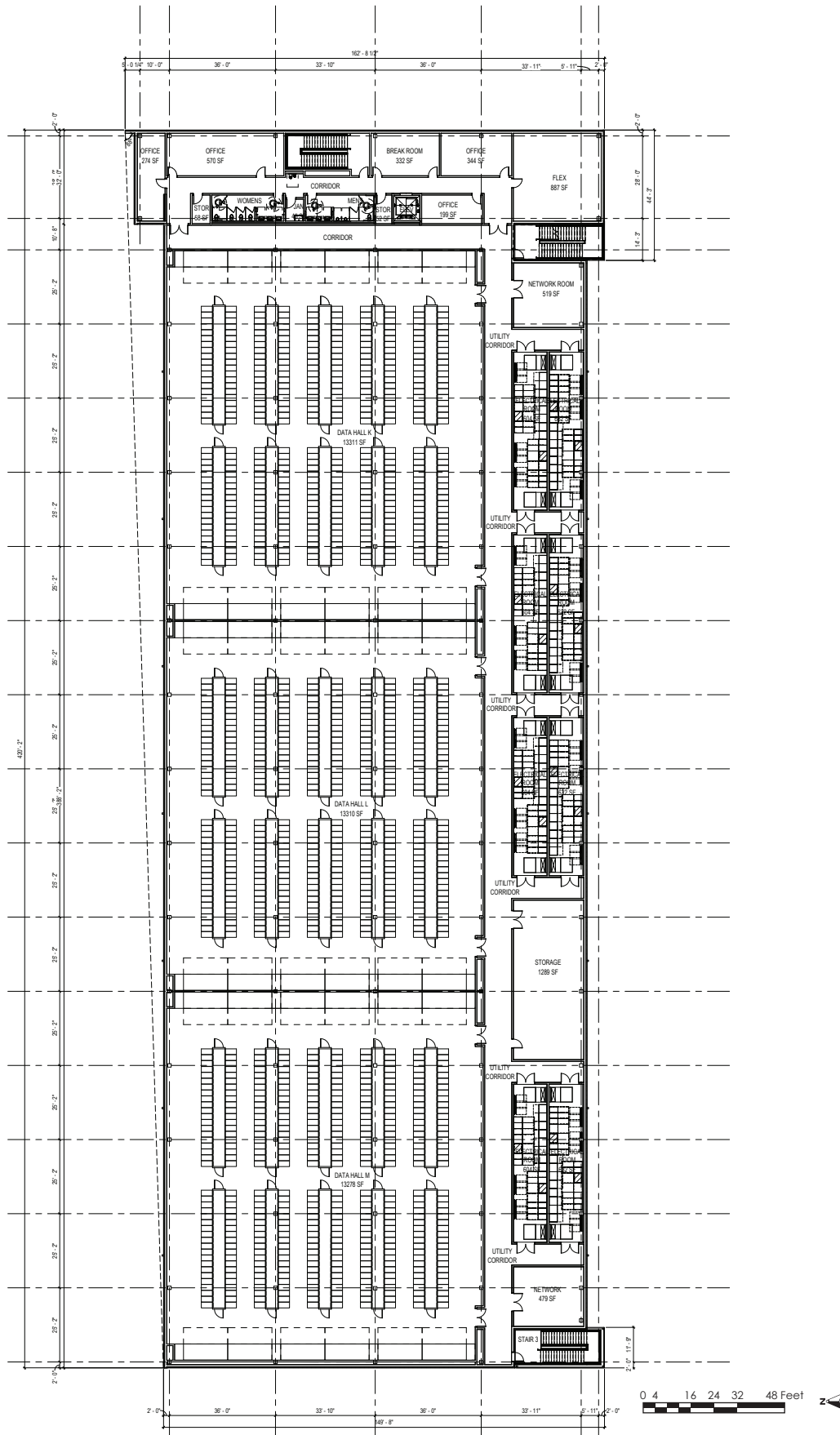


Source: Sheehan Nagle Hartray Architects, March 11, 2022.

LEVEL THREE FLOOR PLAN

FIGURE 2.10



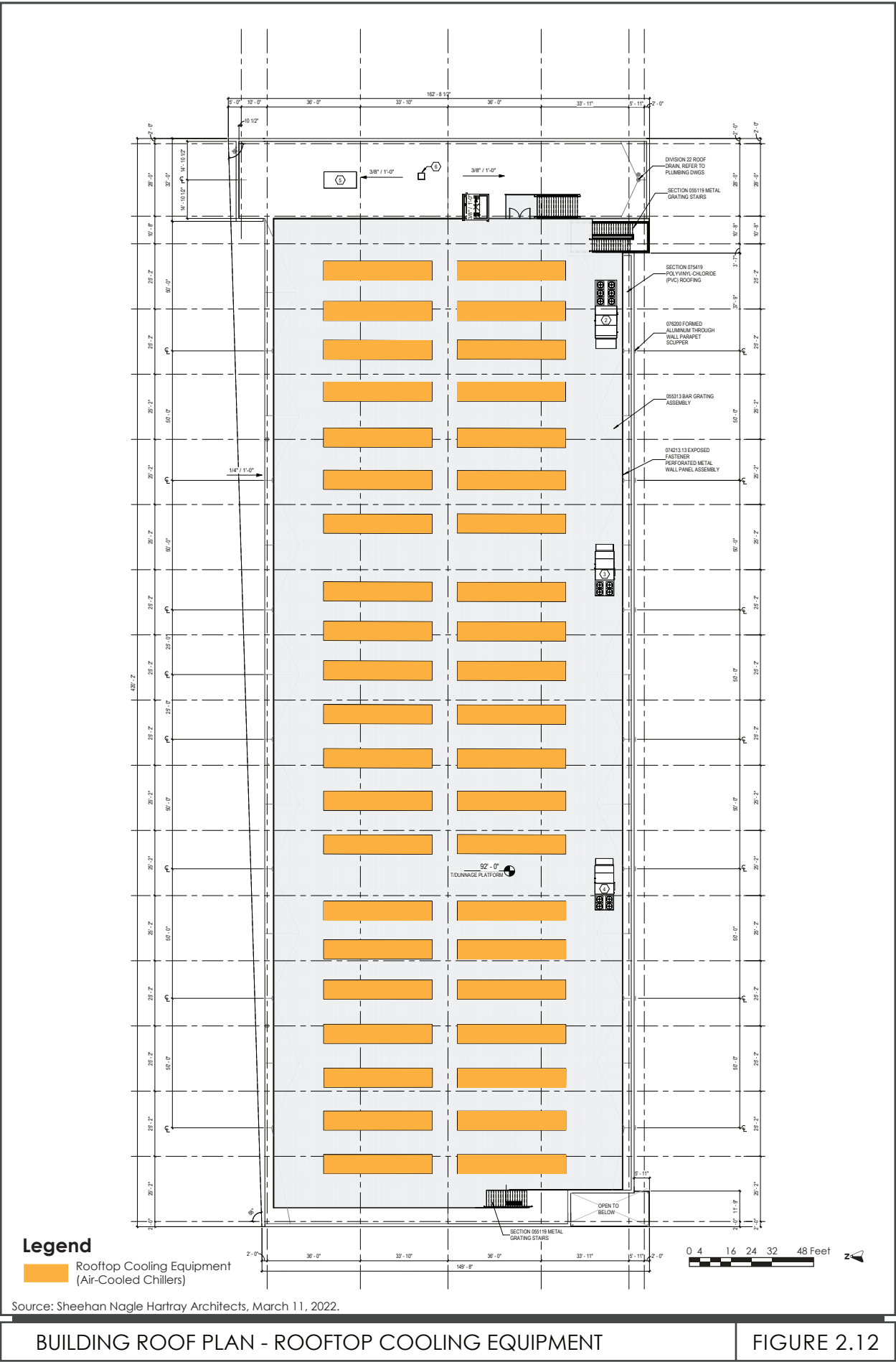


Source: Sheehan Nagle Hartray Architects, March 11, 2022.

LEVEL FOUR FLOOR PLAN

FIGURE 2.11





BUILDING ROOF PLAN - ROOFTOP COOLING EQUIPMENT

FIGURE 2.12

### **2.3.2      Building Heights and Setbacks**

The data center building will be approximately 87.5 feet in height to the top of parapet. The mechanical equipment screen on the roof the building will extend to a height of 103.33 feet in height from the top of the slab.

The building will be located in the center of the site and will be set back at a minimum of 56.5 feet from the side yard to the north property line (2855 Bowers Avenue), a minimum of 108 feet from the side yard to the west (public way), a minimum of 162 feet from the side yard to the south (adjacent to a non-residential zone), and a minimum of 142 feet from the rear yard to the east (adjacent to a non-residential zone).

### **2.3.3      Site Access and Parking**

The overall project site will include one primary entrance from Bowers Avenue located on the western side of the property at the signalized intersection with Mead Avenue and one secondary entrance also from Bowers Avenue located at the northwestern corner of the site. The site currently has two entrances from Bowers Avenue in the same general areas as the proposed entrances.

The project would provide a total of 62 parking spaces on site including 3 accessible (of which one is van accessible), 4 EV (of which 1 is EV van accessible), and 6 Clean Air Vehicle parking spaces as shown on Figure 2.4.

### **2.3.4      Demolition, Site Grading, Excavation, and Construction**

Demolition, grading, excavation and construction activities are anticipated to begin in March 2023 and take approximately 24 months to complete. The construction workforce is estimated to have a peak number of workers of approximately 125 per month and an average of approximately 100 per month.

Initial estimates of the grading of the site and excavation for foundations shows a cut of approximately 16,000 cubic yards. Grading of the site is not expected to require the import of fill material, but there could be an export of approximately 16,000 cubic yards.

### **2.3.5      Landscaping**

The BDC proposes to remove 48 (mostly parking lot) trees on-site, due to various conflicts with proposed civil and architectural improvements. See Arborist Report in Appendix B. The City of Santa Clara's landscape ordinance mandates a 2:1 replacement with 24-inch box size trees, or 1:1 replacement with 36-in box size trees. The BDC proposes to mitigate for the loss of all 47 trees with 36-inch box size trees.

New landscaping consisting of trees, large and medium shrubs, and groundcovers will be installed along the property boundaries, building perimeters, stormwater treatment facilities, and landscape beds distributed throughout the parking facilities. Trees would be planted five feet away from new or existing water mains or utility lines.

### **2.3.6            Stormwater Controls**

The San Francisco Bay Regional Water Quality Control Board (RWQCB) has issued the Municipal Regional Stormwater NPDES Permit (MRP) to regulate stormwater discharges from municipalities and local agencies. Under Provision C.3 of the MRP, new and redevelopment projects that create or replace 10,000 square feet or more of impervious surface area are required to implement site design, source control, and Low Impact Development (LID)-based stormwater treatment controls to treat post-construction stormwater runoff. LID-based treatment controls are intended to maintain or restore the site's natural hydrologic functions, maximizing opportunities for infiltration and evapotranspiration, and using stormwater as a resource (e.g., rainwater harvesting for non-potable uses). Examples of C.3 LID measures include bioretention areas, flow-through planters, and subsurface infiltration systems.

The BDC proposes to construct stormwater treatment areas consisting of LID (Low-Impact Development) bioretention areas totaling approximately 6,300 square feet, based on preliminary impervious calculations, sized according to the requirements of the MRP. The stormwater treatment areas would be located around the perimeter of the site, and adjacent to paved parking areas and drive aisles. Additionally, the remainder of the required amount of stormwater treatment area will be constructed once interim power is no longer needed and the interim power facilities located on the southwest corner of the property removed. Interim power is estimated to be removed in 2028. Downspouts for the roof drainage will discharge directly into bioretention areas located along the perimeter of the site.

Bioretention areas will include perforated underdrains and overflow structures that connect to the on-site storm drains system which eventually discharges to the public storm system in Bowers Avenue described previously.

According to Appendix E-2, HMP Applicability Map, of the “C.3 Stormwater Handbook” published by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) the project site is located in a “purple area”, defined as “catchments draining to a hardened channel and/or tidal area.” According to the MRP, hydromodification controls (HMC) are not required for projects located in purple areas of the HMP Applicability Map. Therefore, BDC will not incorporate HMC into the project's development.

2.3.7.1

### **2.3.7            Site Water Supply and Use**

#### ***Site Grading and Construction***

2.3.7.2

Grading and construction of the BDC including the BBGF is estimated to utilize 1.75-acre feet of water over the 24-month construction period.

#### ***BDC Operation***

The BDC could require water when outside air temperatures approach design (89°) to augment its adiabatic cooling system using evaporative pads on the rooftop air-cooled chillers. The data center will be designed to use up to 0.5 AFY of recycled water via the proposed recycled water pipeline extension, and a potable water connection will be provided as a back-up source to the recycled water system in the interim period. Total potable water use at full buildout of the BDC is estimated to be

approximately 2 AFY. Landscaping for the site is estimated to use up to 1 AFY. Historical use at the site is approximately 3.2 AFY.

### **2.3.8            Utility Interconnections**

#### ***General***

As part of the construction of the new building, domestic water, recycled water, fire water, irrigation water, storm drain, sanitary sewer, and fiber connections will be made from the City infrastructure systems located along Bowers Avenue. There is a 12-inch diameter domestic potable water line operated by the City of Santa Clara in Bowers Avenue along the frontage of the property. This domestic water line will serve as the primary source for potable water and fire supply to the project. There is also a recycled water pipeline located at the intersection of Walsh Avenue and Northwestern Parkway, approximately 2,600 feet to the southeast of the subject property. The project would extend the recycled water line as a primary source of cooling and landscaping as shown on Figure 2.13.

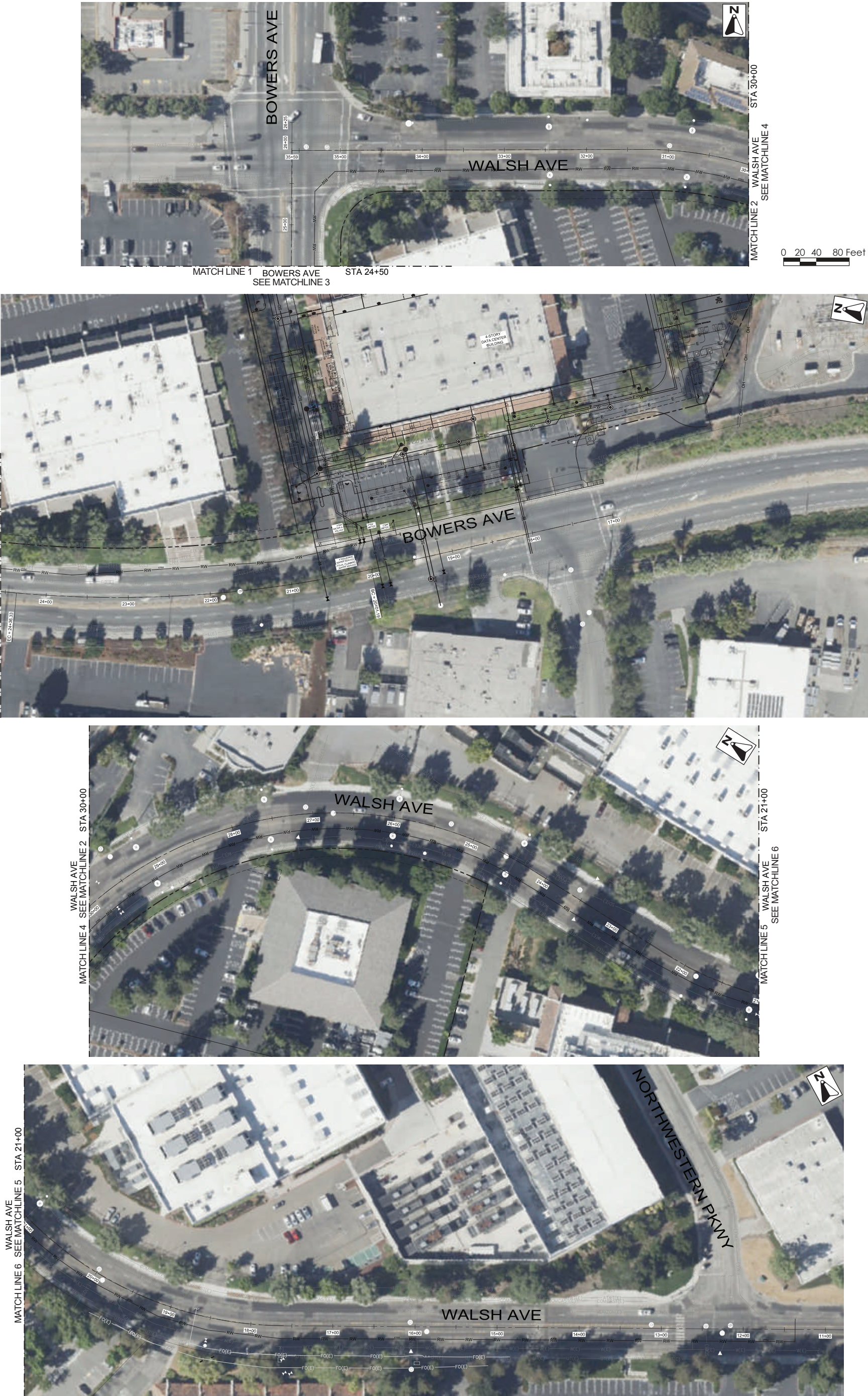
#### ***SVP Electrical Distribution Facilities***

2.3.8.2 The proposed substation station will be located adjacent to the existing SVP Uranium Substation. It will be looped into the existing Uranium Substation 60kV transmission feeder. The loop will be configured with three radial taps to the BDC substation. Reliability is maintained such that, if there is a fault along any section of the loop, electric service is still supplied from the receiving station at the other end of the 60kV loop.

The new conductor that interconnects the new substation to the Bulk Electric System (BES) will be an ACCR type, size 715 double bundle with a carrying capacity of 310 MVA. SVP's general practice is to use tubular steel transmission poles for the two dead end structures. There may be up to three new transmission poles anticipated to be performed as tie-in. All three would be located on the project site.

To allow the BDC to begin operations as soon as possible, the project will include an interim power solution prior to full energizing of the new SVP Substation. Interim power will initially be in the form of two 4.5 kVA underground circuits (with option of a third) encased in conduits within a concrete duct bank that will originate at the Uranium Substation. These circuits will be intercepted near the property and brought into a new manhole to be located on the subject property. The interim power lines will utilize Silicon Valley Power typical conductors and construction methods.





Source: Sheehan Nagle Hartray Architects, August 12, 2022.

RECYCLED WATER PIPELINE EXTENSION

FIGURE 2.13



## 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:

- Water all exposed areas (e.g., parking areas, graded areas, unpaved access roads) twice a day.
- Maintain a minimum soil moisture of 12% in exposed areas by maintaining proper watering frequency.
- Cover all haul trucks carrying sand, soil or other loose material.
- Suspend excavation, grading and/or demolition activities when average wind speed exceeds 20 miles per hour.
- Pave all roadways, driveways and sidewalks as soon as possible. Lay building pads as soon as grading is completed, unless seeding or soil binders are used.
- Install wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of construction with a maximum 50 percent air porosity.
- Use a power vacuum to sweep and remove any mud or dirt-track next to public streets, if visible soil material is carried onto the streets.
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
- Minimize idling time for all engines by shutting engines when not in use or limiting idling time to a maximum of 5 minutes. Provide clear signage for construction workers at all access points.
- Properly tune and maintain construction equipment in accordance with manufacturer's specifications. Check all equipment against a certified visible emissions calculator.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints
- Install vegetative ground cover in disturbed areas as soon as possible and water appropriately until vegetation is established.
- Limit simultaneous occurrence of excavation, grading, and ground-disturbing construction activities.
- Install water washers to wash all trucks and equipment prior to leaving site.
- Treat site access to a distance of 100 feet from the paved road with a 6 to 12-inch compacted layer of wood chip, mulch or gravel.
- Install sandbag or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- Minimize idling time of diesel-powered construction vehicles to two minutes
- Develop a plan demonstrating that off-road equipment (more than 50 horsepower) used for construction would achieve a project wide fleet-average 20 percent NOX reduction and 45 percent PM reduction compared to the most recent ARB fleet average. These include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
- Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).

- All construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM.
- All contractors use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines

#### **2.4.2 Biological Resources**

PD BIO-1.1: The project will incorporate the following measures to reduce impacts to nesting birds.

- Construction shall be scheduled to avoid the nesting bird season to the extent feasible. The nesting season for most birds, including most raptors, in the San Francisco Bay Area extends from February 1 through August 31. If it is not possible to schedule construction activities between September 1 and January 31, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure no nest shall be disturbed during project implementation. This survey shall be completed no more than 14 days prior to the initiation of grading, tree removal, or other demolition or construction activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). During this survey, the ornithologist shall inspect all trees and other possible nesting habitats within and immediately adjacent to the construction area for nests. If an active nest is found sufficiently close to work areas to be disturbed by construction, the ornithologist, in consultation with CDFW, shall determine the extent of a construction-free buffer zone to be established around the nest to ensure that nests of bird species protected by the MBTA or Fish and Game Code shall not be disturbed during project construction.
- A final report of nesting birds, including any protection measures, shall be submitted to the Director of Community Development prior to the start of grading or tree removal.

PD BIO-2.1 through PD BIO-2.5: Avoid and Minimize construction impacts to trees

- PD BIO-2.1: Barricades – Prior to initiation of construction activity, temporary barricades would be installed around all trees in the construction area. Six-foot high, chain link fences would be mounted on steel posts, driven two feet into the ground, at no more than 10-foot spacing. The fences shall enclose the entire area under the drip line of the trees or as close to the drip line area as practical. These barricades will be placed around individual trees and/or groups of trees.
- PD BIO-2.2: Root Pruning (if necessary) – During and upon completion of any trenching/grading operation within a tree's drip line, should any roots greater than one inch in diameter be damaged, broken or severed, root pruning to include flush cutting and sealing of exposed roots should be accomplished under the supervision of a qualified arborist to minimize root deterioration beyond the soil line within 24 hours.
- PD BIO-2.3: Pruning – Pruning of the canopies to include removal of deadwood should be initiated prior to construction operations. Such pruning will provide any necessary



construction clearance, will lessen the likelihood or potential for limb breakage, reduce ‘windsail’ effect and provide an environment suitable for healthy and vigorous growth.

- PD BIO-2.4: Fertilization – Fertilization by means of deep root soil injection should be used for trees to be impacted during construction in the spring and summer months.
- PD BIO-2.5: Mulch – Mulching with wood chips (maximum depth of three inches) within tree environments should be used to lessen moisture evaporation from soil, protect and encourage adventitious roots and minimize possible soil compaction.

The project applicant shall obtain the appropriate tree removal permits from the City of Santa Clara for removal of all healthy mature trees. Acquisition of this permit will include details of the final mitigation numbers. The City of Santa Clara’s landscape ordinance mandates a 2:1 replacement with 24-inch box size trees, or 1:1 replacement with 36-in box size trees. The BDC proposes to mitigate for the loss of 47 trees with 36-inch box size trees.

### **2.4.3            Cultural Resources**

PD CUL-1.2 through PD CUL-1.9: The project proposes to implement the following measures to ensure construction activities do not significantly impact any unknown subsurface resources.

- PD CUL-1.1: Treatment Plan: Prior to the issuance of any grading permit, a project-specific Cultural Resources Treatment Plan shall be prepared by a qualified archaeologist, in consultation with a qualified Native American monitor, registered with the Native American Heritage Commission (NAHC) for the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area. The Cultural Resources Treatment Plan shall reflect permit-level detail pertaining to depths and locations of all ground disturbing activities. The Cultural Resources Treatment Plan shall be prepared and submitted to the Santa Clara Director of Community Development prior to approval of any grading permit. The Treatment Plan shall contain, at a minimum:
  - Identification of the scope of work and range of subsurface effects (including location map and development plan), including requirements for preliminary field investigations.
  - Description of the environmental setting (past and present) and the historic/prehistoric background of the parcel (potential range of what might be found).
  - Development of research questions and goals to be addressed by the investigation (what is significant vs. what is redundant information).
  - Detailed field strategy used to record, recover, or avoid the finds and address research goals.
  - Analytical methods.
  - Report structure and outline of document contents.
  - Disposition of the artifacts.
  - Appendices: all site records, correspondence, and consultation with Native Americans, etc.

- PD CUL-1.2: Investigation: Prior to issuance of any grading or demolition permits, the project applicant shall complete a preliminary field investigation program in conformance with the project-specific Cultural Resources Treatment Plan required under Project Design Feature PD CUL-1.1. The locations of subsurface testing and exploratory trenching shall be determined prior to issuance of any grading permit based on the Cultural Resources Treatment Plan recommendations. A qualified archaeologist and a qualified Native American monitor, registered with the Native American Heritage Commission (NAHC) for the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area, shall complete a presence/absence exploration. Results of the investigation shall be provided to the Santa Clara Director of Community Development prior to issuance of any grading permit.

If any finds were discovered during the preliminary field investigation, the project shall implement PD CUL-1.4 for evaluation and recovery methodologies. The results of the preliminary field investigation and program shall be submitted to Santa Clara Director of Community Development for review and approval prior to issuance of any grading permit.

- PD CUL-1.3: Construction Monitoring and Protection Measures: Although the data recovery and treatment program would be expected to recover potentially significant materials and information from the areas impacted by the project prior to grading, it is possible that additional resources could remain on-site. Therefore, all ground-disturbing activities (e.g., grading and excavation) shall be completed under the observation of a qualified archaeologist and a qualified Native American monitor, registered with the Native American Heritage Commission (NAHC) for the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area.

The qualified archaeologist or a qualified Native American monitor, registered with the Native American Heritage Commission (NAHC) for the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area, shall have authority to halt construction activities temporarily in the immediate vicinity of an unanticipated find. If, for any reasons, the qualified archaeologist or a qualified Native American monitor, registered with the Native American Heritage Commission (NAHC) for the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area, is not present, but construction crews encounter a cultural resource, all work shall stop temporarily within 50 feet of the find until a qualified archaeologist in consultation with a qualified Native American monitor, registered with the Native American Heritage Commission (NAHC) for the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area, has been contacted to determine the proper course of action. The Santa Clara Director of Community Development shall be notified of any finds during the grading or other construction activities. Any human remains encountered during construction shall be treated according to the protocol identified in PD CUL-1.5.

- PD CUL-1.4: Evaluation and Data Recovery: The Santa Clara Director of Community Development shall be notified of any finds during the preliminary field investigation, grading, or other construction activities. Any historic or prehistoric material identified in the project area during the preliminary field investigation and during grading or other construction activities shall be evaluated for eligibility for listing as a Candidate City

Landmark and /or in the California Register of Historic Resources. Data recovery methods may include, but are not limited to, backhoe trenching, shovel test units, hand auguring, and hand-excavation.

The techniques used for data recovery shall follow the protocols identified in the project-specific Cultural Resources Treatment Plan. Data recovery shall include excavation and exposure of features, field documentation, and recordation.

- PD CUL-1.5: Human Remains: Native American coordination shall follow the protocols established under Assembly Bill 52, State of California Code, and applicable City of Santa Clara procedures.

If any human remains are found during any field investigations, grading, or other construction activities, all provisions of California Health and Safety Code Sections 7054 and 7050.5 and Public Resources Code Sections 5097.9 through 5097.99, as amended per Assembly Bill 2641, shall be followed. In the event of the discovery of human remains during construction, there shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent remains. The project applicant or qualified archaeologist in consultation with a Native American representative registered with the Native American Heritage Commission from the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area shall immediately notify the Santa Clara Director of Community Development, who will then notify the Santa Clara County Coroner. The Coroner shall make a determination as to whether the remains are Native American.

If the remains are believed to be Native American, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC shall then designate a Most Likely Descendant (MLD). The MLD shall inspect the remains and make a recommendation on the treatment of the remains and associated artifacts.

If one of the following conditions occurs, the landowner or his authorized representative shall work with the Coroner, in consultation with a qualified Native American monitor, registered with the Native American Heritage Commission (NAHC) for the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area, to reinter the Native American human remains and associated grave goods with appropriate dignity in a location not subject to further subsurface disturbance:

- The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the commission.
- The descendant identified fails to make a recommendation; or
- The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

- PD CUL-1.6: Site Security: At the discretion of the Santa Clara Director of Community Development, site fencing shall be installed on-site during the investigation, grading, building, or other construction activities to avoid destruction and/or theft of potential cultural resources. The responsible qualified archaeologist, in consultation with a qualified Native American monitor, registered with the Native American Heritage Commission (NAHC) for the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area, shall advise the Santa Clara Director of Community Development as to the necessity for a guard. The purpose of the security guard shall be to ensure the safety of any potential cultural resources (including human remains) that are left exposed overnight. The Santa Clara Director of Community Development shall have the final discretion to authorize the use of a security guard at the project site.
- PD CUL-1.7: Final Reporting: Once all analyses and studies required by the project-specific Cultural Resources Treatment Plan have been completed, the project applicant, or representative, shall prepare a final report summarizing the results of the field investigation, data recovery activities and results, and compliance with the Cultural Resources Treatment Plan during all demolition, grading, building, and other construction activities. The report shall document the results of field and laboratory investigations and shall meet the Secretary of the Interior's Standards for Archaeological Documentation. The contents of the report shall be consistent with the protocol included in the project-specific Cultural Resources Treatment Plan. The report shall be submitted to the Santa Clara Director of Community Development for review and approval prior to issuance of any Certificates of Occupancy (temporary or final). Once approved, the final documentation shall be submitted to the Northwest Information Center at Sonoma State University, as appropriate.
- PD CUL-1.8: Curation: Upon completion of the final report required by the project-specific Cultural Resources Treatment Plan, all recovered archaeological materials not identified as tribal cultural resources by the Native American monitor, shall be transferred to a long-term curation facility. Any curation facility used shall meet the standards outlined in the National Park Services' Curation of Federally Owned and Administered Archaeological Collections (36 CFR 79). The project applicant shall notify the Santa Clara Director of Community Development of the selected curation facility prior to the issuance of any Certificates of Occupancy (temporary or final). To the extent feasible, and in consultation with the Native American representative, all recovered Native American/tribal cultural resources and artifacts shall be reburied on-site in an area that is unlikely to be disturbed again. Treatment of materials to be curated shall be consistent with the protocols included in the project-specific Cultural Resources Treatment Plan.

All archaeological materials recovered during the data recovery efforts shall be cleaned, sorted, catalogued, and analyzed following standard archaeological procedures, and shall be documented in a report submitted to the Santa Clara Director of Community Development and the NWIC.

- PD CUL-1.9: Dignified and Respectful Treatment – Cultural Sensitivity Training Prior to Construction: An important aspect of the consultation process is a dignified and respectful treatment of Tribal Cultural Resources. Prior to issuance of the Grading Permit, the project

shall be required to submit evidence that an Archaeological Monitoring Contractor Awareness Training was held prior to ground disturbance. The training shall be facilitated by the project archaeologist in coordination with a Native American representative registered with the Native American Heritage Commissions for the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area as described in Public Resources Code Section 21080.3.

#### **2.4.4            Geology and Soils**

PD GEO-1.1: To avoid or minimize potential damage from seismic shaking, the following is proposed as mitigation incorporated into the project.

- To avoid or minimize potential damage from seismic shaking, the project would be built using standard engineering and seismic safety design techniques. Building redevelopment design and construction at the site shall be completed in conformance with the recommendations of a design-level geotechnical investigation, which will be included in a report to the City. The report shall be reviewed and approved by the City of Santa Clara's Building Division as part of the building permit review and issuance process. The building shall meet the requirements of applicable Building and Fire Codes, including the 2019 California Building Code, as adopted or updated by the City. The project shall be designed to withstand potential geologic hazards identified on the site and the project shall be designed to reduce the risk to life or property to the extent feasible and in compliance with the Building Code.

#### **2.4.5            Greenhouse Gas Emissions**

PD GHG-1.1: To avoid impacts from GHG emissions, the following is proposed as mitigation incorporated into the project.

- In accordance with Action Item B-1-7 in the City of Santa Clara's 2022 Climate Action Plan, the project owner shall contract with SVP at the 2020 Green Power Standard (i.e., 100% carbon-free electricity) for electricity accounts associated with the project, or participate in a clean energy program that accomplishes the same goals of 100% carbon-free electricity as the SVP 2020 Green Power Standard.

#### **2.4.6            Hazards**

PD HAZ-1.1 through PD HAZ-1.3: The project will implement the following measures to reduce potentially significant site contamination impacts to construction workers to a less than significant level.

- PD HAZ-1.1: Prior to the issuance of grading permits, shallow soil samples shall be taken in areas where soil disturbance is anticipated to determine if contaminated soils with concentrations above established construction/trench worker thresholds may be present due to historical agricultural use and from historical leaks and spills. The soil sampling plan must be reviewed and approved by the Santa Clara Fire Department Fire Prevention and Hazardous Materials Division prior to initiation of work. Once the soil sampling analysis is

complete, a report of the findings will be provided to the Santa Clara Fire Department Fire Prevention and Hazardous Materials Division and other applicable City staff for review.

Documentation of the results of the soil sampling shall be submitted to and reviewed by the City of Santa Clara prior to the issuance of a grading permit. Any soil with concentrations above applicable Environmental Screening Levels or hazardous waste limits would be characterized, removed, and disposed of off-site at an appropriate landfill according to all state and federal requirements.

- PD HAZ-1.2: A Site Management Plan (SMP) will be prepared to establish management practices for handling impacted groundwater and/or soil material that may be encountered during site development and soil-disturbing activities. Components of the SMP will include: a detailed discussion of the site background; a summary of the analytical results from PD HAZ-2.1; preparation of a Health and Safety Plan by an industrial hygienist; protocols for conducting earthwork activities in areas where impacted soil and/or groundwater are present or suspected; worker training requirements, health and safety measures and soil handling procedures shall be described; protocols shall be prepared to characterize/profile soil suspected of being contaminated so that appropriate mitigation, disposal or reuse alternatives, if necessary, can be implemented; notification procedures if previously undiscovered significantly impacted soil or groundwater is encountered during construction; notification procedures if previously unidentified hazardous materials, hazardous waste, underground storage tanks are encountered during construction; on-site soil reuse guidelines; sampling and laboratory analyses of excess soil requiring disposal at an appropriate off-site waste disposal facility; soil stockpiling protocols; and protocols to manage groundwater that may be encountered during trenching and/or subsurface excavation activities. Prior to issuance of grading permits, a copy of the SMP must be approved by the Santa Clara County Environmental Health Department, and the Santa Clara Fire Department Fire Prevention and Hazardous Materials Division.
- PD HAZ-1.3: If contaminated soils are found in concentrations above risk-based thresholds pursuant to the terms of the SMP, remedial actions and/or mitigation measures will be taken to reduce concentrations of contaminants to levels deemed appropriate by the selected regulatory oversight agency for ongoing site uses. Any contaminated soils found in concentrations above thresholds to be determined in coordination with regulatory agencies shall be either (1) managed or treated in place, if deemed appropriate by the oversight agency or (2) removed and disposed of at an appropriate disposal facility according to California Hazardous Waste Regulations and applicable local, state, and federal laws.
- PD HAZ-1.4: The discharge of any water from construction dewatering activities shall be required to comply with National Pollutant Discharge Elimination System (NPDES) permit requirements or wastewater discharge permit conditions to the sanitary sewer, which may involve installation of a treatment system(s) at the dewatering location. For short-term discharge (less than 1-year), a discharge permit shall be obtained from the City of Santa Clara and the water discharged to the sanitary sewer. For long term discharge (greater than 1-year), the Project applicant shall obtain a NPDES permit from the California Regional Water Quality Control Board for discharge to the storm system.



Both discharge permits require pre-testing of the water to determine if the water meets the respective City or Regional Water Quality Control Board (RWQCB) pollutant discharge limits. The water shall be analyzed by a State-certified laboratory for the suspected pollutants prior to discharge. Water that exceeds discharge limits (if any) shall be treated to reduce pollutant concentrations to acceptable levels prior to discharge. Based on the results of the analytical testing, the project applicant shall work with the RWQCB and the local wastewater treatment plant to determine appropriate disposal options and then implement same. A copy of the discharge permit or NPDES permit, whichever is applicable, shall be submitted to the City of Santa Clara Director of Community Development prior to the start of construction.

PD HAZ-2.1: The project would implement the following applicant proposed mitigation measures to reduce impacts to the presence of ACMs and/or lead-based paint:

- In conformance with State and local laws, a visual inspection/pre-demolition survey, and possible sampling, shall be conducted prior to the demolition of on-site buildings to determine the presence of asbestos-containing materials and/or lead-based paint.
- Prior to demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Construction Standard, Title 8, California Code of Regulations (CCR) 1523.1, including employee training, employee air monitoring, and dust control. Any debris or soil containing lead-based paint or coatings would be disposed of at landfills that meet acceptance criteria for the waste being disposed.
- All potentially friable ACMs shall be removed in accordance with NESGAP guidelines prior to any building demolition or renovation that may disturb the materials. All demolition activities will be undertaken in accordance with Cal/OSHA standards contained in Title 8 of CCR, Section 1529, to protect workers from exposure to asbestos.
- A registered asbestos abatement contractor shall be retained to remove and dispose of ACMs identified in the asbestos survey performed for the site in accordance with the standards stated above.
- Materials containing more than one percent asbestos are also subject to Bay Area Air Quality Management District (BAAQMD) regulations. Removal of materials containing more than one percent asbestos shall be completed in accordance with BAAQMD requirements.

#### **2.4.7 Hydrology and Water Quality**

PD HYD-1.1: The project will incorporate the following into the design and these measures shall 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 cover all trucks or maintain at least two feet of freeboard.
- All paved access roads, parking areas, and staging areas adjacent to the construction sites 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.

#### **2.4.8        Noise**

PD NOI-1.1: The project proponent shall implement the following measure to reduce impacts from construction on noise-sensitive land uses to a less than significant level:

- All on-site noise generating construction activities shall occur pursuant to Section 9.10.070 and 9.10.203 of the City of Santa Clara Municipal Code.
- All noise-producing project equipment and vehicles using internal-combustion engines shall be equipped with manufacturers-recommended mufflers and be maintained in good working condition.
- All mobile or fixed noise-producing equipment used on the project site that are regulated for noise output by a federal, state, or local agency shall comply with such regulations while in the course of project activity.
- Electrically powered equipment shall be used instead of pneumatic or internal combustion powered equipment (where feasible).
- Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive receptors, where feasible.
- Project area and site access road speed limits shall be established and enforced during the construction period.

#### **2.4.9        Transportation**

PD TRN-1.1: The project proponent shall implement the following applicant proposed design measures to reduce impacts from VMT to a less than significant level:

- The project shall develop and implement a TDM plan sufficient to demonstrate that VMT associated with the project is reduced to a level less than or equal to 14.14 miles per employee. The following measures represent a feasible method for achieving the required VMT reduction:
  - Commute Trip Reduction Marketing and Education. The project applicant shall educate and encourage employees to use transit, shared rides, and active modes of transportation.
  - Alternative Transportation Benefits. The project applicant shall provide general commute benefits to employees, which would include financial subsidies or pre-tax deductions for transit, carpooling, and vanpooling activities.

- Ride-Sharing Program. The project applicant shall encourage employees to carpool with other employees and/through providing ride matching services to help employees find other commuters traveling in the same direction.
- The TDM program shall be submitted and approved by the Director of Community Development and shall be monitored annually to gauge its effectiveness in meeting the required VMT reduction. The TDM program shall establish an appropriate estimate of initial vehicle trips generated by the occupant of the proposed project and shall conduct driveway traffic counts annually to measure peak-hour entering and exiting vehicle volumes. The volumes will be compared to trip thresholds established in the TDM program to determine whether the required reduction in vehicle trips is being met. In addition to monitoring driveway volumes, a survey will be developed as part of the TDM program to determine actual mode splits for employees. The survey will also gather information on usage of individual TDM program components. The results of the annual vehicle counts and survey will be reported in writing to the Director of Community Development.

If TDM program monitoring results show that the trip reduction targets are not being met, the TDM program shall be updated to identify replacement and/or additional feasible TDM measures to be implemented. The updated TDM program shall be subject to the same approvals and monitoring requirements listed above.

If monitoring and reporting demonstrates that the project is non-compliant (i.e., did not fulfill the requirements of the TDM program, meet the drive-alone reduction targets, etc.), the City as the enforcing agency may impose penalties including fines and/or permit limitations.

## SECTION 3.0 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION

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This section presents the discussion of impacts related to the following environmental subjects in their respective subsections:

|      |                                    |      |                               |
|------|------------------------------------|------|-------------------------------|
| 3.1  | Aesthetics                         | 3.11 | Land Use and Planning         |
| 3.2  | Agriculture and Forestry Resources | 3.12 | Mineral Resources             |
| 3.3  | Air Quality                        | 3.13 | Noise                         |
| 3.4  | Biological Resources               | 3.14 | Population and Housing        |
| 3.5  | Cultural Resources                 | 3.15 | Public Services               |
| 3.6  | Energy                             | 3.16 | Recreation                    |
| 3.7  | Geology and Soils                  | 3.17 | Transportation                |
| 3.8  | Greenhouse Gas Emissions           | 3.18 | Tribal Cultural Resources     |
| 3.9  | Hazards and Hazardous Materials    | 3.19 | Utilities and Service Systems |
| 3.10 | Hydrology and Water Quality        | 3.20 | Wildfire                      |

The discussion for each environmental subject includes the following subsections:

**Environmental Setting** – This subsection 1) provides a brief overview of relevant plans, policies, and regulations that compose the regulatory framework for the project and 2) describes the existing, physical environmental conditions at the project site and in the surrounding area, as relevant.

**Impact Discussion** – This subsection includes the recommended checklist questions from Appendix G of the CEQA Guidelines to assess impacts.

- **Project Impacts** – This subsection discusses the project’s impact on the environmental subject as related to the checklist questions. For significant impacts, feasible mitigation is identified. “Proposed Design Measures” are measures that the applicant has agreed to incorporate into the design of the project that will minimize, avoid, or eliminate a significant impact (CEQA Guidelines Section 15370). Each impact is numbered to correspond to the checklist question being answered. For example, Impact BIO-1 answers the first checklist question in the Biological Resources section. Proposed Design Measures are also numbered to correspond to the impact they address. For example, PD BIO-1.3 refers to the third mitigation measure for the first impact in the Biological Resources section.
- **Cumulative Impacts** – This subsection discusses the project’s cumulative impact on the environmental subject. Cumulative impacts, as defined by CEQA, refer to two or more individual effects, which when combined, compound or increase other environmental impacts. Cumulative impacts may result from individually minor, but collectively significant effects taking place over a period of time. CEQA Guideline Section 15130 states that an EIR should discuss cumulative impacts “when the project’s incremental effect is cumulatively considerable.” The discussion does not need to be in as great detail as is necessary for project impacts but is to be “guided by the standards of practicality and reasonableness.” The purpose of the cumulative analysis is to allow decision makers to better understand the

impacts that might result from approval of past, present, and reasonably foreseeable future projects, in conjunction with the proposed project addressed in this EIR.

The CEQA Guidelines advise that a discussion of cumulative impacts should reflect both their severity and the likelihood of their occurrence (CEQA Guidelines Section 15130(b)). To accomplish these two objectives, the analysis should include either a list of past, present, and probable future projects or a summary of projections from an adopted general plan or similar document (CEQA Guidelines Section 15130(b)(1)). This SPPE Application.

The analysis must determine whether the project's contribution to any cumulatively significant impact is cumulatively considerable, as defined by CEQA Guideline Section 15065(a)(3). The cumulative impacts discussion for each environmental issue accordingly addresses the following issues: 1) would the effects of all of past, present, and probable future (pending) development result in a significant cumulative impact on the resource in question; and, if that cumulative impact is likely to be significant, 2) would the contribution from the proposed project to that significant cumulative impact be cumulatively considerable?

Table 3.0-1 identifies the approved (but not yet constructed or occupied) and pending projects in the project vicinity that are evaluated in the cumulative analysis.

| <b>Table 3.0-1: Cumulative Projects List</b>      |                                                                                                                                                                                                                                                                                                                                                 |                                     |                |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------|
| <b>Name and Location</b>                          | <b>Description</b>                                                                                                                                                                                                                                                                                                                              | <b>Distance to Proposed Project</b> | <b>Status</b>  |
| 2330 Monroe Street Affordable Housing Project     | General Plan Amendment and Rezoning of a 2.47-acre City-owned vacant site from Single Family residential (R1-6L) to Planned Development (PD) to support the construction of a single building ranging in height from two to three stories and containing 65 residential affordable units.                                                       | 4,160 feet southeast                | Approved       |
| 3625 Peterson Way Office Project                  | Architectural review of two new, eight-story office buildings connected by bridges at two levels, a four-level parking structure with attached amenity building.                                                                                                                                                                                | 4,600 feet northwest                | Pending review |
| 3905 Freedom Circle Mixed-Use Project             | General Plan Amendment and Re-zoning to Planned Development to construct a mixed-use development project on a 13.3-acre site within the Freedom Circle Focus Plan area, which consists of up to 1,100 residential units with 1,540 parking spaces, up to 2,000 square feet of commercial space with 10 parking spaces and a 2-acre public park. | 1.15-mile northeast                 | Pending review |
| Lawrence Station Project – Lawrence Expressway    | Architectural review for the construction of an up to 328 units, four-story, multi-family development on a 3.92 gross-acre site.                                                                                                                                                                                                                | 5,205 feet northwest                | Pending review |
| Muslim Community Association Facility, 3003 Scott | Application to amend the current Use Permit to allow for expansion of the existing pre-kindergarten through eighth grade school from 400                                                                                                                                                                                                        | 5,194 feet northeast                | Pending review |

|                                     |                                                                                                                                                                                                                                                                              |                      |          |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------|
| Boulevard and 3080 Alfred Street.   | students up to 900 students (including up to 150 high school students) and Muslim Community Association support services on the current Light Industrial (ML) zoned property at 3003 Scott Boulevard and on the adjoining ML-zoned expansion property at 3080 Alfred Street. |                      |          |
| 3375 Scott Boulevard Office Project | Demolition of existing office buildings and construction of a new six-story, 237,107 square foot office building, two-story 13,643 square foot amenity building, four-level parking structure and associated site improvements on a 5.8-acre site.                           | 3,867 feet northwest | Approved |

For each resource area, cumulative impacts may occur over different geographic areas. For example, the project effects on air quality would combine with the effects of projects in the entire air basin, whereas noise impacts would primarily be localized to the surrounding area. The geographic area that could be affected by the proposed project varies depending upon the type of environmental issue being considered. Section 15130(b)(3) of the CEQA Guidelines states that lead agencies should define the geographic scope of the area affected by the cumulative effect. Table 3.0-2 provides a summary of the different geographic areas used to evaluate cumulative impacts.

| <b>Table 3.0-2: Geographic Considerations in Cumulative Analysis</b> |                                                |
|----------------------------------------------------------------------|------------------------------------------------|
| <b>Resource Area</b>                                                 | <b>Geographic Area</b>                         |
| Aesthetics                                                           | Project site and adjacent parcels              |
| Agriculture and Forestry Resources                                   | Countywide                                     |
| Air Quality                                                          | San Francisco Bay Area Air Basin               |
| Biological Resources                                                 | Project site and adjacent parcels              |
| Cultural Resources                                                   | Project site and adjacent parcels              |
| Energy                                                               | Energy provider's territory                    |
| Geology and Soils                                                    | Project site and adjacent parcels              |
| GHGs                                                                 | Planet-wide                                    |
| Hazards and Hazardous Materials                                      | Project site and adjacent parcels              |
| Hydrology and Water Quality                                          | San Tomas Aquino watershed                     |
| Land Use and Planning/Population and Housing                         | Citywide                                       |
| Minerals                                                             | Identified mineral recovery or resource area   |
| Noise and Vibration                                                  | Project site and adjacent parcels              |
| Public Services and Recreation                                       | Citywide                                       |
| Transportation/Traffic                                               | Citywide                                       |
| Tribal Cultural Resources                                            | Project site and adjacent parcels              |
| Utilities and Service Systems                                        | Citywide                                       |
| Wildfire                                                             | Within or adjacent to the wildfire hazard zone |



### **3.1 AESTHETICS**

#### **3.1.1 Environmental Setting**

##### ***Regulatory Framework***

##### **State**

##### **Streets and Highway Code Sections 260 through 263**

3.1.1.1 The California Scenic Highway Program (Streets and Highway Code, Sections 260 through 263) is managed by the California Department of Transportation (Caltrans). The program is intended to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. There are no state-designated scenic highways in the City of Santa Clara.<sup>5</sup>

In Santa Clara County, the one state-designated scenic highway is a 10.8-mile stretch of SR 9, from Santa Cruz County to the Los Gatos City Limit (post mile R0.0 to post mile R10.8). Eligible State Scenic Highways (not officially designated) include SR 17 from the Santa Cruz County line to SR 9, SR 35 from Santa Cruz County line to SR 9, Interstate 280 from the San Mateo County line to SR 17, and the entire length of SR 152 within the County.

##### **Local**

##### **Santa Clara City Code**

The City Code includes regulations associated with the protection of the City's visual character in order to promote a sound and attractive community appearance, as stated in Chapter 8.30 Public Nuisances and Chapter 18.52 Regulations for Public, Quasi-Public, and Public Park or Recreation Zoning Districts. The City Code also includes an Architectural Review process, as outlined in Zoning Ordinance Chapter 18.76. The Architectural Review process is intended to serve the following purposes:

- Encourage the orderly and harmonious appearance of structures and properties;
- Maintain public health, safety, and welfare;
- Maintain property and improvement values throughout the City;
- Encourage the physical development of the City that is consistent with the General Plan and other City regulations; and,
- Enhance the aesthetic appearance, functional relationships, neighborhood compatibility, and excellent design quality of the City.

##### **Architectural Policies – Community Design Guidelines**

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<sup>5</sup> California Department of Transportation." Scenic Highways." Accessed April 14, 2022.  
<https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>.

The City's Architectural Review Process considers plans and drawings submitted for architectural review for design, aesthetic considerations, and consistency with zoning standards, generally prior to submittal for building permits. In reviewing architectural submittals, the Director of Community Development follows the City's Community Design Guidelines. The intent of these guidelines is to provide consistent development standards in the interest of continued maintenance and enhancement of the high-quality living and working environment in the City.

### ***Existing Conditions***

#### **Project Site**

3.1.1.2 The 5.12-acre site is located in the City of Santa Clara and consists of a two-story, 55,000 square-foot office building surrounded by associated paved surface parking lots and landscaped areas. The office building consists of concrete with a stucco façade, mission style archways up to the second floor, and a sloping tile roof with a stucco parapet. The project site is bound to the north by an existing one-story office building, to the east by a material testing laboratory and a one-story office building, to the south by an existing Silicon Valley Power (SVP) substation (Uranium Substation), and to the west by Bowers Avenue.

Ornamental landscaping, lawns, and trees are currently dispersed throughout the site. Trees are clustered primarily in the main parking lot, sparsely along the site boundary, and on the north, west, and south side of the building.

The recycled water line extension alignment consists of public right of way along Bowers Avenue and Walsh Avenue in the immediate vicinity of the site.

#### **Surrounding Area**

The project area consists of commercial and industrial land uses to the west, north, and east, and residential uses approximately 500 feet southwest of the site across the existing Union Pacific CalTrain railroad right-of-way. Buildings to the north of the project site are of similar size to the existing building on site. The Norman Y. Mineta San José International Airport is located approximately 1.8 miles southeast of the site.

#### **Scenic Views and Resources**

No designated scenic vistas or view corridors are located within the City; however, the City of Santa Clara 2010-2035 General Plan Integrated Environmental Impact Report lists the Santa Cruz Mountains, Diablo Range, San Tomas Aquino Creek (approximately 0.4 miles to the east), and the Guadalupe River (approximately 2.1 miles to the east) as "visual resources" that can be viewed from areas within the City. Other areas within the City provide views of the community and surrounding natural features, including views of the open space/undeveloped land in the Ulistac Natural Area (approximately 2.4 miles northeast of the site). Views from the project site of the Santa Cruz Mountains to the west, Diablo Range to the east, and the Ulistac Natural Area to the northeast are obstructed due to existing urban development and landscaping.

There are no state-designated scenic roadways near the project site. The nearest state-designated highway is SR 9/Los Gatos-Saratoga Road, approximately nine miles southwest of the site.

The project site and the surrounding area are relatively flat and, as a result, the site is only visible from the immediate area.

### **Light and Glare**

Sources of light and glare in the project area include streetlights, parking lot lights, security lights, vehicular headlights, internal building lights, and reflective building surfaces and windows.

#### **3.1.2 Impact Discussion**

For the purpose of determining the significance of the project's impact on aesthetics, except as provided in Public Resources Code Section 21099, would the project:

- 1) Have a substantial adverse effect on a scenic vista?
- 2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
- 3) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings?<sup>6</sup> If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?
- 4) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

##### **3.1.2.1 *Project Impacts***

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**Impact AES-1:** The project would not have a substantial adverse effect on a scenic vista.  
**(Less than Significant Impact)**

---

The project site is developed with an office building and a surface parking lot located within an urban, developed area of the City of Santa Clara. The project site and recycled water line extension alignment is not within a designated scenic vista. The project site is surrounded by commercial/office and light industrial developments, as well as residential uses to the southwest. The nearest scenic resource is San Tomas Aquino Creek (approximately 0.4 miles east of the site). San Tomas Aquino Creek is not visible from the project site, as there are street trees and commercial and industrial development between the project site and San Tomas Aquino Creek that block views. The project is not in proximity to any other scenic resources (e.g., the Ulistac Natural Area, Santa Cruz Mountains, or Diablo Range). Given the distance of these resources from the project area, the flat topography of the area, and the surrounding development that blocks views to San Tomas Aquino Creek, the proposed project would not result in an impact to views of scenic vistas within or surrounding the City. **(Less than Significant Impact)**

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<sup>6</sup> Public views are those that are experienced from publicly accessible vantage points.

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**Impact AES-2:** The project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. **(No Impact)**

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There are no state-designated scenic highways in the vicinity of the site or the recycled water line extension alignment. As discussed in Section 4.1.1.2, a 10.8-mile stretch of SR 9 is a state-designated scenic highway, from Santa Cruz County to the Los Gatos City Limit (post mile R0.0 to post mile R10.8). SR 9 is the nearest state-designated scenic highway to the site (approximately 8.3 miles southwest of the site and not visible from the site). Therefore, the project would not damage scenic resources within any state-designated scenic highways. **(No Impact)**

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**Impact AES-3:** The project would not conflict with applicable zoning and other regulations governing scenic quality. **(Less than Significant Impact)**

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Aesthetic values are subjective. Opinions as to what constitutes a degradation of visual character differs among individuals. One of the best methods for assessing what constitutes a visually acceptable standard for new buildings are the City's design standards and implementation of those standards through the City's design process. The following discussion addresses the proposed changes to the visual setting of the project area and factors that are part of the community's assessment of the aesthetic values of a project's design.

The current character of the project area is built-up with office and industrial uses and few landscaped areas. As described in Section 3.1.1.2 Existing Conditions, the project site is currently developed with a two-story office building, a surface parking lot, and landscaping. The project proposes to demolish the existing improvements on the site to construct a four-story data center, exterior generator yard, electrical substation, surface parking, and landscaping. The proposed building's façade would primarily consist of cementitious panels, glazed surfaces, metal mesh, aluminum trim, and wooden paneling under the awnings. The data center building would be approximately 85.6 feet in height to the roofline. The mechanical equipment screen on the roof of the building would extend to a height of 103.4 feet from the top of the slab. The proposed building would be similar in mass to buildings in the surrounding area and similar in height to buildings to the east of Walsh Avenue. As described in Impact AES-1, the project would not obscure any scenic vistas, damage scenic resources, or degrade the visual quality of the area. The generator yard would be adjacent to the data center building it would serve and would be surrounded by a metal mesh screen. An electrical substation would be located along the southern boundary of the site. Site development would be subject to the City's Development Review Hearing process for architectural review. Therefore, the project would not conflict with the City's regulations related to scenic quality.

Approximately 47 trees are planned to be removed to accommodate the proposed development. The project would plant at least 94 new trees to replace the removed trees, 69 on-site and 25 off-site. As discussed in Section 3.4, Biological Resources, the planned replacement trees would meet City of Santa Clara tree replacement guidelines.

The project would construct a building with a maximum height of approximately 85.6 feet, with elevator column extending to a height of approximately 112 feet, which would exceed the maximum

height of 70 feet allowed under the ML – Light Industrial zoning district regulations. The project is requesting a Zoning Administrator Modification to allow a building height above what is allowed in the Zoning Ordinance. The project would be subject to the City’s design review process and would conform to current community design guidelines and landscaping standards for the Light Industrial (ML) zoning district. The guidelines were developed to support community aesthetic values, preserve neighborhood character, and promote a sense of community throughout the City. The project, therefore, would not conflict with applicable zoning and other regulations governing scenic quality. **(Less than Significant Impact)**

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**Impact AES-4:** The project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. **(Less than Significant Impact)**

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Sources of light and glare in the project area include streetlights, vehicular headlights, and internal lights from buildings. The site generates light from facility operations and nighttime security lighting. The project would redevelop the site with a new building and include similar sources of light for nighttime security, with lights illuminating the parking lot and building. The project would adhere to Title 24 Building Energy Efficiency Standards to reduce light pollution, light trespass, and glare. The outside lighting would comply with the City’s lighting requirements (City Code Section 18.48.140) and would be comparable in brightness to the ambient lighting in the surrounding area. Additionally, outdoor lighting would be angled downward and would include light visors and light hoods. The exterior surfaces of the project would consist of precast concrete and metal screening and would not be significant sources of glare during daytime hours. The exterior surface on the northern administration sections of the building would consist primarily of glazed surfaces serving as the office windows. The northern glazed portion of the building may produce some glare; however, land uses to the north consist primarily of commercial and industrial uses that would not be disturbed by glare. The closest residential areas, located more than 500 feet south of the site, would not experience bright lighting from the project at night.

Building materials and lighting plans would be reviewed through the City’s architectural review process by the Planning Division staff prior to issuance of building permits to ensure that the project would not create a substantial new source of light or glare. The project, therefore, would not create a new source of substantial light or glare, nor would it adversely affect day or nighttime views in the area. **(Less than Significant Impact)**

### ***Cumulative Impacts***

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**Impact AES-C:** The project would not result in a cumulatively considerable contribution to a cumulatively significant aesthetics impact. **(Less than Significant Cumulative Impact)**

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The geographic area for cumulative aesthetic impacts is limited, given the flat topography of the area, to the project site and adjacent properties in which the project site would be visible. The project site is not located along or visible from a designated state scenic highway or a scenic vista. The final design of the project and all future projects would be reviewed through the City’s architectural

review process, which will ensure projects conform to the City's adopted Community Design Guidelines. For these reasons, the project would not result in a significant cumulative aesthetic impact.

## 3.2 AGRICULTURE AND FORESTRY RESOURCES

### 3.2.1 Environmental Setting

#### *Regulatory Framework*

##### **State**

#### Farmland Mapping and Monitoring Program

- 3.2.1.1 The California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) assesses the location, quality, and quantity of agricultural land and conversion of these lands over time. Agricultural land is rated according to soil quality and irrigation status. The best quality land is identified as Prime Farmland. In CEQA analyses, the FMMP classifications and published county maps are used, in part, to identify whether agricultural resources that could be affected are present on-site or in the project area.<sup>7</sup>

#### California Land Conservation Act

The California Land Conservation Act (Williamson Act) enables local governments to enter into contracts with private landowners to restrict parcels of land to agricultural or related open space uses. In return, landowners receive lower property tax assessments. In CEQA analyses, identification of properties that are under a Williamson Act contract is used to also identify sites that may contain agricultural resources or are zoned for agricultural uses.<sup>8</sup>

#### Fire and Resource Assessment Program

- The California Department of Forestry and Fire Protection (CAL FIRE) identifies forest land, timberland, and lands zoned for timberland production that can (or do) support forestry resources.<sup>9</sup> Programs such as CAL FIRE's Fire and Resource Assessment Program and are used to identify whether forest land, timberland, or timberland production areas that could be affected are located on 3.2.1.0R adjacent to a project site.<sup>10</sup>

#### *Existing Conditions*

According to Santa Clara County Office of the Assessor, the site is not subject to a Williamson Act contract.<sup>11</sup> According to the Santa Clara County Important Farmlands 2018 Map, the project site and

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<sup>7</sup> California Department of Conservation. "Farmland Mapping and Monitoring Program." Accessed March 10, 2022. <http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx>.

<sup>8</sup> California Department of Conservation. "Williamson Act." <http://www.conservation.ca.gov/dlrp/lca>.

<sup>9</sup> Forest Land is land that can support 10 percent native tree cover and allows for management of forest resources (California Public Resources Code Section 12220(g)); Timberland is land not owned by the federal government or designated as experimental forest land that is available for, and capable of, growing trees to produce lumber and other products, including Christmas trees (California Public Resources Code Section 4526); and Timberland Production is land used for growing and harvesting timber and compatible uses (Government Code Section 51104(g)).

<sup>10</sup> California Department of Forestry and Fire Protection. "Fire and Resource Assessment Program." Accessed March 10, 2022. <http://frap.fire.ca.gov/>.

<sup>11</sup> Agricultural lands in California can be protected from development and reserved for agricultural purposes or open-space conservation under the California Land Conservation Act, commonly known as the Williamson Act.



recycled water line extension alignment are designated as *Urban and Built-Up Land*.<sup>12</sup> *Urban and Built-Up Land* is defined as land with at least six structures per ten acres and utilized for residential, institutional, industrial, commercial, landfill, golf course, and other urban-related purposes.

The project site and surrounding properties are designated for and developed (or planned to be developed) with urban uses. The project site is currently developed with an industrial/office building. There are no agricultural or forest lands in the vicinity of the project site.

### 3.2.2 **Impact Discussion**

For the purpose of determining the significance of the project's impact on agriculture and forestry resources, would the project:

- 1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
- 2) Conflict with existing zoning for agricultural use, or a Williamson Act contract?
- 3) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?
- 4) Result in a loss of forest land or conversion of forest land to non-forest use?
- 5) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Note: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

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<sup>12</sup> California Department of Conservation. *Santa Clara County Important Farmland 2018 Map*. <https://maps.conservation.ca.gov/DLRP/CIFF/>. Accessed March 22, 2022.

## ***Project Impacts***

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**Impact AG-1:** The project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use. **(No Impact)**

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3.2.2.1

According to the Santa Clara County Important Farmland 2018 Map, the project site and recycled water line extension alignment are designated as *Urban and Built-Up Land*. The project, therefore, would not convert farmland to non-agricultural use. **(No Impact)**

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**Impact AG-2:** The project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. **(No Impact)**

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The site is currently zoned Light Industrial. As discussed in Section 3.11, the project has concurrently requested a zoning modification to allow for a height increase of up to 25 percent with the City Zoning Administrator. According to Santa Clara County Office of the Assessor, the site is not subject to a Williamson Act contract. The project, therefore, would not conflict with existing zoning for agricultural use, or a Williamson Act contract. **(No Impact)**

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**Impact AG-3:** The project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. **(No Impact)**

---

The site is currently zoned Light Industrial. As discussed in Section 3.11, the project has concurrently requested a zoning modification to allow for a height increase of up to 25 percent with the City Zoning Administrator. The project, therefore, would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. **(No Impact)**

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**Impact AG-4:** The project would not result in a loss of forest land or conversion of forest land to non-forest use. **(No Impact)**

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No forest land is located on or adjacent to the site. The project, therefore, would not result in a loss of forest land or conversion of forest land to non-forest use. **(No Impact)**

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**Impact AG-5:** The project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use. **(No Impact)**

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As described above, no farmland or forest land is located on or near the site. The project, therefore, would not involve other changes in the existing environment which could result in conversion of farmland, to non-agricultural use or conversion of forest land to non-forest use. **(No Impact)**

### *Cumulative Impacts*

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**Impact AG-C:** The project would not result in a cumulatively considerable contribution to a cumulatively significant agricultural and forestry resources impact. **(No Cumulative Impact)**

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#### 3.2.2.2

The geographic area for cumulative agricultural and forestry resource impacts is the County of Santa Clara. The project would have no impact on agricultural and forestry resources and, therefore, the project has no potential to combine with other projects to result in cumulative impacts to these resources. **(No Cumulative Impact)**

### 3.3 AIR QUALITY

This section presents the evaluation of emissions and impacts resulting from the construction and operation of Bowers Backup Generating Facility (BBGF) which supports the Bowers Data Center (BDC), as well as the proposed mitigation to be used to minimize emissions and limit impacts to below established significance thresholds. This section is based upon an analysis prepared by Atmospheric Dynamics, Inc. in accordance with the California Energy Commission (CEC) application requirements for a Small Power Plant Exemption (SPPE) pursuant to the power plant siting regulations, and the rules and regulations of the Bay Area Air Quality Management District (BAAQMD or District). This analysis is but one part of a larger analysis, which seeks an SPPE Decision from the CEC and an Authority to Construct from the BAAQMD.

The following Appendices contain support data for the Air Quality and Public Health analyses.

Appendix AQ 1 – Engine Emissions Data for Criteria and Toxic Pollutants

Appendix AQ 2 – Engine Specification Brochures and Certification Information

Appendix AQ 3 – Modeling Support Data

Appendix AQ 4 – CalEEMod files for Construction and Miscellaneous Operational Emissions

Appendix AQ 5 – Risk Assessment Support Data

#### 3.3.1 Environmental Setting

Air quality in the San Francisco Bay Area Air Basin (SFBAAB) is typically better than most other areas of the state, due to its proximity to the Pacific Ocean and the weather patterns that dominate the region. The summer climate of the west coast and the Bay Area region is dominated by a semi-permanent high centered over the northeastern Pacific Ocean. Because this high-pressure cell is quite persistent, storms rarely affect the California coast during the summer. Thus, the conditions that persist along the coast of California during summer are a northwest air flow and negligible precipitation. A thermal low-pressure area from the Sonoran-Mojave Desert also causes air to flow onshore over the San Francisco Bay Area much of the summer.

The steady northwesterly flow around the eastern edge of the Pacific high-pressure cell exerts a stress on the ocean surface along the west coast. This induces upwelling of cold water from below. Upwelling produces a band of cold water that is approximately 80 miles wide off San Francisco.

Air approaching the California coast, already cool and moisture-laden from its long trajectory over the Pacific, is further cooled as it flows across this cold bank of water near the coast, thus accentuating the temperature contrast across the coastline. This cooling is often sufficient to produce a high incidence of fog and stratus clouds along the Northern California coast in summer.

In winter, the Pacific High weakens and shifts southward, upwelling ceases, and winter storms become frequent. Almost all of the Bay Area's annual precipitation takes place in the November through April period. During the winter rainy periods, inversions are weak or nonexistent, winds are often moderate and air pollution potential is very low. During winter periods when the Pacific high becomes dominant, inversions become strong and often are surface based; winds are light and pollution potential is high. These periods are characterized by winds that flow out of the Central Valley into the Bay Area and often include Tule fog.

Air quality is determined by measuring ambient concentrations of criteria pollutants at various locations through a defined region. Degradation, or lack thereof, of air quality is determined by comparing past air concentrations to the current ambient air quality standards and establishing trends for the area in question. Toxic air contaminants (TACs) have no ambient air quality standards, and a health risk assessment (HRA) is typically conducted to evaluate whether risks of exposure to TACs will create an adverse impact.

### ***Existing Air Quality***

3.3.1 In 1970, the United States Congress instructed the US EPA to establish standards for air pollutants, which were of nationwide concern. This directive resulted from the concern of the effects of air pollutants on the health and welfare of the public. The resulting Clean Air Act (CAA) set forth air quality standards to protect the health and welfare of the public. Two levels of standards were promulgated – primary standards and secondary standards. Primary national ambient air quality standards (NAAQS) are “those which, in the judgment of the administrator [of the US EPA], based on air quality criteria and allowing an adequate margin of safety, are requisite to protect the public health (state of general health of community or population).” The secondary NAAQS are “those which in the judgment of the administrator [of the US EPA], based on air quality criteria, are requisite to protect the public welfare and ecosystems associated with the presence of air pollutants in the ambient air.” To date, NAAQS have been established for seven criteria pollutants as follows: sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), ozone (O<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>), sub 10-micron particulate matter (PM<sub>10</sub>), sub 2.5-micron particulate matter (PM<sub>2.5</sub>), and lead (Pb).

The criteria pollutants are those that have been demonstrated historically to be widespread and have a potential for adverse health impacts. US EPA developed comprehensive documents detailing the basis of, or criteria for, the standards that limit the ambient concentrations of these pollutants. The State of California has also established ambient air quality standards (AAQS) that further limit the allowable concentrations of certain criteria pollutants. Review of the established air quality standards are undertaken by both US EPA and the State of California on a periodic basis. As a result of the periodic reviews, the standards have been updated, i.e., amended, additions, and deletions, over the ensuing years to the present.

Each federal or state ambient air quality standard is comprised of two basic elements: (1) a numerical limit expressed as an allowable concentration, and (2) an averaging time which specifies the period over which the concentration value is to be measured. Table 3.3-1 presents the current federal and state ambient quality standards.

**Table 3.3-1: California and National Ambient Air Quality Standards**

| Pollutant                                          | Averaging Time          | California Standards Concentration  | National Standards Concentration        |
|----------------------------------------------------|-------------------------|-------------------------------------|-----------------------------------------|
| Ozone                                              | 1 hour                  | 0.09 ppm (180 µg/m <sup>3</sup> )   | -                                       |
|                                                    | 8 hours                 | 0.070 ppm (137 µg/m <sup>3</sup> )  | 0.070 ppm (137 µg/m <sup>3</sup> )      |
| Carbon monoxide (CO)                               | 8 hours                 | 9.0 ppm (10,000 µg/m <sup>3</sup> ) | 9 ppm (10,000 ug/m <sup>3</sup> )       |
|                                                    | 1 hour                  | 20 ppm (23,000 µg/m <sup>3</sup> )  | 35 ppm (40,000 ug/m <sup>3</sup> )      |
| Nitrogen dioxide (NO <sub>2</sub> )                | Annual Arithmetic Mean  | 0.030 ppm (57 µg/m <sup>3</sup> )   | 0.053 ppm (100 µg/m <sup>3</sup> )      |
|                                                    | 1 hour                  | 0.18 ppm (339 µg/m <sup>3</sup> )   | 100 ppb (188 µg/m <sup>3</sup> )        |
| Sulfur dioxide (SO <sub>2</sub> )                  | Annual Arithmetic Mean  | -                                   | 0.030 ppm (80 µg/m <sup>3</sup> )       |
|                                                    | 24 hours                | 0.04 ppm (105 µg/m <sup>3</sup> )   | 0.14 ppm (365 µg/m <sup>3</sup> )       |
|                                                    | 3 hours                 | -                                   | 0.5 ppm (1300 µg/m <sup>3</sup> )       |
|                                                    | 1 hour                  | 0.25 ppm (655 µg/m <sup>3</sup> )   | 75 ppb (196 µg/m <sup>3</sup> )         |
| Suspended particulate matter or PM10 (10 micron)   | 24 hours                | 50 µg/m <sup>3</sup>                | 150 µg/m <sup>3</sup>                   |
|                                                    | Annual Arithmetic Mean  | 20 µg/m <sup>3</sup>                | -                                       |
| Suspended particulate matter or PM2.5 (2.5 micron) | Annual Arithmetic Mean  | 12 µg/m <sup>3</sup>                | 12.0 µg/m <sup>3</sup> (3-year average) |
|                                                    | 24 hours                | -                                   | 35 µg/m <sup>3</sup>                    |
| Sulfates                                           | 24 hours                | 25 µg/m <sup>3</sup>                | -                                       |
| Lead (Pb)                                          | 30 days                 | 1.5 µg/m <sup>3</sup>               | -                                       |
|                                                    | Calendar Quarter        | -                                   | 1.5 µg/m <sup>3</sup>                   |
|                                                    | Rolling 3-month Average | -                                   | 0.15 µg/m <sup>3</sup>                  |

ppm = parts per million, ppb=parts per billion, µg/m<sup>3</sup> = micrograms per cubic meter (CARB 2016)

Brief descriptions of health effects for the main criteria pollutants are as follows.

### Ozone

Ozone is a reactive pollutant, which is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving precursor organic compounds (POC) and oxides of nitrogen (NO<sub>x</sub>). POC and NO<sub>x</sub> are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours. Ozone is a regional air pollutant because it is not emitted directly by sources but is formed downwind of sources of POC and NO<sub>x</sub> under the influence of wind and sunlight. Short-term exposure to ozone can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

### Carbon Monoxide

Carbon monoxide is a non-reactive pollutant that is a product of incomplete combustion. Ambient carbon monoxide concentrations generally follow the spatial and temporal distributions of vehicular traffic and are also influenced by meteorological factors such as wind speed and atmospheric mixing. Under inversion conditions, carbon monoxide concentrations may be distributed more uniformly over an area out to some distance from vehicular sources. When inhaled at high concentrations, carbon monoxide combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease or anemia, as well as fetuses.

### **Particulate Matter (PM10 and PM2.5)**

PM10 consists of particulate matter that is 10 microns or less in diameter (a micron is one- millionth of a meter), and fine particulate matter, PM2.5, which consists of particulate matter 2.5 microns or less in diameter. Both PM10 and PM2.5 represent fractions of particulate matter, which can be inhaled into the air passages and the lungs and can cause adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, combustion, and atmospheric photochemical reactions. Some of these operations, such as demolition and construction activities, contribute to increases in local PM10 and PM2.5 concentrations, while others, such as stationary source emissions, vehicular traffic, etc. affect regional PM10 and PM2.5 concentrations.

### **Nitrogen Dioxide and Sulfur Dioxide**

Nitrogen dioxide (NO<sub>2</sub>) and sulfur dioxide (SO<sub>2</sub>) are two gaseous compounds within a larger group of compounds, NO<sub>x</sub> and sulfur oxides (SO<sub>x</sub>), respectively, which are products of the combustion of fuel. NO<sub>x</sub> and SO<sub>x</sub> emission sources can elevate local NO<sub>2</sub> and SO<sub>2</sub> concentrations, and both are regional precursor compounds to particulate matter. As described above, NO<sub>x</sub> is also an ozone precursor compound and can affect regional visibility. (Nitrogen dioxide is the “whiskey brown” colored gas readily visible during periods of heavy air pollution.) Elevated concentrations of these compounds are associated with increased risk of acute and chronic respiratory disease. Additionally, sulfur dioxide and nitrogen oxides emissions can be oxidized in the atmosphere to eventually form sulfates and nitrates, which contribute to acid rain.

### **Lead**

Gasoline-powered automobile engines used to be the major source of airborne lead in urban areas. Excessive exposure to lead concentrations can result in gastrointestinal disturbances, anemia, kidney disease, and in severe cases of neuromuscular and neurological dysfunction. The use of lead additives in motor vehicle fuel has been eliminated in California, and lead concentrations have declined substantially as a result.

### **Hydrogen Sulfide**

Hydrogen sulfide (H<sub>2</sub>S) is a naturally occurring gas contained, as a for-instance, in geothermal steam from the Geysers. H<sub>2</sub>S has a “rotten egg” odor at concentration levels as low as 0.005 parts per million (ppm). The state 1-hour standard of 0.03 ppm is set to reduce the potential for substantial odor complaints. At concentrations of approximately 10 ppm, exposure to H<sub>2</sub>S can lead to health effects such as eye irritation.



## **Toxic/Hazardous Air Contaminants**

“Toxic air contaminants” (TACs) are air pollutants that are believed to have carcinogenic or adverse non-carcinogenic effects but do not have a corresponding ambient air quality standard. There are hundreds of different types of toxic air contaminants, with varying degrees of toxicity. Sources of toxic air contaminants include industrial processes such as petroleum refining, electric utility and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust.

Toxic air contaminants are regulated under both state and federal laws. Federal laws use the term “Hazardous Air Pollutants” (HAPs) to refer to the same types of compounds referred to as TACs under state law. Both terms generally encompass the same compounds. For the sake of consistency, this analysis will use TACs when referring to these compounds rather than HAPs. Under the Clean Air Act Amendments of 1990, approximately 190 substances are designated as TACs. Appendix AQ1 presents the annual emissions of the TACs in Table AQ1-1 and AQ1-2. Tables in the emissions section below present the emissions from the diesel engines at the BBGF facility. TAC emissions are well below the major source thresholds; therefore, the facility is not a major source subject to MACT.

**Attainment Status.** The EPA designates the attainment status of regional areas with respect to federal air quality standards, while the CARB designates the attainment status of regional areas of California with respect to state air quality standards. Local air districts in California play a vital role in such designations at both levels. These classifications depend on whether the monitored ambient air quality data shows compliance, or non-compliance with the ambient air quality standards, respectively. The BBGF and BDC site is located within Santa Clara County, under the jurisdiction of the BAAQMD. Table 3.3-2 summarizes the attainment status for each of the criteria pollutants in the BAAQMD with regards to both the federal and state standards.

**Table 3.3-2: Attainment Status for the San Francisco Bay Area Air Basin**

| Pollutant                    | Averaging Time                                     | Federal Designation                                  | State Designation                  |
|------------------------------|----------------------------------------------------|------------------------------------------------------|------------------------------------|
| Ozone                        | 1 Hour<br>8 Hour                                   | Marginal Non-Attainment<br>Non-Attainment            | Non-Attainment<br>Non-Attainment   |
| CO                           | 1 Hour<br>8 Hour                                   | Maintenance<br>Maintenance                           | Attainment<br>Attainment           |
| NO <sub>2</sub>              | 1 Hour<br>Annual AM                                | Attainment<br>Attainment                             | Attainment<br>Attainment           |
| SO <sub>2</sub>              | 1 Hour<br>3 Hour<br>24 Hour<br>Annual AM           | Attainment<br>Attainment<br>Attainment<br>Attainment | Attainment<br>Attainment<br>-<br>- |
| PM <sub>10</sub>             | 24 Hour<br>Annual AM                               | Attainment<br>-                                      | Non-Attainment<br>Non-Attainment   |
| PM <sub>2.5</sub>            | 24 Hour<br>Annual AM                               | Attainment<br>Attainment                             | -<br>Non-Attainment                |
| Lead                         | 30-day Avg<br>Calendar Qtr.<br>Rolling 3 Month Avg | Attainment<br>Attainment<br>-                        | Attainment<br>-<br>-               |
| Visibility Reducing PM (VRP) | 8 Hour                                             | -                                                    | Unclassified                       |
| Sulfates                     | 24 Hour                                            | -                                                    | Attainment                         |
| H <sub>2</sub> S             | 1 Hour                                             | -                                                    | Unclassified                       |
| Vinyl Chloride               | 24 Hour                                            | -                                                    | No info                            |

Source: BAAQMD website, 2021, (BAAQMD, 2017a) and CARB Attainment maps.

The BBGF is not expected to emit lead, visibility reducing particulate (VRP), sulfates, hydrogen sulfide, or vinyl chloride. Therefore, these pollutants are not analyzed further in this report.

**Existing Conditions.** The existing air quality conditions in the project area are summarized in Tables 3.3-3 and 3.3-4, which provide the background ambient air concentrations of criteria pollutants for the previous three (3) years as measured at certified monitoring stations near the project site. To evaluate the potential for air quality degradation as a result of the project, modeled project air concentrations are combined with the respective background concentrations as presented in Table 3.3-4 and used for comparison to the NAAQS and CAAQS.

**Table 3.3-3: Measured Ambient Air Quality Concentrations by Year**

| Pollutant                                                                                                                                                                                                                                                     | Units             | AvgTime | Basis of Yearly/Design Concentrations                 | 2019  | 2020  | 2021  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------|-------------------------------------------------------|-------|-------|-------|
| Ozone                                                                                                                                                                                                                                                         | ppb               | 1-Hr    | CAAQS-1 <sup>st</sup> Highs/3-yr Max                  | 0.095 | 0.106 | 0.098 |
| Ozone                                                                                                                                                                                                                                                         | ppb               | 8-Hr    | CAAQS-1st Highs/3-yr Max                              | 0.081 | 0.085 | 0.084 |
| Ozone                                                                                                                                                                                                                                                         | ppb               | 8-Hr    | NAAQS-4 <sup>th</sup> Highs/3-yr Avg                  | 0.06  | 0.068 | 0.072 |
| NO <sub>2</sub>                                                                                                                                                                                                                                               | ppb               | 1-Hr    | CAAQS-1 <sup>st</sup> Highs/3-yr Max                  | 60    | 52    | 47    |
| NO <sub>2</sub>                                                                                                                                                                                                                                               | ppb               | 1-Hr    | NAAQS-98 <sup>th</sup> %s/3-yr Avg                    | 52    | 45    | 39    |
| NO <sub>2</sub>                                                                                                                                                                                                                                               | ppb               | Annual  | CAAQS/NAAQS-AAM/3-yr Max                              | 10.63 | 9.65  | 8.73  |
| CO                                                                                                                                                                                                                                                            | ppm               | 1-Hr    | CAAQS-1 <sup>st</sup> Highs/3-yr Max                  | 1.7   | 1.8   | 1.7   |
|                                                                                                                                                                                                                                                               |                   |         | NAAQS-2 <sup>nd</sup> Highs/3-yr Max                  | 1.6   | 1.8   | 1.6   |
| CO                                                                                                                                                                                                                                                            | ppm               | 8-Hr    | CAAQS-1 <sup>st</sup> Highs/3-yr Max                  | 1.3   | 1.5   | 1.5   |
|                                                                                                                                                                                                                                                               |                   |         | NAAQS-2 <sup>nd</sup> Highs/3-yr Max                  | 1.3   | 1.5   | 1.3   |
| SO <sub>2</sub>                                                                                                                                                                                                                                               | ppb               | 1-Hr    | CAAQS-1 <sup>st</sup> Highs/3-yr Max                  | 14.5  | 2.9   | 1.8   |
|                                                                                                                                                                                                                                                               |                   |         | NAAQS-99 <sup>th</sup> %s/3-yr Avg                    | 2     | 2     | 2     |
|                                                                                                                                                                                                                                                               |                   | 24-Hr   | CAAQS-1 <sup>st</sup> Highs/3-yr Max                  | 1.5   | 0.8   | 0.7   |
|                                                                                                                                                                                                                                                               |                   |         | NAAQS-2 <sup>nd</sup> Highs/3-yr Max                  | 0.6   | 0.8   | 0.5   |
|                                                                                                                                                                                                                                                               |                   | Annual  | CAAQS/NAAQS-AAM/3-yr Max                              | 0.14  | 0.17  | 0.17  |
| PM10                                                                                                                                                                                                                                                          | µg/m <sup>3</sup> | 24-Hr   | CAAQS-1 <sup>st</sup> Highs/3-yr Max                  | 75    | 134   | 41    |
|                                                                                                                                                                                                                                                               |                   |         | NAAQS-2 <sup>nd</sup> Highs/3-yr 4 <sup>th</sup> High | 74.8  | 52.2  | 58    |
|                                                                                                                                                                                                                                                               |                   | Annual  | CAAQS-AAM/3-yr Max                                    | 19.1  | 24.8  | nd    |
| PM2.5                                                                                                                                                                                                                                                         | µg/m <sup>3</sup> | 24-Hr   | NAAQS-98 <sup>th</sup> %/3-yr Avg                     | 21    | 56    | 23    |
|                                                                                                                                                                                                                                                               |                   | Annual  | CAAQS –AAM/3-yr Max                                   | 9.1   | 11.5  | 8.9   |
|                                                                                                                                                                                                                                                               |                   |         | NAAQS-AAM/3-yr Avg                                    | 9.1   | 11.5  | 8.9   |
| Notes: Values for 158 East Jackson Street, San José, CA, the nearest BAAQMD monitoring site (all applicable pollutants measured)<br>Data sources:<br>USEPA AIRS website for NAAQS<br>CARB ADAM for SAAQS (no data was available for 2021. EPA data was used.) |                   |         |                                                       |       |       |       |

**Table 3.3-4: Background Air Quality Data Summary**

| Pollutant and Averaging Time                                                                                                 | Background Value (µg/m <sup>3</sup> ) |
|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| Ozone – 1-hour Maximum CAAQS                                                                                                 | 208.1                                 |
| Ozone – 8-hour Maximum CAAQS/<br>3-year average 4 <sup>th</sup> High NAAQS                                                   | 166.9/130.9                           |
| PM10 – 24-hour Maximum CAAQS/<br>24-hour 3-year 4 <sup>th</sup> High NAAQS                                                   | 134/74.8                              |
| PM10 – Annual Maximum CAAQS                                                                                                  | nd                                    |
| PM2.5 – 3-Year Average of Annual<br>24-hour 98 <sup>th</sup> Percentiles NAAQS                                               | 33.3                                  |
| PM2.5 – Annual Maximum CAAQS/<br>3-Year Average of Annual Values NAAQS                                                       | 120.5/9.8                             |
| CO – 1-hour Maximum CAAQS/<br>1-hour High, 2 <sup>nd</sup> High NAAQS                                                        | 2061/2061                             |
| CO – 8-hour Maximum CAAQS/<br>8-hour High, 2 <sup>nd</sup> High NAAQS                                                        | 1680/1680                             |
| NO <sub>2</sub> – 1-hour Maximum CAAQS/<br>3-Year Average of Annual 98 <sup>th</sup> Percentile<br>1-hour Daily Maxima NAAQS | 112.9/85.3                            |

| Pollutant and Averaging Time                                                                                                                                                                                                                                                                                                                                                                    | Background Value ( $\mu\text{g}/\text{m}^3$ ) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| NO <sub>2</sub> – Annual Maximum CAAQS/NAAQS                                                                                                                                                                                                                                                                                                                                                    | 20                                            |
| SO <sub>2</sub> – 1-hour Maximum CAAQS/<br>3-Year Average of Annual 99 <sup>th</sup> Percentile<br>1-hour Daily Maxima NAAQS                                                                                                                                                                                                                                                                    | 38/5.2                                        |
| SO <sub>2</sub> – 3-hour Maximum NAAQS<br>(Not Available - Used 1-hour Maxima)                                                                                                                                                                                                                                                                                                                  | 38                                            |
| SO <sub>2</sub> – 24-hour Maximum CAAQS<br>24-hour High, 2 <sup>nd</sup> High NAAQS                                                                                                                                                                                                                                                                                                             | 3.9//2.1                                      |
| SO <sub>2</sub> – Annual Maximum NAAQS                                                                                                                                                                                                                                                                                                                                                          | 0.44                                          |
| Values for 158 East Jackson Street, San José, CA, the nearest BAAQMD monitoring site (all applicable pollutants measured)<br>Conversion of ppm/ppb measurements to $\mu\text{g}/\text{m}^3$ concentrations based on:<br>$\mu\text{g}/\text{m}^3 = \text{ppm} \times 40.9 \times \text{MW}$ , where MW = 48, 28, 46, and 64 for ozone, CO, NO <sub>2</sub> , and SO <sub>2</sub> , respectively. |                                               |

### ***Regulatory Background***

3.3.1.2 Federal, state, and regional agencies regulate air quality within the BAAQMD, where the project site is located.

**Federal.** At the federal level, EPA is responsible for overseeing implementation of the federal Clean Air Act and its subsequent amendments (CAA). As required by the federal CAA, NAAQS have been established for the criteria pollutants described above.

#### ***New Source Performance Standards***

The BBGF will be subject to the applicable New Source Performance Standards (NSPS) standards that are identified below. A description of the applicant's compliance plan to meet each standard is included.

#### ***40 CFR Part 60, Subpart IIII***

Standards of Performance for Stationary Compression Ignition Internal Combustion Engines became effective July 11, 2006. The diesel engines are subject to Subpart IIII. The proposed engines are EPA Tier 4 rated and will comply with these regulations.

#### ***Compression Ignition (CI) Diesel Engines Emission Standards***

Based on 40 CFR 60.4202, emergency CI engines rated at > 560 kW are subject to the emissions standards in 40 CFR 89.112, Table 1, as follows:

- Tier 4 – NO<sub>x</sub>                      0.67 g/kw-hr = 0.5 g/bhp-hr
- Tier 4 – NMHC                  0.188 g/kw-hr = 0.14 g/bhp-hr
- Tier 4 – CO                      3.5 g/kw-hr = 2.6 g/bhp-hr
- Tier 4 – PM                      0.027 g/kw-hr = 0.02 g/bhp-hr

The proposed diesel-fired engines are EPA Tier 4 rated and will satisfy these requirements based upon data supplied by the manufacturer as certified by EPA. In addition, the proposed engines will utilize add-on controls for NO<sub>x</sub>, CO, and VOC, and a diesel particulate filter which will reduce the PM emissions to less than or equal to 0.015 g/bhp-hr.

#### **40 CFR Part 60 Subpart ZZZZ**

The proposed CI engines are exempt from the requirements of Subpart ZZZZ (63.6590 (c)(1)) if the engines comply with the emissions limitations specified in 40 CFR 60 Subpart IIII. See discussion above.

#### **BAAQMD Air Quality Standards and Regulations**

The section briefly describes the regulations which would apply to the BBGF as set forth in the BAAQMD Rules and Regulations.

#### **Regulation 2 Rule 2 – New Source Review (NSR)**

This rule applies to all new or modified sources requiring a Permit to Operate for any new source with actual or potential emissions above the rule trigger limit. The rule also specifies when BACT is required, when offsets are required and the offset ratios, as well the requirements for the required impact analyses, etc.

#### ***BACT Requirements***

A review of BACT for CI-Stationary Emergency Standby engines rated at greater than 50 BHP (BAAQMD Document 96.1.3, Revision 7, 12/22/2010) indicates that BACT for the proposed engines would be as follows:

- PM 0.15 g/bhp-hr
- NMHC+NO<sub>x</sub> 4.8 g/bhp-hr
- CO 2.6 g/bhp-hr
- SO<sub>2</sub> fuel sulfur content not to exceed 15 ppmw

Pursuant to the BAAQMD Policy on emergency engines rated at  $\geq 1000$  bhp, the proposed engines will be EPA Tier 4 rated and equipped with add-on control systems for NO<sub>x</sub>, CO, VOC, and PM<sub>10</sub>. CARB ultra-low sulfur diesel fuel will also be used. The use of diesel particulate filters on the engines will reduce the PM emissions to less than or equal to 0.015 g/bhp-hr. The engines as proposed will therefore meet the BAAQMD BACT requirements.

#### ***NSR Offset Requirements***

Required emissions offsets as identified in this application will be obtained in compliance with the Regulation 2 Rule 2 NSR rule provisions in Section 302. These provisions are discussed as follows:

- Pursuant to the BAAQMD NSR Rule (Regulation 2 Rule 2), section 2-2-302, offsets must be provided for NO<sub>x</sub> or POC (VOC is used in this application), for any source with potential emissions greater than 10 tons/yr. For sources which emit NO<sub>x</sub> or VOC in excess of 10 tpy but less than 35 tpy, these offsets can be provided by either of the two methods outlined in subsections 302.1.1 or 302.1.2 as follows; (1) the APCO must provide the required offsets from the Small Facility Bank Account, or (2) if the Small Facility Bank Account is exhausted then it is the responsibility of the Applicant to provide the required offsets to mitigate the proposed emissions net increase. VOC emissions from the proposed facility are

less than 10 tpy, so VOC offsets are not required under the District NSR rule. NO<sub>x</sub> emissions are greater than 35 tpy, and as such, the applicant must secure NO<sub>x</sub> offsets at a ratio of 1.15:1 for any un-offset cumulative increase in emissions. The NO<sub>x</sub> offsets cannot be acquired from the Small Facility Offset Bank.

- Offset mitigation for PM<sub>10</sub>, PM<sub>2.5</sub>, and sulfur dioxide emissions is addressed in Section 2-2-303. This section specifies that offsets are only required if the source has the potential to emit any of these pollutants in excess of 100 tons per year. The Applicant notes that the worst case PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub> emissions from the BBGF are 0.161, 0.161, and 0.05 tons per year respectively. The Applicant believes that mitigation for emissions at these low emissions levels is not warranted, and such mitigation is not required under Regulation 2 Rule 2.

#### Regulation 9 Rule 8 – NO<sub>x</sub> and CO from Stationary Internal Combustion Engines

- Section 9-8-304 requires that emergency CI engines rated at greater than 175 bhp meet the following limits (at 15% O<sub>2</sub> dry basis): NO<sub>x</sub> 110 ppm and CO 310 ppm. But Section 9-8-110.5 exempts “emergency standby engines” from this requirement.
- Section 9-8-330 requires that the affected engine be limited to non-emergency operations of less than or equal to 50 hours per year.
- Section 9-8-530 requires that each engine be equipped with a non-resettable totalizing meter, and the following must be logged and reported to the AQMD:
  - a. Total hours run each year
  - b. Total hours of emergency operation per year
  - c. Specify the nature of each emergency operation

The proposed engine models will comply with the above requirements.

#### BAAQMD Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants

This rule provides for the review of new and modified sources of TAC emissions to evaluate potential public exposure and health risk. The rule also specifies when toxics-BACT is required, trigger limits for further analysis based on substance specific emissions levels (both short and long term), risk assessment procedures, etc.

**State.** CARB is the state agency that retains authority to regulate mobile sources throughout the state and oversees implementation of the state air quality laws and regulations, including the California Clean Air Act. The CARB also establishes and revises the CAAQS.

TACs are primarily regulated through state and local risk management programs, which are designed to eliminate, avoid, or minimize the risk of adverse health effects from exposures to TACs. In the BAAQMD, the two most prominent TAC regulatory programs are the Toxics New Source Review (Regulation 2, Rule 5) rules and the AB2588 Air Toxics Hot Spots Program.

**Regional.** The BAAQMD is the primary regional agency responsible for attaining and maintaining air quality conditions in the SFBAAB through a comprehensive program of planning, regulation, and enforcement. Examples of the BAAQMD’s primary air plans and regulations are described below.

**BAAQMD Clean Air Plan.** The 2017 Bay Area Clean Air Plan was adopted by the BAAQMD on April 19, 2017, and provides a regional strategy to protect public health and protect the climate. The 2017 Bay Area Clean Air Plan updates the most recent Bay Area ozone plan, the 2010 Clean Air Plan, and is a multi-pollutant air quality plan addressing four categories of air pollutants (BAAQMD, 2017b):

- 1) ozone and the primary ozone precursor pollutants (VOCs and NO<sub>x</sub>)
- 2) Particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), as well as their precursors
- 3) TACs/HAPs
- 4) Greenhouse gases

### 3.3.2 **Impact Discussion**

The following presents the impact determinations for the general CEQA areas related to air quality and public health. Each of these general determinations are discussed in greater detail in the analysis which follows.

1. Conflict with or obstruct implementation of the applicable air quality plan?
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?
3. Expose sensitive receptors to substantial pollutant concentrations?
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Note to reader: Where the following analysis applies to both the BBGF and the BDC, the word “project” is used to collectively refer to both facilities. Where impacts associated with each facility differ, they are referred to individually as the “BBGF” or the “BDC”.

3.3.2.1

#### ***Significance Criteria***

The project analysis is based upon the general methodologies in the most recent BAAQMD CEQA Guidelines (BAAQMD,2017c) and significance thresholds for the SFBAAB, including the criteria pollutant thresholds listed in Table 3.3-5.

**Table 3.3-5: BAAQMD CEQA Thresholds of Significance**

| Pollutant                      | Construction Thresholds           | Operational Thresholds            |                                      |
|--------------------------------|-----------------------------------|-----------------------------------|--------------------------------------|
|                                | Average Daily Emissions (lbs/day) | Average Daily Emissions (lbs/day) | Annual Average Emissions (tons/year) |
| <b>Criteria Air Pollutants</b> |                                   |                                   |                                      |
| ROG                            | 54                                | 54                                | 10                                   |
| NO <sub>x</sub>                | 54                                | 54                                | 10                                   |
| PM <sub>10</sub>               | 82 (exhaust)                      | 82                                | 15                                   |
| PM <sub>2.5</sub>              | 54 (exhaust)                      | 54                                | 10                                   |

| Pollutant                                                                                                                                                    | Construction Thresholds                                        | Operational Thresholds                                |                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------|--------------------------------------|
|                                                                                                                                                              | Average Daily Emissions (lbs/day)                              | Average Daily Emissions (lbs/day)                     | Annual Average Emissions (tons/year) |
| CO                                                                                                                                                           | None                                                           | 9.0 ppm (8-hour average) or 20.0 ppm (1-hour average) |                                      |
| Fugitive Dust                                                                                                                                                | Construction Dust Ordinance or other Best Management Practices | Not Applicable                                        |                                      |
| Health Risks and Hazards for New Sources                                                                                                                     |                                                                |                                                       |                                      |
| Excess Cancer Risk                                                                                                                                           | 10 per one million                                             | 10 per one million                                    |                                      |
| Chronic or Acute Hazard Index                                                                                                                                | 1.0                                                            | 1.0                                                   |                                      |
| Incremental annual average PM <sub>2.5</sub>                                                                                                                 | 0.3 µg/m <sup>3</sup>                                          | 0.3 µg/m <sup>3</sup>                                 |                                      |
| GHGs – Stationary Source Projects                                                                                                                            |                                                                |                                                       |                                      |
| CO <sub>2</sub> e                                                                                                                                            | None                                                           | 10,000 MT/yr (11,023 short tons)                      |                                      |
| Health Risks and Hazards for Sensitive Receptors (Cumulative from All Sources within 1,000-Foot Zone of Influence) and Cumulative Thresholds for New Sources |                                                                |                                                       |                                      |
| Excess Cancer Risk                                                                                                                                           | 100 per 1 million                                              |                                                       |                                      |
| Chronic Hazard Index                                                                                                                                         | 10.0                                                           |                                                       |                                      |
| Annual Average PM <sub>2.5</sub>                                                                                                                             | 0.8 µg/m <sup>3</sup>                                          |                                                       |                                      |

Source: BAAQMD CEQA Guidelines, May 2017.

### 3.3.2.2

#### ***Impact Summary***

The conclusions of the air quality analysis are summarized below as responses to CEQA checklist questions. A full discussion of the air quality analysis underlying these conclusions is presented in the following section.

---

**Impact AIR-1:** The project would not conflict with or obstruct implementation of the applicable air quality plan. **(Less than Significant Impact)**

---

The BBGF and the BDC project would not conflict with or obstruct the implementation of the applicable air quality plan due to the following:

- The BBGF will comply with all applicable rules and regulations of the BAAQMD regarding emissions of criteria pollutants.
- The BBGF will comply with all applicable rules and regulations of the BAAQMD regarding emissions of toxic pollutants.
- The proposed engines at the BBGF will comply with the applicable federal Tier 4 emissions standards for emergency standby electrical generation CI engines.
- The BBGF will comply with all applicable provisions of the applicable 2017 BAAQMD Air Quality Implementation Plan.
- The BBGF will obtain and maintain all required air quality related permits from the



BAAQMD, and requirements imposed by the California Energy Commission.

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**Impact AIR-2:** The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. **(Less Than Significant Impact)**

---

The BBGF project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard, due to the following:

- The use of best management practices during the construction phase will ensure that the emissions do not result in a cumulative considerable net increase of any non-attainment pollutants. These emissions are generally short term in nature and vary widely from day to day.
- Offset mitigation requirements, see the NSR discussion above for additional details.

---

**Impact AIR-3:** The project would not expose sensitive receptors to substantial pollutant concentrations. **(Less than Significant Impact)**

---

The BBGF project would not expose sensitive receptors to substantial pollutant concentrations due to the following:

- The air quality impact analysis presented herein shows that the BBGF will not cause or contribute to a violation of any state or federal ambient air quality standard.
- The construction and operational health risk assessments presented herein indicate that the emissions of toxic air contaminants from the BBGF processes will not cause a significant risk to any sensitive or non-sensitive receptor with respect to cancer or chronic impacts.

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**Impact AIR-4:** The project would not result in substantial emissions (such as odors) adversely affecting a substantial number of people. **(Less than Significant Impact)**

---

The BBGF project would not result in other emissions or odors that would adversely affect a substantial number of people due to the following:

- Similar facilities, both larger and smaller in scale, have not been identified as sources of odors that would adversely affect offsite receptors.
- The BBGF and BDC are not one of the project types listed in the BAAQMD CEQA guidelines as producing odors that may affect offsite receptors.
- The applicant has not identified any operational or construction practices, which are planned for use at the project site, which would generate substantial amounts of odors that would affect offsite receptors.

## Project Emissions, Air Quality Impact Analysis, and Health Risk Assessment

### Project Emissions

**Construction.** Project construction emissions of CO, VOCs, NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> were evaluated. Detailed construction emission calculations are presented in Appendix AQ4. Onsite construction emissions from construction of the BBGF will result from demolition activities, site preparation and grading activities, building erection and parking lot construction activities, “finish” construction activities, and the use of onsite construction equipment. Construction emissions from the BBGF are negligible but are included in the emission calculations for the BDC. Offsite construction emissions will be derived primarily from materials transport to and from the site, and worker travel. Emissions from the 24-month construction period were estimated using the CalEEMod program. Estimated criteria pollutant construction emissions for the project are summarized in Table 3.3-6. Construction support data and the CalEEMod analysis output are presented in Appendix AQ-4.

The BAAQMD CEQA Air Quality Guidelines considers exposure of sensitive receptors to air pollutant levels that result in an unacceptable cancer risk or hazard to be significant. BAAQMD recommends a 1,000-foot zone of influence around project boundaries. Since construction activities are temporary and would occur well away from the sensitive receptors, community risk impacts from construction activities would be *less than significant*.

**Table 3.3-6: Criteria Pollutant Estimated Emissions from Construction Activities**

| Scenario                           | NO <sub>x</sub> | CO   | VOC  | SO <sub>x</sub> | PM <sub>10</sub>                      | PM <sub>2.5</sub>                     | CO <sub>2e</sub> |
|------------------------------------|-----------------|------|------|-----------------|---------------------------------------|---------------------------------------|------------------|
| Avg. Daily Emissions, LBS          | 5.91            | 9.51 | 5.19 | 0.021           | 0.038<br>Exhaust<br>1.0<br>fugitives  | 0.038<br>Exhaust<br>0.36<br>fugitives | NA               |
| Max Project Emissions, Tons/Period | 1.56            | 2.51 | 1.37 | 0.0055          | 0.01<br>exhaust<br>0.263<br>fugitives | 0.01<br>exhaust<br>0.096<br>fugitives | 564              |
| BAAQMD Thresholds, Lbs/day         | 54              | NA   | 54   | NA              | 82                                    | 54                                    | NA               |
| Exceeds Thresholds                 | No              | NA   | No   | NA              | No                                    | No                                    | NA               |

Notes: PM<sub>10</sub> and PM<sub>2.5</sub> thresholds are exhaust only.

Construction schedule is approximately 24 months, 22 days/month, or ~528 workdays.

Source: ADI CalEEMod analysis, December 2021.

As shown in Table 3.3-6, construction of the project would not generate VOCs, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> emissions in excess of BAAQMD’s numeric thresholds. The BAAQMD’s CEQA Guidelines consider fugitive dust impacts to be less than significant through the application of best management practices (BMPs).

**Impact AIR-1:** Fugitive dust from project construction could impact air quality.

**Applicant Proposed Design Measures:** The project proponent shall implement the following measures to reduce impacts from fugitive dust to a less than significant level:

**PD AIR-1.1:**

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 unpaved surfaces shall be limited to 15 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.

Conformance with aforementioned BMP would result in a less than significant impact from fugitive dust. **(Less than Significant Impact with Mitigation)**

**Operation.** Operational emissions of NO<sub>x</sub>, VOCs, CO, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and GHGs were evaluated. Diesel particulate matter (DPM) was the only TAC considered to result from operation of the BBGF. Detailed operation emission calculations are presented in Appendix AQ1. Primary operation emissions are a result of diesel fuel combustion from the standby diesel generators, offsite vehicle trips for worker commutes and material deliveries. Secondary operational emissions from facility upkeep, such as architectural coatings, consumer product use, landscaping, water use, waste generation, natural gas use for comfort heating, fuel storage, and electricity use, were considered de minimus. Each of the primary emission sources are described in more detail below.

**Stationary Sources.** The project's 32 standby diesel generators will be comprised of the following equipment:

32 – Cummins QSK95 Diesel-fired engines, rated at 4308 HP (3000 kWe) at 100% Load

The generators proposed for installation are made by Cummins, with a certified Tier 4 rating. These engines will be equipped with diesel particulate filters (DPF) to reduce the diesel particulates to less than or equal to 0.015 grams/brake horse-power hour (g/bhp-hr). All generators would be

operated routinely to ensure they would function during an emergency event. Appendix AQ1 presents the detailed emissions calculations for the proposed engines. Appendix AQ2 contains the manufacturers specification sheets for the engines.

The engines will be stacked in pairs. Each engine pair will have a single 12,000-gallon ULSD storage tank as well as a 500-gallon ULSD “day tank”. The storage capacity of these two (2) tanks have been combined for purposes of VOC emissions estimates. Total fuel storage capacity will be 200,000 gallons. See Appendix AQ-1 for the tank VOC emissions estimates.

During routine readiness testing, criteria pollutants and TACs (as DPM) would be emitted directly from the generators. Criteria pollutant emissions from generator testing were quantified using information provided by the manufacturer, as specified in Appendix AQ1. SO<sub>2</sub> emissions were based on the maximum sulfur content allowed in California diesel (15 parts per million by weight), and an assumed 100 percent conversion of fuel sulfur to SO<sub>2</sub>. DPM emissions resulting from diesel stationary combustion were assumed equal to PM<sub>10/2.5</sub> emissions. For conservative evaluation purposes, it was assumed that testing (weekly, monthly, quarterly, annual, and special testing) would occur for no more than 50 hours per year. 50 hours per year per engine is the limit specified by the Airborne Toxic Control Measure for Stationary Toxic Compression Ignition Engines (Title 17, Section 93115, CCR). However, it is the Applicant’s experience that each engine will be operated for considerably less than 50 hours a year. Maintenance and readiness testing usually occurs at loads ranging from 10 to 100% load. For purposes of this application, emissions were assumed to occur at all load ranges. Tables AQ1-1 and AQ1-2 in Appendix AQ1 present a wide range of emissions based upon load points, number of engines tested, etc. The QSK95 engines were evaluated for the following emissions scenarios:

- Scenario 1 - Declared emergency operations, 100 hrs/yr, Tier 4 emissions factors, 100% load, with DPF controls. (BAAQMD Policy limit.) These emissions are not subject to NSR applicability.
- Scenario 2 - Maintenance/Readiness operations, 50 hrs/yr, Tier 4 emissions factors, 100% load, with DPF controls (ATCM limit).

For NO<sub>x</sub>, it should be noted for maintenance and readiness testing, the first 15 minutes of each hourly test will be evaluated as uncontrolled using the Tier 2 emissions factors and assuming DPF is fully operational. The remaining 45 minutes of each hourly test will be assumed to be fully controlled at Tier 4 compliance levels with DPF fully operational.

The tables which follow present emissions summaries for the QSK95 engines for each of the scenarios noted above in terms of the worst case hourly, daily, and annual emissions. Maximum daily emissions are based on the assumption that only 10 of the QSK95 engines will be tested on any day (and the engines will not be run concurrently).

**Table 3.3-7: Scenario 1 Emissions Summary for QSK95 Engines**

| Period             | NO <sub>x</sub> | CO      | VOC    | SO <sub>2</sub> | PM <sub>10/2.5</sub> | CO <sub>2e</sub> |
|--------------------|-----------------|---------|--------|-----------------|----------------------|------------------|
| <b>QSK95</b>       |                 |         |        |                 |                      |                  |
| Max Hourly,<br>lbs | 152.0           | 790.4   | 42.6   | 1.5             | 4.6                  | -                |
| Max Daily,         | 3647.9          | 18969.1 | 1021.4 | 36.5            | 109.4                | -                |

|                                                                                                                                                                                           |     |      |     |     |      |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----|-----|------|------|
| lbs                                                                                                                                                                                       |     |      |     |     |      |      |
| Max Annual, tons                                                                                                                                                                          | 7.6 | 39.5 | 2.1 | 0.1 | 0.23 | 7506 |
| Scenario 1 - Declared emergency operations, 100 hrs/yr, Tier 4 emissions factors, 100% load, with DPF controls.<br><i>Emissions from Scenario 1 are NOT subject to NSR applicability.</i> |     |      |     |     |      |      |

**Table 3.3-8: Scenario 2 Emissions Summary for QSK95 Engines**

| Period                                                                                                                                                            | NOx   | CO   | VOC  | SO2   | PM10/2.5 | CO2e |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|------|-------|----------|------|
| <b>QSK95</b>                                                                                                                                                      |       |      |      |       |          |      |
| Max Hourly, lbs                                                                                                                                                   | 14.49 | 24.7 | 1.33 | 0.047 | 0.142    | -    |
| Max Daily, lbs                                                                                                                                                    | 144.9 | 247  | 13.3 | 0.48  | 1.42     | -    |
| Max Annual, tons                                                                                                                                                  | 11.6  | 19.8 | 1.1  | 0.04  | 0.11     | 3753 |
| Scenario 2 - Maintenance/Readiness operations, 50 hrs/yr, composite Tier 2 and Tier 4 emissions factors, 100% load, with DPF controls. 10 engines tested per day. |       |      |      |       |          |      |

Table 3.3-9 presents maximum daily and annual emissions data for the various testing scenarios in comparison to the BAAQMD CEQA significance thresholds.

**Table 3.3-9: Facility Scenario 2 Emissions and BAAQMD CEQA Significance Levels**

| Scenario                                                                                                                                                                                                                                                                                      | Lbs/Day         |      |      |                 |      |       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------|------|-----------------|------|-------|
|                                                                                                                                                                                                                                                                                               | NO <sub>x</sub> | CO   | VOC  | SO <sub>2</sub> | PM10 | PM2.5 |
| BAAQMD CEQA Thresholds                                                                                                                                                                                                                                                                        | 54              | NA   | 54   | NA              | 82   | 54    |
| Worst Case Daily Emissions <sup>1</sup>                                                                                                                                                                                                                                                       | 144.9           | 247  | 13.3 | 0.48            | 1.43 | 1.43  |
| Significance Threshold Exceeded                                                                                                                                                                                                                                                               | Yes             | NA   | No   | NA              | No   | No    |
| Scenario                                                                                                                                                                                                                                                                                      | Tons/Yr         |      |      |                 |      |       |
|                                                                                                                                                                                                                                                                                               | NO <sub>x</sub> | CO   | VOC  | SO <sub>2</sub> | PM10 | PM2.5 |
| BAAQMD CEQA Thresholds                                                                                                                                                                                                                                                                        | 10              | NA   | 10   | NA              | 15   | 10    |
| Worst Case Annual Emissions <sup>2</sup>                                                                                                                                                                                                                                                      | 11.6            | 19.8 | 1.1  | 0.04            | 0.11 | 0.11  |
| Significance Threshold Exceeded                                                                                                                                                                                                                                                               | Yes             | NA   | No   | NA              | No   | No    |
| <sup>1</sup> Based on the emissions from Scenario 2 (M&R Testing) for a 10-engine test day for the QSK95.<br><sup>2</sup> Based on the summation of the QSK95 engine emissions under Scenario 2 (M&R Testing).<br><sup>2</sup> Readiness and maintenance testing CO2e emissions are 3753 tpy. |                 |      |      |                 |      |       |

The following should be noted with respect to Table 3.3-9 above.

1. NO<sub>x</sub> emissions exceed the BAAQMD CEQA significance levels on the days when the 10 engine readiness tests occur, and on a TPY basis (total emissions from all engines).
2. The emissions of NO<sub>x</sub> will be mitigated through the participation in the BAAQMD ERC Bank, or other alternative methods as negotiated with the BAAQMD.

Table 3.3-10 presents the summation of emissions for all engines for the maximum of the scenarios noted above, i.e., Scenario 1 plus Scenario 2 to meet the 150 hours per year criteria per the BAAQMD permitting policy criteria.

**Table 3.3-10 BAAQMD 150 Hour per Year Emissions Summation  
(tons per year)**

| Engines                                                                                                           | NO <sub>x</sub> | CO   | VOC | SO <sub>2</sub> | PM <sub>10/2.5</sub> | CO <sub>2e</sub> |
|-------------------------------------------------------------------------------------------------------------------|-----------------|------|-----|-----------------|----------------------|------------------|
| QSK95                                                                                                             | 19.2            | 59.3 | 3.2 | 0.114           | 0.342                | 11260            |
| Summation of Scenario 1 and 2 for the QSK95 engines.<br><i>These values are NOT the NSR applicability values.</i> |                 |      |     |                 |                      |                  |

Table 3.3-11 presents data on the DPM emissions levels (worst case) for the QSK95 engines.

**Table 3.3-11: Toxic Air Contaminant (DPM) Emissions from the Proposed Engines  
(per engine basis)**

| Scenario               | QSK95         | Scenario |
|------------------------|---------------|----------|
|                        | DPM Emissions |          |
| Maximum Annual, lbs/yr | 7.1           | 2        |
| Maximum Hourly, lbs    | 0.142         | 2        |

Notes: DPM is the approved surrogate compound for diesel fuel combustion for purposes of health risk assessment. Annual emissions for each engine are based on the max allowed runtime of 50 hours per year.

Table 3.3-12 presents the hourly and annual fuel use values for the maximum operational scenario as outlined above.

**Table 3.3-12 Engine Fuel Use Values**

| Scenario                                   | QSK95                                |
|--------------------------------------------|--------------------------------------|
|                                            | Fuel Use, gallons (per engine basis) |
| Maximum Annual, gals/yr                    | 10,350                               |
| Maximum Hourly, gals/hr                    | 207                                  |
| <b>Total Annual Fuel Use (All Engines)</b> |                                      |
| Annual Fuel Use, gals/yr                   | 331,200                              |

### Miscellaneous Operational Emissions

Miscellaneous emissions from operational activities such as worker travel, deliveries, energy and fuel use for facility electrical, heating and cooling needs, periodic use of architectural coatings, landscaping, etc. were evaluated by CalEEMod. These emissions are presented in Table 3.3-13.

**Table 3.3-13: Miscellaneous Operational Emissions**

| Scenario                                                                                                                                                                                                                                                                           | Lbs/Day         |        |       |                 |                  |                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------|-------|-----------------|------------------|-------------------|
|                                                                                                                                                                                                                                                                                    | NO <sub>x</sub> | CO     | VOC   | SO <sub>2</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| BAAQMD<br>CEQA<br>Thresholds                                                                                                                                                                                                                                                       | 54              | NA     | 54    | NA              | 82               | 54                |
| All Sources<br>Lbs/avg day                                                                                                                                                                                                                                                         | 1.13            | 1.51   | 6.1   | 0.0077          | 0.24             | 0.12              |
| TPY                                                                                                                                                                                                                                                                                |                 |        |       |                 |                  |                   |
| BAAQMD<br>CEQA<br>Thresholds                                                                                                                                                                                                                                                       | 10              | NA     | 10    | NA              | 15               | 10                |
| All Sources<br>Tons/yr                                                                                                                                                                                                                                                             | 0.2062          | 0.2758 | 1.114 | 0.0014          | 0.0429           | 0.0224            |
| Exceeds<br>Thresholds                                                                                                                                                                                                                                                              | No              | NA     | No    | NA              | No               | No                |
| Note: assumes the data center is manned 365 days/yr.<br>All source category includes, mobile worker travel, deliveries, energy use, fuel use, waste disposal, water use, and misc area sources.<br>Annual GHG emissions = 910 tpy<br>Source: ADI CalEEMod analysis, December 2021. |                 |        |       |                 |                  |                   |

### Air Quality Impact Analysis

The 5.12-acre project site, located at 2805 Bowers Avenue in the City of Santa Clara (Santa Clara County), is currently developed with two two-story office buildings and associated paved parking and loading areas (total of 55,000 sq.ft.) (APN 216-28-063). The project proposes to demolish the existing improvements on the site to construct a multi-story 244,068 square foot data center building. The BDC building would house computer servers for private clients in a secure and environmentally controlled structure. The BBGF would be designed to provide 72 megawatts (MW) of Information Technology (IT) power.

#### **Modeling Overview**

The evaluation of the potential air quality impacts and health risks were based on the estimate of the ambient air concentrations that could result from BBGF air emission sources. This section discusses the selection of the dispersion model, the data that was used in the dispersion model (pollutants modeled with appropriate averaging times, source characterization, building downwash, terrain, and meteorology), etc.

Assessments of ambient concentrations resulting from pollutant emissions (called air quality impacts) are normally conducted using USEPA-approved air quality dispersion models. These models are based on mathematical descriptions of atmospheric diffusion and dispersion processes in which a

pollutant source impact can be calculated over a given area and for a specific period of time (called averaging period). By using mathematical models, the assessment of emissions can be determined for both existing sources as well as future sources not yet in operation. Inputs required by most dispersion models, which must be specified by the user, include the following:

- Model options, such as averaging time to be calculated;
- Meteorological data, used by the model to estimate the dispersion conditions experience by the source emissions;
- Source data, such as source location and characteristics – stack emissions like those considered here are modeled as “point” sources, which require user inputs of the release height, exit temperature and velocity, and stack diameter (used by the dispersion model to estimate the mechanical and buoyant plume rise that will occur due to the release of emissions from a stack); and
- Receptor data, which are the location(s) of the given area where ambient concentrations are to be calculated by the dispersion model.

## **Model Selection**

To estimate ambient air concentrations, the latest version of the AERMOD (Version 21112) dispersion model was used. AERMOD is appropriate for use in estimating ground-level short-term ambient air concentrations resulting from non-reactive buoyant emissions from sources located in simple, intermediate, and complex terrain. AERMOD is the preferred guideline model recommended by USEPA for these types of assessments and is based on conservative assumptions (i.e., the model tends to over-predict actual impacts by assuming steady state conditions, no pollutant loss through conservation of mass, no chemical reactions, etc.). AERMOD is capable of assessing impacts from a variety of source types such as point, area, line, and volume sources (as noted above, point source types are used to model stack sources like the BBGF engine emissions); downwash effects; gradual plume rise as a function of downwind distance; time-dependent exponential decay of pollutants; and can account for settling and dry deposition of particulates (all BBGF emissions were conservatively modeled as non-reactive gaseous emissions). The model is capable of estimating concentrations for a wide range of averaging times (from one hour to the entire period of meteorological data provided).

AERMOD calculates ambient concentrations in areas of simple terrain (receptor base elevations below the stack release heights), intermediate terrain (receptor base elevations between stack release and final plume height), and complex terrain (receptor base elevations above final plume height). AERMOD assesses these impacts for all meteorological conditions, including those that would limit the amount of final plume rise. Plume impaction on elevated terrain, such as on the slope of a nearby hill, can cause high ground level concentrations, especially under stable atmospheric conditions. Due to the relatively flat nature of the BBGF project terrain area, including the surrounding properties, plume impaction effects would not be expected to occur. AERMOD also considers receptors located above the receptor base elevation, called flagpole receptors.



Another dispersion condition that can cause high ground level pollutant concentrations is caused by building downwash. Building downwash can occur during high wind speeds or a building or structure is in close proximity to the emission source. This can result in building wake effects where the plume is drawn down toward the ground by the lower pressure region that exists in the lee side (downwind) of the building or structure. This AERMOD feature was also used in modeling the BBGF emission sources as described later.

## **Model Input Options**

Model options refer to user selections that account for conditions specific to the area being modeled or to the emissions source that needs to be examined. Examples of model options selected for this analysis includes the use of multiple flagpole heights for each receptor modeled and the urban dispersion option (using a Santa Clara County population of 1,938,153). Land use in the immediate area surrounding the project site is characterized as “urban”. This is based on the land uses within the area circumscribed by a three (3) km radius around the project site, which is greater than 50 percent urban. Therefore, in the modeling analyses, the urban dispersion option was selected.

AERMOD also supplies recommended defaults for the user for other model options. This analysis was conducted using AERMOD in the regulatory default mode, which includes the following additional modeling control options:

- adjusting stack heights for stack-tip downwash,
- using upper-bound concentration estimates for sources influenced by building downwash from super-squat buildings,
- incorporating the effects of elevated terrain,
- employing the USEPA-recommended calms processing routine, and
- employing the USEPA-recommended missing data processing routine.

Calculation of chemical concentrations for use in the impact and exposure analysis requires the selection of appropriate concentration averaging times. Average pollutant concentrations ranging from one (1) hour to annual based on the meteorological data were calculated for each BBGF source and the facility in total.

According to the Auer land use classification scheme, a 3 km radius boundary around the proposed site yields a predominately “urban” classification. This is consistent with the current land use and zoning designation for the site and surrounding area as “commercial, and light and heavy industrial”.

## **Meteorological Data - Modeling Inputs**

AERMOD requires a meteorological input file to characterize the transport and dispersion of pollutants in the atmosphere. Surface and upper air meteorological data inputs, along with surface parameter data describing the land use and surface characteristics near a site, are first processed using AERMET, the meteorological preprocessor to AERMOD. The output files generated by AERMET are the surface and upper air meteorological input files required by AERMOD.

AERMOD uses hourly meteorological data to characterize plume dispersion. AERMOD calculates the dispersion conditions for each hour of meteorological data for the emission sources modeled at the user-specific receptor locations. The resulting 1-hour impacts are then averaged by AERMOD for the averaging time(s) specified by the user (accounting for calm winds and missing meteorological data as specified in the model options). Meteorological data from the San José International Airport were provided by the BAAQMD for the five years of 2013 through 2017, inclusive. The representativeness of the meteorological data is dependent on the proximity of the meteorological monitoring site to the area under consideration; the complexity of the terrain, the exposure of the meteorological monitoring site, and the period of time during which the data are collected. The data was collected approximately three (3) kilometers from the eastern edge of the BBGF project boundary and were provided by BAAQMD as the most appropriate meteorological data for this modeling analysis. The data were processed by BAAQMD with AERMET (version 18081), AERMOD's meteorological data preprocessor module.

The BAAQMD meteorological data consists of surface measurements including wind speed, wind direction, temperature, and solar radiation, which were combined with National Weather Service upper air data from the Oakland International Airport. The USEPA-recommended 90% completeness criteria are met for all modeled parameters in the BAAQMD meteorological data.

### **Building and Receptors – Modeling Inputs**

The effects of building downwash on facility emissions were included in the modeling assessment. The **Plume Rise Model Enhancements** to the USEPA **Building Profile Input Program (BP-PRIME)**, version 04274) was used to determine the direction-specific building downwash parameters. The PRIME enhancements in AERMOD calculate fields of turbulence intensity, wind speed, and slopes of the mean streamlines as a function of projected building shape. Using a numerical plume rise model, the PRIME enhancements in AERMOD determine the change in plume centerline location and the rate of plume dispersion with downwind distance. Concentrations are then predicted by AERMOD in both the near and far wake regions, with the plume mass captured by the near wake treated separately from the uncaptured primary plume and re-emitted to the far wake as a volume source. Appendix AQ3 presents the building data used in the downwash analysis which is also included in the modeling support files.

Receptor grids were generated along the fence line ( $\leq 10$  meter spacing), from the fence line to 300 meters (20 meter spacing), from 300 meters to one kilometer (km) (50-meter spacing), from 1.0 to 5.0 km (200-meter spacing). If any of the maximum impacts occurred on receptors with spacing greater than 20 meters, a refined grid with 20-meter resolution would be created and extended outwards by 500 meters in all directions. All receptor and source locations are referenced in meters using the Universal Transverse Mercator (UTM) Cartesian coordinate system based on the North American Datum of 1983 (NAD83) for Zone 10.

The latest version of AERMAP (version 18081) was used to determine receptor elevations and hill-slope factors utilizing USGS's 1-degree square National Elevation Dataset (NED). NED spacings were 1/3" (~10 meters) for the fence line, 20-meter, 50-meter, and 100-meter spaced receptor grids and 1" (~30 meters) for 200-meter and 500-meter spaced receptor grids and sensitive receptors. Flagpole receptors were generated for the two- and three-story residential areas just north of the project area. Electronic copies of the BP-PRIME and AERMAP input and output files, including

the NED data, are included with the application will be submitted to Staff electronically. Appendix AQ3 contains a figure which represents the receptor grids used in the modeling analyses.

### **Source Data – Modeling Inputs**

Emissions and stack parameters for the 32 Cummins diesel engines are presented in Appendix AQ-1 and AQ-3 and were used to develop the modeling inputs. Stack parameters (e.g., stack height, exit temperature, stack diameter, and stack exit velocity) were based on the parameters given by the engine manufacturer and the Applicant. Stack locations for the proposed sources were matched to show their actual location based on the proposed facility plot plan. Appendix AQ-3 presents the locations of the BBGF sources, and the building outlines considered in the downwash analysis. Stack base elevations were given a common base elevation based on the range of elevations calculated with AERMAP for the stack locations.

### **Impact Analysis Summary**

Operational characteristics of the diesel engines, such as emission rate, exit velocity, and exit temperature, vary by operating loads. The engines could be operated over a range of load conditions from one (1) to 100 percent. Based on similar projects, the 100% load case always produces the maximum ground-based concentrations. Thus, an air quality screening analysis was not performed. The engines were assumed to be tested anytime from 7 AM to 5 PM (controlled using the EMISFACT/HROFDY model option). Although the engines will typically only be tested individually for up to one hour at any one time, each engine was assumed to operate up to 10 hours/day (7AM-5PM) to conservatively represent 10 different engines operating one hour each in any one day for 3-hour, 8-hour, and 24-hour averaging times. Thus, the worst-case stack condition and the worst-case engine location could be determined from the screening analysis. All 32 engines were assumed to be tested for annual averages, with emissions proportioned accordingly.

All BBGF sources were modeled in the refined analyses for comparisons with the annual CAAQS and NAAQS and the short-term NAAQS with multi-year statistical forms (1-hour NO<sub>2</sub> and SO<sub>2</sub> and 24-hour PM<sub>2.5</sub> and PM<sub>10</sub>). Impacts during normal testing operations were based on the worst-case screening condition. Since the engines will each be tested far less than 100 hours/year, the annual average emission rate was included in 1-hour NO<sub>2</sub> and SO<sub>2</sub> NAAQS modeling analyses at the annual average emission rates per EPA guidance due to the statistical nature of these standards (it was the engines were modeled at the maximum 1-hour emission rate for the CAAQS).

For the 1-hour NO<sub>2</sub> modeling assessments, the Ambient Ratio Method Version 2 (ARM2) was used in the modeling analyses with an in-stack NO<sub>2</sub>/NO<sub>x</sub> ratio of 0.5 (50%) based on EPA Guideline requirements. This is conservative as the NO<sub>2</sub>/NO<sub>x</sub> ratios for these types of engines are on the order of 10%, as per the EPA's ISR database.

The highest NO<sub>2</sub> background data over the last three (3) years from the 158 East Jackson Street monitoring site was used to assess the CAAQS, which was then added to the modeled NO<sub>2</sub> concentration for the 1-hour CAAQS assessment. The three-year average of the second-highest hourly value for the same three (3) year period were added to the modeled NO<sub>2</sub> concentration for the NAAQS assessment. Assessment with the CAAQS is based on the maximum 1-hour NO<sub>2</sub> concentration (with and without background). NO<sub>2</sub> NAAQS compliance based on the five-year average of the 98<sup>th</sup> percentile daily maximum annual 1-hour impacts with background concentration

(NO<sub>2</sub> SIL for NAAQS compliance based on 5-year average of the annual 1-hour maximum impacts without background concentrations).

Based on the results of the modeling analyses, the modeled concentrations are presented in Table 3.3-14.

**Table 3.3-14: Modeled Operational Concentrations and Ambient Air Quality Standards**

| Pollutant                                                                        | Averaging Period                                     | Maximum Concentration (µg/m³) | Background (µg/m³) | Total (µg/m³) | Ambient Air Quality Standards (µg/m³) |        |
|----------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------|--------------------|---------------|---------------------------------------|--------|
|                                                                                  |                                                      |                               |                    |               | CAAQS                                 | NAAQS  |
| 3-/8-/24-Hour Maxima shown for one engine operating up to 10 hours/day (7AM-5PM) |                                                      |                               |                    |               |                                       |        |
| NO <sub>2</sub> *                                                                | 1-hour maximum (CAAQS)                               | 116.59                        | 112.9              | 229.5         | 339                                   | -      |
|                                                                                  | 3-year average of 1-hour yearly 98th % (NAAQS)**     | 4.61                          | 85.3               | 89.9          | -                                     | 188    |
|                                                                                  | Annual maximum                                       | 1.64                          | 20.0               | 21.6          | 57                                    | 100    |
| CO                                                                               | 1-hour maximum                                       | 397.05                        | 2,061              | 2,458         | 23,000                                | 40,000 |
|                                                                                  | 8-hour maximum                                       | 250.95                        | 1,680              | 1,931         | 10,000                                | 10,000 |
| SO <sub>2</sub>                                                                  | 1-hour maximum (CAAQS)                               | 0.76                          | 38                 | 38.8          | 655                                   | -      |
|                                                                                  | 3-year average of 1-hour yearly 99th % (NAAQS)**     | 0.73                          | 5.2                | 5.9           | -                                     | 196    |
|                                                                                  | 24-hour maximum                                      | 0.18                          | 3.9                | 4.1           | 105                                   | 365    |
|                                                                                  | Annual maximum                                       | 0.006                         | 0.44               | 0.45          | -                                     | 80     |
| PM10                                                                             | 24-hour maximum (CAAQS)                              | 0.53                          | 134                | 134.5         | 50                                    | -      |
|                                                                                  | 24-hour 6 <sup>th</sup> highest over 5 years (NAAQS) | 0.42                          | 74.8               | 75.2          | -                                     | 150    |
|                                                                                  | Annual maximum (CAAQS)                               | 0.017                         | 24.8               | 24.8          | 20                                    | -      |
| PM2.5                                                                            | 3-year average of 24-hour yearly 98th %              | 0.23                          | 33.3               | 33.5          | -                                     | 35     |
|                                                                                  | Annual maximum (CAAQS)                               | 0.017                         | 11.5               | 11.5          | 12                                    | -      |
|                                                                                  | 3-year average of annual concentrations (NAAQS)      | 0.68                          | 9.8                | 9.8           | -                                     | 12.0   |

\*1-hour NO<sub>2</sub> impacts evaluated with Ambien Ratio Method #2 (ARM2), with the maximum hourly background added in separately. Annual NO<sub>2</sub> impacts evaluated with ARM2. Modeling utilized USEPA-default minimum/maximum NO<sub>2</sub>/NO<sub>x</sub> ambient ratios of 0.5/0.9.

\*\* Impacts for the 1-hour statistical-based NO<sub>2</sub> and SO<sub>2</sub> NAAQS are based on the annual average emissions per USEPA guidance documents for intermittent sources like emergency generators. Impacts for the 1-hour NO<sub>2</sub> and SO<sub>2</sub> CAAQS are based on the 1-hour emission rate since these CAAQS are “values that are not to be exceeded”.

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose health risks for sensitive receptors such as nearby residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to PM<sub>2.5</sub>. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects of sensitive receptors at these nearby residences from construction emissions of DPM and PM<sub>2.5</sub>.<sup>11</sup> The closest sensitive

receptors to the project site are residences approximately 500 feet south, southwest and southeast of the project boundary (see Appendix AQ-5). Emissions and dispersion modeling were conducted to predict the off-site concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

In addition, during excavation, grading, and some building construction activities, substantial amounts of dust could be generated. Most of the dust would result during grading activities. The amount of dust generated would be highly variable and would be dependent on the size of the area disturbed at any given time, amount of activity, soil conditions, and meteorological conditions. To address fugitive dust emissions that lead to elevated PM<sub>10</sub> and PM<sub>2.5</sub> levels near construction sites, the BAAQMD CEQA Air Quality Guidelines identify best management practices. Once included in construction projects, these impacts will be considered less than significant. In addition, diesel emissions from construction related equipment will temporarily result in an increase in health risk to nearby offsite receptors.

For modeling fugitive PM<sub>10</sub> and PM<sub>2.5</sub> emissions, a near-ground level release height of two (2) meters (6.6 feet) was used for the area source. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area source. To represent the construction equipment exhaust emissions, 59 equally spaced (25 meter) point sources were placed within the area of construction activity. Each point source had an emission release height of 3.05 meters (10 feet). The exit temperature and stack velocity were based on an average sized construction engine that could be used for the project. Construction emissions were modeled as occurring daily between 7 a.m. to 5 p.m., when the majority of construction activity would occur.

**Table 3.3-15: Modeled Construction Concentrations and Ambient Air Quality Standards**

| Pollutant                                            | Averaging Period                               | Maximum Concentration (µg/m³) | Background (µg/m³) | Total (µg/m³) | Ambient Air Quality Standards (µg/m³) |        |
|------------------------------------------------------|------------------------------------------------|-------------------------------|--------------------|---------------|---------------------------------------|--------|
|                                                      |                                                |                               |                    |               | CAAQS                                 | NAAQS  |
| Construction occurs for up to 10 hours/day (7AM-5PM) |                                                |                               |                    |               |                                       |        |
| NO <sub>2</sub> *                                    | 1-hour maximum (CAAQS)                         | 7.84                          | 112.9              | 120.7         | 339                                   | -      |
|                                                      | 3-year average of 1-hour yearly 98th % (NAAQS) | 4.49                          | 85.3               | 89.8          | -                                     | 188    |
|                                                      | Annual maximum                                 | 0.76                          | 20                 | 20.8          | 57                                    | 100    |
| CO                                                   | 1-hour maximum                                 | 14.45                         | 2,061              | 2,075.5       | 23,000                                | 40,000 |
|                                                      | 8-hour maximum                                 | 6.16                          | 1,680              | 1,686.2       | 10,000                                | 10,000 |
| SO <sub>2</sub>                                      | 1-hour maximum (CAAQS)                         | 0.028                         | 38                 | 38.0          | 655                                   | -      |
|                                                      | 3-year average of 1-hour yearly 99th % (NAAQS) | 0.019                         | 5.2                | 5.2           | -                                     | 196    |
|                                                      | 24-hour maximum                                | 0.006                         | 3.9                | 3.9           | 105                                   | 365    |
|                                                      | Annual maximum                                 | 0.003                         | 0.55               | 0.6           | -                                     | 80     |
| PM10                                                 | 24-hour maximum (CAAQS)                        | 4.17                          | 134                | 138.2         | 50                                    | -      |
|                                                      | Annual maximum (CAAQS)                         | 1.69                          | 24.8               | 26.5          | 20                                    | -      |
| PM2.5                                                | 3-year average of 24-hour yearly 98th %        | 1.24                          | 33.3               | 34.5          | -                                     | 35     |

**Table 3.3-15: Modeled Construction Concentrations and Ambient Air Quality Standards**

| Pollutant | Averaging Period                                | Maximum Concentration (µg/m <sup>3</sup> ) | Background (µg/m <sup>3</sup> ) | Total (µg/m <sup>3</sup> ) | Ambient Air Quality Standards (µg/m <sup>3</sup> ) |       |
|-----------|-------------------------------------------------|--------------------------------------------|---------------------------------|----------------------------|----------------------------------------------------|-------|
|           |                                                 |                                            |                                 |                            | CAAQS                                              | NAAQS |
|           | 3-year average of annual concentrations (NAAQS) | 0.68                                       | 9.8                             | 10.5                       | -                                                  | 12.0  |

\*1-hour NO<sub>2</sub> impacts evaluated with Ambien Ratio Method #2 (ARM2), with the maximum hourly background added in separately. Annual NO<sub>2</sub> impacts evaluated with ARM2. Modeling utilized USEPA-default minimum/maximum NO<sub>2</sub>/NO<sub>x</sub> ambient ratios of 0.5/0.9.

The air quality modeling support data will be submitted to Staff electronically.

Based on the modeling results in Table 3.3-14 and 3.3-15, the only combined modeled impacts and background concentrations greater than the standards are for the 24-hour and annual PM<sub>10</sub> CAAQS. These exceedances are only because the background concentrations already exceed the standards. Modeled project impacts during operations for the 24-hour and annual averaging period are less than the USEPA and/or BAAQMD significance levels and thus, the project will not cause or contribute to an exceedance of any air quality standard for the applicable averaging periods. The project will therefore comply with the CAAQS and NAAQS.

### **Public Health and Health Risk Assessment**

This section presents the methodology and results of a human health risk assessment performed to assess potential impacts and public exposure associated with airborne emissions from the routine operation of the BBGF project.

Air will be the dominant pathway for public exposure to chemical substances released by the project. Emissions to the air will consist primarily of combustion by-products produced by the diesel-fired emergency standby engines. Potential health risks from combustion emissions will occur almost entirely by direct inhalation. To be conservative, additional pathways were included in the health risk modeling; however, direct inhalation is considered the most likely exposure pathway. The risk assessment was conducted in accordance with guidance established by the California Office of Environmental Health Hazard Assessment (OEHHA 2015) and the California Air Resources Board.

Combustion byproducts with established CAAQS or NAAQS, including oxides of nitrogen (NO<sub>x</sub>), carbon monoxide, sulfur dioxide, and fine particulate matter were addressed in the previous Air Quality section.

### **Affected Environment**

Sensitive receptors are defined as groups of individuals that may be more susceptible to health risks due to chemical exposure. Schools (public and private), day care facilities, convalescent homes, and hospitals are of particular concern. The nearest sensitive receptors, by type, are listed in Table 3.3-16. There are residential areas within 1,000 ft. of the proposed site. Appendix AQ5 contains support materials for the facility health risk assessment, such as a listing of sensitive receptors within the facility regional area, etc. HAPs emissions evaluations are presented in Appendix AQ1.

**Table 3.3-16: Sensitive Receptors Nearfield of the BBGF Site**

| Receptor Type                     | UTM Coordinates | Distance from Site, ft. | Elevation, AMSL ft. |
|-----------------------------------|-----------------|-------------------------|---------------------|
| Nearest Residence                 | 590549, 4136415 | 851                     | 49                  |
| Nearest Hospital                  | 588762, 4132602 | 14,653                  | 146                 |
| Nearest School                    | 590778, 4136058 | 2,072                   | 54                  |
| Nearest Daycare                   | 590445, 4136126 | 1,558                   | 51                  |
| Nearest College/Univ.             | 590104, 4138760 | 7,060                   | 27                  |
| Source: Google Earth Image 9/2020 |                 |                         |                     |

The nearest residences are located to the south of the site at a distance of approximately 500 ft.

Air quality and health risk data presented by CARB in the 2013 Almanac of Emissions and Air Quality (latest version available, CARB 2013) for the state shows that over the period from the mid-1990s through 2013, the average concentrations for DPM have been substantially reduced, and the associated health risks for the state are showing a steady downward trend as well. This same trend has occurred in the BAAQMD.

### **Environmental Consequences**

#### **Significance Criteria**

##### **Cancer Risk**

Cancer risk is the probability or chance of contracting cancer over a period of time normally defined as either 30 or 70-years depending on the project type and agency risk procedures. Carcinogens are not assumed to have a threshold below which there would be no human health impact. In other words, any exposure to a carcinogen is assumed to have some probability of causing cancer; the lower the exposure, the lower the cancer risk (i.e., a linear, no-threshold model). Under various state and local regulations, an incremental cancer risk greater than 10-in-one million due to a project is considered to be a significant impact on public health. For example, the 10-in-one-million risk level is used by the Air Toxics Hot Spots (AB 2588) program and California's Proposition 65 as the public notification level for air toxic emissions from existing sources.

##### **Non-Cancer Risk**

Non-cancer health effects can be either chronic or acute. In determining potential non-cancer health risks (chronic and acute) from air toxics, it is assumed there is a dose of the chemical of concern below which there would be no impact on human health. The air concentration corresponding to this dose is called the Reference Exposure Level (REL). Non-cancer health risks are measured in terms of a hazard quotient, which is the calculated exposure of each contaminant divided by its REL. Hazard quotients for pollutants affecting the same target organ are typically summed with the resulting totals expressed as hazard indices for each organ system. A hazard index of less than 1.0 is considered to be an insignificant health risk. For this health risk assessment, all hazard quotients were summed regardless of target organ. This method leads to a conservative (upper bound) assessment. RELs used in the hazard index calculations were those published in the CARB/OEHHA listings dated August 2018.

Chronic toxicity is defined as adverse health effects from prolonged chemical exposure, caused by chemicals accumulating in the body. Because chemical accumulation to toxic levels typically occurs slowly, symptoms of chronic effects usually do not appear until long after exposure commences. The lowest no-effect chronic exposure level for a non-carcinogenic air toxic is the chronic REL. Below this threshold, the body is capable of eliminating or detoxifying the chemical rapidly enough to prevent its accumulation. The chronic hazard index was calculated using the hazard quotients calculated with annual concentrations.

Acute toxicity is defined as adverse health effects caused by a brief chemical exposure of no more than 24 hours. For most chemicals, the air concentration required to produce acute effects is higher than the level required to produce chronic effects because the duration of exposure is shorter. Because acute toxicity is predominantly manifested in the upper respiratory system at threshold exposures, all hazard quotients are typically summed to calculate the acute hazard index. One-hour average concentrations are divided by acute RELs to obtain a hazard index for health effects caused by relatively high, short-term exposure to air toxics. Since this assessment considers only DPM, and DPM has no acute REL, acute HI values were not calculated.

### **Operational Phase Impacts**

Environmental consequences potentially associated with the project are potential human exposure to chemical substances emitted into the air. The human health risks potentially associated with these chemical substances were evaluated in a health risk assessment. The chemical substance potentially emitted to the air from the proposed facility is DPM. DPM is the approved surrogate compound for diesel fuel combustion pursuant to CARB and EPA.

Emissions of criteria pollutants will adhere to NAAQS or CAAQS as discussed in the Ambient Air Quality section. The proposed facility emergency electrical backup engines will be certified as EPA Tier 2 units and as such they meet the BACT requirements of the BAAQMD. These engines are equipped with DPFs and other add-on controls to meet the Tier 4 standards. Finally, air dispersion modeling results show that emissions will not result in concentrations of criteria pollutants in air that exceed ambient air quality standards (either NAAQS or CAAQS). These standards are intended to protect the general public with a wide margin of safety. Therefore, the project is not anticipated to have a significant impact on public health from emissions of criteria pollutants.

Potential impacts associated with emissions of toxic pollutants to the air from the proposed facility were addressed in a health risk assessment, with support data presented in Appendix AQ5. The risk assessment was prepared using guidelines developed by OEHHA and CARB, as implemented in the latest version of the HARP model (ADMRT 19121). The BAAQMD risk assessment options in HARP were used for all analyses (BAAQMD 2016).

### **Public Health Impact Study Methods**

Emissions of toxic pollutants potentially associated with the facility were estimated using emission factors for PM<sub>10</sub> derived from the New Source Performance Standards for compression ignited engines (40 CFR 60 Subpart IIII-EPA Tier 2 emissions standards), and EPA Tier 4 standards values, in conjunction with the Cummins supplied operational parameters per the engine brochures and specifications.



Concentrations of these pollutants in air potentially associated with the emissions were estimated using dispersion modeling as discussed in the Air Quality section. Modeling allows the estimation of both short-term and long-term average concentrations in air for use in a risk assessment, accounting for site-specific terrain and meteorological conditions. Health risks potentially associated with the estimated concentrations of pollutants in air were characterized in terms of excess lifetime cancer risks, or comparison with reference exposure levels for non-cancer health effects. The following receptor descriptors are used herein:

PMI – Point of maximum impact – this receptor represents the highest concentration and risk point on the receptor grid for the analysis under consideration.

MEIR – Maximum exposed individual residential receptor – this receptor represents the maximum impacted actual residential location on the grid for the analysis under consideration.

MEIW - Maximum exposed individual worker receptor – this receptor represents the maximum impacted actual worker location on the grid for the analysis under consideration.

MEIS - Maximum exposed individual sensitive receptor – this receptor represents the maximum impacted actual sensitive location on the grid for the analysis under consideration. This location is a non-residential sensitive receptor, i.e., school, hospital, daycare center, convalescent home, etc.

Health risks potentially associated with concentrations of carcinogenic pollutants in air were calculated as estimated excess lifetime cancer risks. The excess lifetime cancer risk for a pollutant is estimated as the product of the concentration in air and a unit risk value. The unit risk value is defined as the estimated probability of a person contracting cancer as a result of constant exposure to an ambient concentration of 1  $\mu\text{g}/\text{m}^3$  over a 70-year lifetime. In other words, it represents the increased cancer risk associated with continuous exposure to a concentration in air over a pre-defined period, i.e., usually a 30 or 70-year lifetime. Evaluation of potential non-cancer health effects from exposure to short-term and long-term concentrations in air was performed by comparing modeled concentrations in air with the RELs. An REL is a concentration in air at or below which no adverse health effects are anticipated. RELs are based on the most sensitive adverse effects reported in the medical and toxicological literature. Potential non-cancer effects were evaluated by calculating a ratio of the modeled concentration in air and the REL. This ratio is referred to as a hazard quotient. The unit risk values and RELs used to characterize health risks associated with modeled concentrations in air were obtained from the *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values* (CARB 10/2020) and are presented in Table 3.3-17.

**Table 3.3-17: Toxicity Values Used to Characterize Health Risks**

| TAC                          | Unit Risk Factor<br>( $\mu\text{g}/\text{m}^3$ )-1 | Chronic Reference Exposure<br>Level ( $\mu\text{g}/\text{m}^3$ ) | Acute Reference Exposure<br>Level<br>( $\mu\text{g}/\text{m}^3$ ) |
|------------------------------|----------------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------------|
| DPM                          | .0003                                              | 5                                                                | --                                                                |
| Source: CARB/OEHHA, 10/2020. |                                                    |                                                                  |                                                                   |

Table 3.3-18 delineates the maximum hourly and annual emissions of the identified air toxic pollutants (DPM) from the emergency backup engines.

**Table 3.3-18: Maximum BBGF Hourly, Daily, and Annual Air Toxic Emissions**

| Emergency Standby Engines (per engine basis)                                                                                                                                  |       |                         |                          |                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------|--------------------------|--------------------------|
| Engine Model                                                                                                                                                                  | Toxic | Max Hour Emissions, Lbs | Max Daily Emissions, Lbs | Max Annual Emissions Lbs |
| QSK95                                                                                                                                                                         | DPM   | 0.142                   | 1.42                     | 7.1                      |
| Note: Engines are equipped with diesel particulate filters at 0.015 g/bhp-hr<br>Max daily emissions are for a 10-engine test day, readiness and maintenance testing scenario. |       |                         |                          |                          |

### **Characterization of Risks from Toxic Air Pollutants**

The excess lifetime cancer risk associated with concentrations in air estimated for the BBGF PMI location is estimated to be 1.37E-05 or 13.7 per million. Excess lifetime cancer risks less than  $10 \times 10^{-6}$ , for sources with T-BACT, are unlikely to represent significant public health impacts that require additional controls of facility emissions. Risks higher than  $1 \times 10^{-6}$  may or may not be of concern, depending upon several factors. These include the conservatism of assumptions used in risk estimation, size of the potentially exposed population and toxicity of the risk-driving chemicals. Health effects risk thresholds are listed on Table 3.3-19. Risks associated with pollutants potentially emitted from the facility are presented in Tables 3.3-20 and 3.3-21. The chronic hazard indices for all scenarios are well below 1.0. It should be noted that DPM does not currently have an acute hazard index value, and as such, acute health effects were not evaluated in the HRA. Further description of the methodology used to calculate health risks associated with emissions to the air can be found in the HARP User's Manual dated 12/2003 and the ADMRT Manual dated 3/2015 (CARB 2015). As described previously, human health risks associated with emissions from the proposed facility are unlikely to be higher at any other location than at the location of the PMI. If there is no significant impact associated with concentrations in air at the PMI location, it is unlikely that there would be significant impacts in any other location in the vicinity of the facility.

**Table 3.3-19: Health Risk Significance Thresholds**

| Risk Category                                               | Significance Thresholds              |                         |                                                          |
|-------------------------------------------------------------|--------------------------------------|-------------------------|----------------------------------------------------------|
|                                                             | BAAQMD Project Risk                  | BAAQMD Net Project Risk | State of California                                      |
| Cancer Risk                                                 | 10 in one million                    | 10 in one million       | <= 1 in a million w/o TBACT<br><=10 in a million w/TBACT |
| Chronic Hazard Index                                        | 1.0                                  | 1.0                     | 1.0                                                      |
| Acute Hazard Index                                          | 1.0                                  | 1.0                     | 1.0                                                      |
| Cancer (T-BACT required)                                    | >1 in a million<br>Chronic HI > 0.20 |                         | See above.                                               |
| Cancer Burden                                               | NA                                   |                         | 1.0                                                      |
| Source: Regulation 2 Rule 5, NSR for Toxic Air Contaminants |                                      |                         |                                                          |

**Table 3.3-20: BBGF Residential/Sensitive Health Risk Assessment Summary**

| Location                                                                                                                                           | Receptor # | UTM                | Cancer Risk | Chronic HI | Acute HI | Cancer Burden |
|----------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-------------|------------|----------|---------------|
| PMI                                                                                                                                                | 5108       | 590740,<br>4136610 | 1.37E-05    | 0.00318    | NA       | NA            |
| MEIR                                                                                                                                               | 4746       | 590920,<br>4136290 | 2.72E-06    | 0.000698   | NA       | NA            |
| MEIS                                                                                                                                               | 3450       | 590840,<br>4136150 | 7.87E-07    | 0.000182   | NA       | NA            |
| Notes: See acronym definitions above.<br>MEIS – Bracher Elementary School<br>The PMI noted above is located in a building due east of the project. |            |                    |             |            |          |               |

**Table 3.3-21: BBGF Worker Health Risk Assessment Summary**

| Location                                                                                                       | Receptor # | UTM                | Cancer Risk | Chronic HI | Acute HI | Cancer Burden |
|----------------------------------------------------------------------------------------------------------------|------------|--------------------|-------------|------------|----------|---------------|
| PMI                                                                                                            | 5108       | 590740,<br>4136610 | 4.13E-06    | 0.00318    | NA       | NA            |
| MEIW                                                                                                           | 5108       | 590740,<br>4136610 | 4.13E-06    | 0.00319    | NA       | NA            |
| Notes: See acronym definitions above.<br>The PMI noted above is located in a building due east of the project. |            |                    |             |            |          |               |

Cancer risks potentially associated with facility emissions also were not assessed in terms of cancer burden. Cancer burden is a hypothetical upper-bound estimate of the additional number of cancer cases that could be associated with emissions from the facility. Cancer burden is calculated as the worst-case product of excess lifetime cancer risk, at the  $1 \times 10^{-6}$  isopleth and the number of individuals at that risk level. Cancer burden evaluations are not required by the BAAQMD.

The chronic non-cancer hazard quotient associated with concentrations in air are shown in Tables 3.3-20 and 3.3-21. The chronic non-cancer hazard quotient for all target organs falls below 1.0. As described previously, a hazard quotient less than 1.0 is unlikely to represent significant impact to public health. Since DPM does not have an acute REL, no acute hazard index or quotient was calculated. As described previously, human health risks associated with emissions from the proposed facility are unlikely to be higher at any other location than at the location of the PMI. If there is no significant impact associated with concentrations in air at the PMI location, it is unlikely that there would be significant impacts in any other location in the vicinity of the facility.

Detailed risk and hazard values are provided in the HARP output which will be submitted to Staff electronically.

The estimates of excess lifetime cancer risks and non-cancer risks associated with chronic or acute exposures fall below thresholds used for regulating emissions of toxic pollutants to the air. Historically, exposure to any level of a carcinogen has been considered to have a finite risk of inducing cancer. In other words, there is no threshold for carcinogenicity. Since risks at low levels of exposure cannot be quantified directly by either animal or epidemiological studies, mathematical models have estimated such risks by extrapolation from high to low doses. This modeling procedure

is designed to provide a highly conservative estimate of cancer risks based on the most sensitive species of laboratory animal for extrapolation to humans (i.e., the assumption being that humans are as sensitive as the most sensitive animal species). Therefore, the true risk is not likely to be higher than risks estimated using unit risk factors and is most likely lower, and could even be zero (USEPA, 1986; USEPA, 1996).

An excess lifetime cancer risk of  $1 \times 10^{-6}$  is typically used as a screening threshold of significance for potential exposure to carcinogenic substances in air. The excess cancer risk level of  $1 \times 10^{-6}$ , which has historically been judged to be an acceptable risk, originates from efforts by the Food and Drug Administration (FDA) to use quantitative risk assessment for regulating carcinogens in food additives in light of the zero-tolerance provision of the Delany Amendment (Hutt, 1985). The associated dose, known as a “virtually safe dose” (VSD) has become a standard used by many policy makers and the lay public for evaluating cancer risks. However, a study of regulatory actions pertaining to carcinogens found that an acceptable risk level can often be determined on a case-by-case basis. This analysis of 132 regulatory decisions, found that regulatory action was not taken to control estimated risks below  $1 \times 10^{-6}$  (one-in-one million), which are called de minimis risks. De minimis risks are historically considered risks of no regulatory concern. Chemical exposures with risks above  $4 \times 10^{-3}$  (four-in-ten thousand), called de manifestis risks, were consistently regulated. De manifestis risks are typically risks of regulatory concern. The risks falling between these two extremes were regulated in some cases, but not in others (Travis et al, 1987).

The estimated lifetime cancer risks to the maximally exposed individual located at the BBGF PMI, MEIR, MEIW, and MEIS do not exceed the  $10 \times 10^{-6}$  significance level for T-BACT sources. These engines are EPA certified Tier 4 units equipped with diesel particulate filters, and are used only for emergency power backup, therefore BACT or T-BACT for DPM is satisfied. The chronic hazard index value is also well below the significance threshold of 1.0. These risk estimates were calculated using assumptions that are highly health conservative. Evaluation of the risks associated with the BBGF emissions should consider that the conservatism in the assumptions and methods used in risk estimation considerably over-state the risks from BBGF emissions. Based on the results of this risk assessment, there are no significant public health impacts anticipated from emissions of toxic pollutant to the air from the BBGF.

### Construction Phase Impacts

The proposed project would be a source of air pollutant emissions during project construction. The BAAQMD CEQA Air Quality Guidelines considers exposure of sensitive receptors to air pollutant levels that result in an unacceptable cancer risk or hazard to be significant. BAAQMD recommends a 1,000-foot zone of influence around project boundaries. Results of the construction related health risk assessment indicate that the risk values from construction would be as follows in Table 3.3-22:

**Table 3.3-22: BBGF Construction Health Risk Assessment Summary**

| Location | Receptor # | UTM (meters)          | Cancer Risk       | Chronic HI | Acute HI | Cancer Burden |
|----------|------------|-----------------------|-------------------|------------|----------|---------------|
| PMI      | 5151       | 590720 E<br>4136590 N | $1.42\text{E-}06$ | 0.000764   | -        | NA            |
| MEIR     | 4746       | 597700 E<br>4140265 N | $1.44\text{E-}07$ | 0.000454   | -        | NA            |

|      |      |                       |          |          |   |    |
|------|------|-----------------------|----------|----------|---|----|
| MEIS | 3450 | 590840 E<br>4136150 N | 3.42E-08 | 0.000254 | - | NA |
| MEIW | 5109 | 597940 E<br>4140065 N | 8.87E-08 | 0.000764 | - | NA |

Notes: See acronym definitions above.  
The PMI noted above is located in a parking lot due east of the project.  
All MEIR maximum impacts were on the first floor of the multistory structure.  
\* Max acute occurred at receptor 1225  
DPM is the surrogate compound for construction equipment diesel exhaust. No acute REL has been established for DPM.  
Two-year construction period (HRA used 2-year exposure period.)  
FAH=1 for all age groups from 3<sup>rd</sup> trimester to 16 years, for MEIR and MEIS.  
FAH not used for MEIW.  
MEIS – Bracher Elementary School

These values are well below the significance thresholds for construction health risk impacts, and as such the community risk impacts from construction activities would be *less than significant*.

The proposed project would be a source of air pollutant emissions during project construction. The BAAQMD CEQA Air Quality Guidelines considers exposure of sensitive receptors to air pollutant levels that result in an unacceptable cancer risk or hazard to be significant. BAAQMD recommends a 1,000-foot zone of influence around project boundaries. Results of the construction related health risk assessment indicate that the cancer risk at the construction PMI would be 1.42E-6. This value is below the significance threshold for construction health risk impacts. Since construction activities are temporary and typically do not result in health-related impacts at nearby sensitive receptors. Community risk impacts on the order of the value presented above from construction activities would be *less than significant*.

### Operation Odors

The facility is not expected to produce any contaminants at concentrations that could produce objectionable odors.

### Summary of Impacts

The health risk assessment for the BBGF indicates that the maximum cancer risk will be approximately 2.56E-6 (versus a significance threshold of  $10 \times 10^{-6}$  with T-BACT) at the PMI to air toxics from BBGF emissions. This risk level is considered to be not significant. Non-cancer chronic effects for all scenarios are well below the chronic hazard index significance value.

Results from an air toxics risk assessment based on emissions modeling indicate that there will be no significant incremental public health risks from the modification and operation of the BBGF. Results from criteria pollutant modeling for routine operations indicate that potential ambient concentrations of NO<sub>2</sub>, CO, SO<sub>2</sub>, and PM<sub>10</sub> will not significantly impact air quality. Potential concentrations are below the federal and California standards established to protect public health, including the more sensitive members of the population.

Data obtained from CalEnviroscreen 4.0 for census tract #6085505202 indicates the following:

- Tract population is approximately 6936.

- Tract rating is 60 percentile.

Based on the definition of an “Overburdened Community” in Regulation 2 Rule 1, Section 243, the facility is not located in such an area, nor are there any such areas with percentile ratings equal to or above 70 percentile within 1000 ft. of the proposed facility.

## **Cumulative Impacts**

### **BAAQMD’s Role in Air Quality**

The Bay Area Air Quality Management District (BAAQMD) is the primary agency responsible for assuring that the National and California Ambient Air Quality Standards (NAAQS and CAAQS, respectively) are attained and maintained in the Bay Area. BAAQMD’s jurisdiction includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo and Santa Clara counties, and the southern portions of Solano and Sonoma counties. The Air District’s responsibilities in improving air quality in the region include: preparing plans for attaining and maintaining air quality standards; adopting and enforcing rules and regulations; issuing permits for stationary sources of air pollutants; inspecting stationary sources and responding to citizen complaints; monitoring air quality and meteorological conditions; awarding grants to reduce mobile emissions; implementing public outreach campaigns; and assisting local governments in addressing climate change.

Under the Small Power Plant Exemption process with the California Energy Commission (CEC), the BAAQMD acts as a Responsible Agency when it has limited discretionary authority over a portion of a project but does not have the primary discretionary authority of a Lead Agency. As a Responsible Agency, BAAQMD may coordinate the environmental review process with the lead agency regarding BAAQMD’s permitting process, provide comments to the Lead Agency regarding potential impacts, and recommend mitigation measures.

### **Cumulative Thresholds of Significance**

In accordance with BAAQMD CEQA Guidelines, a project impact would be considered significant if the project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

In May 2017, the BAAQMD updated the significance thresholds for agencies to use with environmental review of projects. These thresholds were designed to establish the level at which BAAQMD believed air pollutant emissions would cause significant impacts under CEQA.

A project would have a cumulative considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius from the fence line of a source plus the contribution from the project, exceeds the following recommended significance thresholds in Table 3.3-29 below.

**Table 3.3-29 Cumulative Significance Thresholds**

| Health Risks and Hazards for Sensitive Receptors (Cumulative from All Sources within 1,000-Foot Zone of Influence) and Cumulative Thresholds for New Sources |                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Excess Cancer Risk                                                                                                                                           | 100 per 1 million     |
| Chronic Hazard Index                                                                                                                                         | 10.0                  |
| Annual Average PM <sub>2.5</sub>                                                                                                                             | 0.8 µg/m <sup>3</sup> |
| PM <sub>2.5</sub> = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. Source: BAAQMD, 2018.                             |                       |

### *Stationary Point Sources*

Cumulative stationary and mobile source impacts were assessed for the proposed project. As recommended by the BAAQMD (BAAQMD, 2020), in order to evaluate cumulative risks, permitted stationary sources of TACs near the project site were identified using BAAQMD's *Stationary Source Risk and Hazard Analysis Tool*. This mapping tool uses Google Earth to identify the location of stationary sources and their estimated screening level cancer risk and hazard impacts. This tool identified 24 sources within 1,000 feet of the project boundaries and are summarized in Table 3.3-30. The BAAQMD Distance Adjustment Multiplier Tool was used to adjust the stationary source background cancer risk, hazard index and PM<sub>2.5</sub> concentrations based on distance from the background source to the closest sensitive receptor, which was greater than 280 meters from the nearest background source.

**Table 3.3-30 Combined Source Listing**

| Source                 | Maximum Cancer Risk (per million) | Adjusted Maximum Cancer Risk (per million) | Hazard Index | Adjusted Hazard Index | PM <sub>2.5</sub> concentration (µg/m <sup>3</sup> ) | Adjusted PM <sub>2.5</sub> concentration (µg/m <sup>3</sup> ) |
|------------------------|-----------------------------------|--------------------------------------------|--------------|-----------------------|------------------------------------------------------|---------------------------------------------------------------|
| Intel Corporation      | 59.541                            | 2.38164                                    | 0.831        | 0.03324               | 1.678                                                | 0.06712                                                       |
| Applied Materials      | 39.919                            | 1.59676                                    | 0.063        | 0.00252               | 0.463                                                | 0.01852                                                       |
| Microsemi Inc          | 0                                 | 0                                          | 0.002        | 0.0001                | 0.001                                                | 0.0001317                                                     |
| Toppan Photomasks, Inc | 0.017                             | 0.002638948                                | 0.001        | 0.00005               | 3.157                                                | 0.012628                                                      |
| Apple, Inc             | 2.578                             | 0.10312                                    | 0.007        | 0.00028               | 0.003                                                | 0.00012                                                       |
| Vantage Data Centers   | 6.294                             | 0.25176                                    | 0.013        | 0.00052               | 0.008                                                | 0.00032                                                       |
| Vantage Data Centers   | 6.294                             | 0.25176                                    | 0.013        | 0.00052               | 0.008                                                | 0.00032                                                       |
| Vantage Data Centers   | 6.294                             | 0.25176                                    | 0.013        | 0.00052               | 0.008                                                | 0.00032                                                       |
| Vantage Data Centers   | 0.355                             | 0.0142                                     | 0.001        | 0.00004               | 0                                                    | 0                                                             |
| Vantage Data Centers   | 0.355                             | 0.0142                                     | 0.001        | 0.00004               | 0                                                    | 0                                                             |
| Vantage Data Centers   | 0.369                             | 0.01476                                    | 0.001        | 0.00004               | 0                                                    | 0                                                             |
| Vantage Data Centers   | 0.993                             | 0.03972                                    | 0.002        | 0.00008               | 0.001                                                | 0.00004                                                       |
| Vantage Data Centers   | 1.391                             | 0.06955                                    | 0.002        | 0.0001                | 0.002                                                | 0.0001                                                        |
| Vantage Data Centers   | 1.608                             | 0.0804                                     | 0.002        | 0.0001                | 0.002                                                | 0.0001                                                        |
| Vantage Data Centers   | 1.608                             | 0.0804                                     | 0.002        | 0.0001                | 0.002                                                | 0.0001                                                        |
| Vantage Data Centers   | 1.391                             | 0.06955                                    | 0.002        | 0.0001                | 0.002                                                | 0.0001                                                        |
| Vantage Data Centers   | 1.391                             | 0.06955                                    | 0.002        | 0.0001                | 0.002                                                | 0.0001                                                        |
| Vantage Data Centers   | 1.608                             | 0.06432                                    | 0.002        | 0.00008               | 0.002                                                | 0.00008                                                       |
| Vantage Data Centers   | 0.534                             | 0.02136                                    | 0.001        | 0.00004               | 0.001                                                | 0.00004                                                       |
| Vantage Data Centers   | 0.534                             | 0.02136                                    | 0.001        | 0.00004               | 0.001                                                | 0.00004                                                       |
| Vantage Data Centers   | 0.462                             | 0.01848                                    | 0.001        | 0.00004               | 0.001                                                | 0.00004                                                       |

|                                                                                                                                                                                                                                                                                                                                     |               |               |              |                |              |               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|--------------|----------------|--------------|---------------|
| Vantage Data Centers                                                                                                                                                                                                                                                                                                                | 0.534         | 0.02136       | 0.001        | 0.00004        | 0.001        | 0.00004       |
| Vantage Data Centers                                                                                                                                                                                                                                                                                                                | 0.462         | 0.01848       | 0.001        | 0.00004        | 0.001        | 0.00004       |
| Vantage Data Centers                                                                                                                                                                                                                                                                                                                | 3.496         | 0.13984       | 0.008        | 0.00032        | 0.004        | 0.00016       |
| <b>Combined Sources<sup>1</sup></b>                                                                                                                                                                                                                                                                                                 | <b>138.03</b> | <b>5.5969</b> | <b>0.973</b> | <b>0.03905</b> | <b>5.348</b> | <b>0.1005</b> |
| <b>BAAQMD Threshold – Combined Sources</b>                                                                                                                                                                                                                                                                                          | <b>100</b>    | <b>100</b>    | <b>10.0</b>  | <b>10</b>      | <b>0.8</b>   | <b>0.8</b>    |
| * The BAAQMD Distance Adjustment Multiplier Tool for Diesel Generators and Generic Case were used to adjust the risks, hazard indexes and PM <sub>2.5</sub> concentrations.<br>Note: <sup>1</sup> The combined source level is an overestimate because the maximum impact from each source is assumed to occur at the same location |               |               |              |                |              |               |

### *Traffic Emissions (Mobile Sources)*

In addition to stationary sources, mobile source impacts from the nearest major roadway, defined as having at least 10,000 average annual daily traffic (AADT) within 1,000 feet of the project were assessed. The nearest major roadway that meets the listed criteria is the Central Expressway. Traffic on Central Expressway is a source of TACs that could adversely affect sensitive receptors near the roadway. However, based on the BAAQMD CEQA Guidelines, all sensitive receptors are at distances greater than 1,000 feet from Central Expressway. Based on the Guidelines, if a receptor does not have any significant roadway sources within 1,000-foot radius, then no further source roadway related air quality evaluation is recommended

### *Rail Line Community Risk Impacts*

The project site is located about 390 feet north of rail lines used for passenger and freight service. Rail activity on these lines currently generates DPM and PM<sub>2.5</sub> emissions from locomotive exhaust. These rail lines are used primarily for Caltrain passenger service; however, there is some freight service by trains using diesel-fueled locomotives. Based on the current Caltrain schedule effective August 30, 2021, there are 104 trains that pass the project site during weekdays and 32 on weekends. On an annual average basis this would be a total of 83 daily trains using diesel locomotives. In addition to the passenger trains there are about four freight trains that use the rail lines on a daily basis.<sup>13</sup>

Currently all of Caltrain's trains use diesel locomotives. The Peninsula Corridor Electrification Project is a key component of the Caltrain Modernization Program that would electrify the Caltrain Corridor from San Francisco to the Tamien Caltrain station in San José. As part of the program to modernize operation of the Caltrain rail corridor between San José and San Francisco, Caltrain is planning to phase in the change from using diesel locomotives to use of electric trains.<sup>14</sup> This plan was formally adopted on January 8, 2015<sup>15</sup> and electrified service is anticipated to begin in late 2024.<sup>16</sup>

Electrification of Caltrain would eliminate DPM emissions from these trains. Caltrain plans are that initial service between San José and San Francisco would use a mixed fleet of electric and diesel locomotives, with approximately 75 percent of the service being electric and 25 percent being diesel.

<sup>13</sup> U.S. Department of Transportation, Federal Railroad Administration. U.S. DOT Crossing Inventory Form for Crossing 722743W. January 31, 2022.

<sup>14</sup> Caltrain, 2014. *Peninsula Corridor Electrification Project. Final Environmental Impact Report*. December 2014.

<sup>15</sup> Caltrain, 2015. *Peninsula Corridor Electrification Fact Sheet*. May 2015.

<sup>16</sup> Caltrain, 2021. *Caltrain Electrification Delayed to 2024*. June 3, 2021. See: [www.caltrain.com/about/MediaRelations/news/Caltrain\\_Electrification\\_Delayed\\_to\\_2024.html](http://www.caltrain.com/about/MediaRelations/news/Caltrain_Electrification_Delayed_to_2024.html)



Diesel locomotives would be replaced with electric trains over time as they reach the end of their service life. Caltrain's diesel-powered locomotives would continue to be used to provide service between the San José Diridon Station and Gilroy. It is expected that all of the San José to San Francisco fleet would be electric trains about five to eight years after initial electric service begins.<sup>17</sup>

With Caltrain electrification, starting in late 2024 there would be 24 daily weekday trips and 8 weekend trips using trains with diesel locomotives<sup>18</sup>. All other Caltrain trains would be electric. On an annual average basis this would be a total of 19 daily trains using diesel locomotives. Use of these diesel trains by Caltrain between San Francisco and San José would be phased out over time and replaced by electric trains. All trains used for freight service are assumed to use diesel powered locomotives.

### *Rail Line Emissions*

Operation of the project residential units would begin in 2026 or thereafter. In calculating cancer risks from DPM emissions from rail line diesel locomotives a 30-year exposure period is used per BAAQMD health risk guidance.<sup>19</sup> In this case, the exposure period would be from 2026 through 2055. Rail line DPM emissions from Caltrain diesel trains were conservatively calculated for 2026. Modeled concentrations from the rail lines for 2026 were used to calculate potential increased cancer risks for sensitive receptors (residents) within about one-quarter mile of the project site assuming almost continual exposure (350 days per year for 24 hours per day) over the 30-year exposure period. Use of 2026 emissions is conservative in that after electrification begins there would be fewer Caltrain diesel trains in service until such time as all Caltrain diesel trains between San Francisco and San José are replaced by electric trains. The freight trains using the rail line were assumed to continue to use diesel locomotives over the entire 2026 through 2055 period. DPM emissions from diesel-fueled locomotives will be reduced over time due to regulatory requirements for reduced particulate matter emissions from diesel locomotives.

DPM and PM<sub>2.5</sub> emissions from trains on the rail line were calculated using EPA emission factors for locomotives<sup>20</sup> and CARB adjustment factors to account for fuels used in California<sup>21</sup>. Caltrain's current locomotive fleet consists of twenty-six 3,200 horsepower (hp) locomotives and six 3,600 hp locomotives.<sup>22</sup> When electrification occurs, Caltrain will initially retain the six 3,600 hp locomotives and three 3,200 hp locomotives<sup>23</sup>. In estimating diesel locomotive emissions from Caltrain an average locomotive horsepower of 3,467 hp was used. Emissions from the freight trains were calculated assuming they would use two diesel locomotives with 2,300 hp engines (total of 4,600 hp). Passenger and freight trains were assumed to be traveling at an average speed of 40 mph on the rail lines in the vicinity of the project site.

### *Dispersion Modeling*

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<sup>17</sup> Caltrain, 2019. *Short Range Transit Plan: FY2018-2027*. June 6, 2019.

<sup>18</sup> Caltrain, 2019. *Short Range Transit Plan: FY2018-2027*. June 6, 2019.

<sup>19</sup> BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

<sup>20</sup> *Emission Factors for Locomotives*, USEPA 2009 (EPA-420-F-09-025)

<sup>21</sup> *Offroad Modeling, Change Technical Memo, Changes to the Locomotive Inventory*, CARB July 2006.

<sup>22</sup> Caltrain *Commute Fleets*. Available at: <http://www.caltrain.com/about/statsandreports.html>.

<sup>23</sup> Caltrain, 2019. *Short Range Transit Plan: FY2018-2027*. June 6, 2019.

Dispersion modeling of locomotive emissions was conducted using the EPA's AERMOD dispersion model and five-year data set (2013-2017) of hourly meteorological data from the San Francisco International Airport prepared for use with the AERMOD model by the BAAQMD. Locomotive emissions from train travel within about one-quarter mile of the project site were modeled as line-volume sources comprised of a series of volume sources along the rail line. A grid of receptors with 20 meter spacing was placed in the residential area south of the rail line at which concentrations were calculated. The locations of the project site, modeled rail line segment, and receptors are shown AQ-3.

### *Health Risk Impacts*

Increased cancer and non-cancer health risks were calculated using model results and methods recommended by the BAAQMD. Based on the rail line modeling, DPM concentrations were used to calculate the cancer risk from rail line operation at all modeled receptor locations. From these values the location of the maximum residential increased cancer risk was identified and is shown in Table 3.3-31 and in the attached figures in Appendix AQ-5. The maximum annual PM<sub>2.5</sub> was 0.0211 µg/m<sup>3</sup>. The maximum HI at this location would be less than 0.01. The maximum increased cancer risk at the MEIR location is 15.67 in one million.

In addition to evaluating impacts at the MEI location for rail line emissions, the combined health impacts from project operation (emergency diesel generators) and the rail line emissions were evaluated. The location where the maximum combined rail and project operation impacts occurred is the same location where the maximum impacts from rail line emissions occurred. AQ-5 presents the locations where the maximum impacts from project operation occur, the location where maximum impacts from the rail lines occur, and the location where the maximum impacts from the combined operation of the project and rail lines occurs. The maximum increased cancer risk from combined operation of the project and rail lines is 17.33 in one million and the maximum PM<sub>2.5</sub> concentration is 0.0514 µg/m<sup>3</sup>. The maximum HI at this location would be less than 0.01.

**Table 3.3-31. Impacts from Rail Line**

| Receptor   | Cancer Risk<br>(per million) | Annual PM <sub>2.5</sub><br>(µg/m <sup>3</sup> ) | Hazard<br>Index |
|------------|------------------------------|--------------------------------------------------|-----------------|
| MEIR #4746 | 15.67                        | 0.0211                                           | <0.01           |

Details of the emission calculations, dispersion modeling and cancer risk calculations are contained in AQ-5.

### **Combined Community Risk Impacts**

As discussed above, the project site is affected by several sources of TACs. Table 3.3-32 shows the cancer and non-cancer risks at the applicable sensitive receptor location associated with each source and source type affecting the project site. The sum of impacts from combined sources (i.e., all sources within 1,000 feet of the project) would be below the BAAQMD risk thresholds. Therefore, the impact from combined community risk would be considered less than significant. Appendix AQ-5 presents the support data for the operational risk calculations.

**Table 3.3-32. Impacts from Combined Sources**

| Source                                                                                                                                                | Maximum Cancer Risk (per million) | Hazard Index       | PM <sub>2.5</sub> concentration (µg/m <sup>3</sup> ) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------------|------------------------------------------------------|
| Rail Line                                                                                                                                             | 15.67                             | <0.01              | 0.0211                                               |
| Existing Background Sources.                                                                                                                          | 5.5969                            | 0.0391             | 0.1005                                               |
| BBGF                                                                                                                                                  | 2.72                              | <0.01              | 0.0031                                               |
| <i>Combined Sources</i> <sup>1</sup>                                                                                                                  | 23.99                             | 0.04               | 0.125                                                |
| <b><i>BAAQMD Threshold – Combined Sources</i></b>                                                                                                     | <b><i>100</i></b>                 | <b><i>10.0</i></b> | <b><i>0.8</i></b>                                    |
| Note: <sup>1</sup> The combined source level is an overestimate because the maximum impact from each source is assumed to occur at the same location. |                                   |                    |                                                      |

### 3.4 BIOLOGICAL RESOURCES

The following discussion is based on an Arborist Report prepared by HMM, Inc. in June 2021 for the project site. The report is attached in Appendix B of this document.

#### 3.4.1 Environmental Setting

##### *Regulatory Framework*

##### **Federal and State**

##### Endangered Species Act

###### 3.4.1.1

Individual plant and animal species listed as rare, threatened, or endangered under state and federal Endangered Species Acts are considered special-status species. Federal and state endangered species legislation has provided the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Permits may be required from both the USFWS and CDFW if activities associated with a proposed project would result in the take of a species listed as threatened or endangered. To “take” a listed species, as defined by the State of California, is “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill” these species. Take is more broadly defined by the federal Endangered Species Act to include harm of a listed species.

In addition to species listed under state and federal Endangered Species Acts, Sections 15380(b) and (c) of the CEQA Guidelines provide that all potential rare or sensitive species, or habitats capable of supporting rare species, must be considered as part of the environmental review process. These may include plant species listed by the California Native Plant Society and CDFW-listed Species of Special Concern.

##### Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) prohibits killing, capture, possession, or trade of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. Hunting and poaching are also prohibited. The taking and killing of birds resulting from an activity is not prohibited by the MBTA when the underlying purpose of that activity is not to take birds.<sup>24</sup> Nesting birds are considered special-status species and are protected by the USFWS. The CDFW also protects migratory and nesting birds under California Fish and Game Code Sections 3503, 3503.5, and 3800. The CDFW defines taking as causing abandonment and/or loss of reproductive efforts through disturbance.

##### Sensitive Habitat Regulations

Wetland and riparian habitats are considered sensitive habitats under CEQA. They are also afforded protection under applicable federal, state, and local regulations, and are generally subject to regulation by the United States Army Corps of Engineers (USACE), Regional Water Quality Control

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<sup>24</sup> United States Department of the Interior. “Memorandum M-37050. The Migratory Bird Treaty Act Does Not Prohibit Incidental Take.” Accessed April 20, 2022. <https://www.doi.gov/sites/doi.gov/files/uploads/m-37050.pdf>.

Board (RWQCB), CDFW, and/or the USFWS under provisions of the federal Clean Water Act (e.g., Sections 303, 304, 404) and State of California Porter-Cologne Water Quality Control Act.

#### Fish and Game Code Section 1602

Streambeds and banks, as well as associated riparian habitat, are regulated by the CDFW per Section 1602 of the Fish and Game Code. Work within the bed or banks of a stream or the adjacent riparian habitat requires a Streambed Alteration Agreement from the CDFW.

#### Regional and Local City of Santa Clara City Code

Chapter 12.35 of the Santa Clara City Code includes City policies for the purpose of preserving the City's urban forest, regulating the management of trees in public places, and encouraging the protection of trees for environmental, aesthetic, and economic purposes. The Santa Clara City Code restricts the removal of certain trees on private property without a permit, including trees with a diameter of 38 inches or more measured at 54 inches above natural grade, and all trees with a diameter of 12 inches or more when measured at 54 inches above natural grade of the following species:

- *Aesculus californica* (California buckeye)
- *Acer macrophyllum* (big leaf maple)
- *Cedrus deodara* (deodar cedar)
- *Cedrus atlantica* "Glauc" (blue Atlas cedar)
- *Cinnamomum camphora* (camphor tree)
- *Platanus racemosa* (western sycamore)
- *Quercus* (native oak tree species), including:
  - *Quercus agrifolia* (coast live oak)
  - *Quercus lobata* (valley oak)
  - *Quercus kelloggii* (black oak)
  - *Quercus douglasii* (blue oak)
  - *Quercus wislizeni* (interior live oak)
- *Sequoia sempervirens* (coast redwood); and
- *Umbellularia californica* (bay laurel or California bay)

#### Santa Clara General Plan

The General Plan includes several land use and conservation policies designed to protect biological resources in the City, specifically trees. These policies include the following:

| Policies/Actions | Description                                                                                                                                                                                                                                                                                                   |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Policy 5.3.1-P10 | Provide opportunities for increased landscaping and trees in the community, including requirements for new development to provide street trees and a minimum 2:1 on- or off-site replacement for trees removed as part of the proposal to help increase the urban forest and minimize the heat island effect. |

| <b>Policies/Actions</b> | <b>Description</b>                                                                                                                                                                                                                                         |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Policy 5.10.1-P4        | Protect all healthy cedars, redwoods, oaks, olives, bay laurel and pepper trees of any size, and all other trees over 36 inches in circumference measured from 48 inches above-grade on private and public property as well as in the public right-of-way. |

### Architectural Committee Policies - Community Design Guidelines

The City’s Architectural Committee maintains a Community Design Guideline used for architectural review in order to “provide a manual of consistent development standards in the interest of continued maintenance and enhancement of the high-quality living and working environment of the City of Santa Clara.” The manual includes the following guidelines relevant to the project:

Landscaping, Minimum Planting Sizes: The following minimum plant sizes shall apply when landscaping is required as a condition of approval or in any planting area within the public right-of-way. Other standards may apply in cases where particular planting requirements must be met.

Trees:

- Minimum fifteen (15) gallon on private property
- Minimum fifteen (15) gallon street tree
- Minimum twenty-four (24) or thirty-six (36) inch box to replace a mature tree which has been or is proposed to be removed

#### 3.4.1.2

#### ***Existing Conditions***

The project site is located in a developed, urban area of the City of Santa Clara. Surrounding land uses include commercial and industrial uses to the west, north, and east, and residential uses to the southwest, beyond the Caltrain railroad right-of-way. Vegetation in the vicinity of the project site includes grass, shrubs, and trees. Habitats in developed areas such as the project area include predominantly urban-adapted birds and animals. There are no waterways, wetlands, or other sensitive habitats located on or adjacent to the project site. The nearest waterways are San Tomas Aquino Creek, located approximately 0.4 mile east of the project site, Calabazas Creek, located approximately 0.5 miles west of the project site, and Saratoga Creek, located approximately 0.5 mile southeast of the project site.<sup>25</sup>

The site is currently developed with a two-story, approximately 55,000 square foot office building with surface parking. Landscaping on-site includes grass areas along the Bowers Avenue frontage and the western edge of the office building, as well as a grass area along the project’s northeastern frontage. Trees are sparsely located around the building and project frontage on Bowers Avenue, in a row along the northern project boundary, and located throughout the parking lot.

<sup>25</sup> Valley Water. Santa Clara County Creeks. Map. Accessed April 20, 2022. <https://data-valleywater.opendata.arcgis.com/datasets/santa-clara-county-creeks/explore?location=37.355440%2C-121.964902%2C14.00>.

The recycled water line extension alignment consists of paved public right of way along Bowers Avenue and Walsh Avenue.

### Special Status Species

Wildlife habitats in developed urban areas are low in species diversity. Species that use the habitat on the site are predominantly urban adapted birds, such as rock doves, mourning doves, house sparrows, finches, and starlings.

Special status plant and wildlife species are not present on the highly urbanized project site or recycled water line extension alignment, although raptors (birds of prey) could use the trees on-site for nesting or as a roost. Raptors are protected by the Federal Migratory Bird Treaty Act (MBTA) (16 U.S.C. Section 703, et seq.).

### Trees

Mature trees (both native and non-native) are valuable to the human environment, as they reduce the impacts of global climate change through carbon dioxide absorption, reduce urban heat island effect, provide nesting and foraging habitat for raptors and other migratory birds, and provide visual enhancement. The goal of the City's General Plan Policy 5.10.1-P4 and City Code, Chapter 12.35 is to protect all healthy cedars, redwoods, oaks, olives, bay laurel, and pepper trees of any size, and all trees over 36 inches in circumference (approximately 11 inches or more in diameter) as measured from 48 inches above the ground surface. The City's Community Design Guidelines require that mature trees removed or proposed for removal be replaced on-site, at a minimum, with a 24- or 36-inch box. Other standards may apply in cases where particular planting requirements must be met.

There are 61 trees on the project site, 17 in good health, three in poor health and 41 in moderate health.<sup>26</sup> Table 3.4-1 below summarizes the type, health, and proposed status of existing trees on-site.

| Table 3.4-1: Existing Tree Summary |                               |                         |                |                               |
|------------------------------------|-------------------------------|-------------------------|----------------|-------------------------------|
| Common Name                        | Species                       | Number of Trees Present | Overall Health | Status                        |
| Red Ironbark                       | <i>Eucalyptus sideroxylon</i> | 13                      | Moderate       | 1 to remain, 12 to be removed |
| Evergreen Ash                      | <i>Fraxinus uhdei</i>         | 13                      | Moderate       | All to be removed             |
| Black Walnut                       | <i>Juglans californica</i>    | 2                       | Moderate       | 1 to remain, 1 to be removed  |
| Crape Myrtle                       | <i>Lagerstroemia indica</i>   | 2                       | Good           | All to be removed             |
| Olive Tree                         | <i>Olea europaea</i>          | 5                       | Good           | 1 to remain, 4 to be removed  |
| Canary Island Pine                 | <i>Pinus canariensis</i>      | 1                       | Moderate       | To be removed                 |
| Chinese Pistache                   | <i>Pistacia chinensis</i>     | 2                       | Good           | All to remain                 |
| Evergreen Pear                     | <i>Pyrus kawakamii</i>        | 3                       | Good           | All to be removed             |
| London Plane Tree                  | <i>Platanus x hispanica</i>   | 6                       | Good           | All to remain                 |

<sup>26</sup> HMH. Arborist Report. June 7, 2021.

|         |                             |    |          |                               |
|---------|-----------------------------|----|----------|-------------------------------|
| Redwood | <i>Sequoia sempervirens</i> | 14 | Moderate | 3 to remain, 10 to be removed |
|---------|-----------------------------|----|----------|-------------------------------|

### 3.4.2 Impact Discussion

For the purpose of determining the significance of the project's impact on biological resources, would the project:

- 1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS)?
- 2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?
- 3) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- 4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
- 5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- 6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

#### 3.4.2.1

#### ***Project Impacts***

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**Impact BIO-1:** The project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. **(Less than Significant Impact with Mitigation Incorporated)**

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As previously discussed, special status plant and wildlife species are not expected on the developed site or recycled water line extension alignment. Urban adapted raptors (birds of prey), however, could use the trees on the site for nesting. Potential construction impacts to nesting raptors are discussed below.

#### **Potential Construction Impacts to Nesting Birds**

If tree-nesting birds, including raptors, were to nest on the site, construction activities associated with the project could result in the abandonment of active nests or direct mortality to these birds. Nesting birds are protected by the California Fish and Game Code 3503, which states, "it is unlawful to take, posses, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." Construction disturbance during the breeding season could



result in the incidental loss of fertile eggs or nestlings, or could otherwise lead to nest abandonment. Additionally, migratory birds, including nesting raptors, are protected under the Migratory Bird Treaty Act and the California Fish and Game Code Sections 3503, 3503.5, and 2800. Migratory birds, especially raptors, utilize mature trees for nesting and foraging habitat. If any migratory birds were to nest on site, construction of the proposed project may result in a loss of fertile eggs or nestlings, or lead to nest abandonment in raptor habitat.

Although unlikely at this location, tree removal during the nesting season could impact protected raptors and/or other protected migratory birds. Any loss of fertile bird eggs, or individual nesting birds, or any activities resulting in nest abandonment during construction are considered “take” by the CDFW, and therefore would constitute a significant impact.

**Impact BIO-1:** Onsite construction activities could impact nesting and migratory birds.

**Applicant Project Design Measure:**

**PD BIO-1.1:** Construction shall be scheduled to avoid the nesting bird season to the extent feasible. The nesting season for most birds, including most raptors, in the San Francisco Bay Area extends from February 1 through August 31.

If it is not possible to schedule construction activities between September 1 and January 31, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure no nest shall be disturbed during project implementation. This survey shall be completed no more than 14 days prior to the initiation of grading, tree removal, or other demolition or construction activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August).

During this survey, the ornithologist shall inspect all trees and other possible nesting habitats within and immediately adjacent to the construction area for nests. If an active nest is found sufficiently close to work areas to be disturbed by construction, the ornithologist, in consultation with CDFW, shall determine the extent of a construction-free buffer zone to be established around the nest to ensure that nests of bird species protected by the MBTA or Fish and Game Code shall not be disturbed during project construction.

A final report of nesting birds, including any protection measures, shall be submitted to the Director of Community Development prior to the start of grading or tree removal.

The project, with implementation of the above mitigation measure, would reduce impacts to nesting birds (if present) by avoiding construction during nesting bird season or completing pre-construction nesting bird surveys to minimize and/or avoid impacts to nesting birds. **(Less than Significant Impact with Mitigation Incorporated)**

### Impacts to Birds During Project Operation

The project site is surrounded by commercial and industrial development. There are no open space or wetland areas where a substantial number of migratory birds are known to occur surrounding the project site. The project site is 0.4 mile from San Tomas Aquino Creek and 0.5 mile from Calabazas Creek. Project operation would have a less than significant **(Less than Significant Impact)**

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**Impact BIO-2:** The project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS. **(Less than Significant Impact)**

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No riparian habitat or sensitive natural communities exist on or adjacent to the site or recycled water line extension alignment. As stated in Section 3.4.1.2, Existing Conditions, the nearest waterway is San Thomas Aquino Creek, located approximately 0.4 miles west of the project site. Buildings and roadways lie in between the creek and the project site. For these reasons, the development of the project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community. **(No Impact)**

---

**Impact BIO-3:** The project would not have a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means. **(No Impact)**

---

The project site does not contain, nor it is adjacent to, any wetlands. As a result, the project will not affect any federally protected wetlands as defined by Section 404 of the Clean Water Act. **(No Impact)**

---

**Impact BIO-4:** The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. **(No Impact)**

---

The project site and recycled water line extension alignment are surrounded by development and there are no sensitive habitats or waterways on or adjacent to the project site. Due to the highly developed nature of the project area, the project site does not provide dispersal habitat for any native resident migratory fish or wildlife species and does not act as a substantial wildlife corridor. There are no identified wildlife nursery sites present on the project site. For these reasons, the proposed project would have a less than significant impact on migratory fish or wildlife species, wildlife corridors, and wildlife nursery sites. In addition, as described under Impact BIO-1, measures to mitigate impacts to nesting birds will be implemented if they are identified on-site during construction. As a result, the project would not substantially interfere with the movement of any native or migratory species, or the use of any nursery sites. **(Less than Significant Impact)**

---

**Impact BIO-5:** The project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. **(Less than Significant Impact with Mitigation Incorporated)**

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There are 61 trees on the project site. Of the 61 trees, 47 trees would be removed as part of the project and 14 trees would remain (See Figure 3.4-1). The City's General Plan (Policy 5.3.1-P10) requires new development to provide street trees at a minimum 2:1 on- or off-site replacement for removal of existing trees. The Santa Clara City Ordinance, Sections 12.35.020 and 12.35.030, serves to protect all trees (native and non-native) planted or growing in the streets or public places of the City from removal without a permit from the City and prohibits the attaching of anything to a tree in the City, unless it is necessary and proper to the growth and care of the tree. Additionally, the Santa Clara City Code requires a replacement ratio of 2:1 for 24-inch box replacement trees, or replacement ratio of 4:1 for a 15-gallon replacement trees. As a result, the proposed project would be required to plant a minimum of 94 trees. The project currently proposes to plant 69 trees on-site, while the remaining required 25 replacement trees would be planted off-site in accordance with the City's General Plan (Policy 5.3.1-P10).

Trees to be retained on-site may be injured during project construction activities including demolition and site grading. The following mitigation measures would be implemented to reduce impacts to existing trees to less than significant levels.

**Impact BIO-2:** Construction activities could injure trees to be retained on-site.

**Applicant Project Design Measures:**

**PD BIO-2.1:** Barricades – Prior to initiation of construction activity, temporary barricades would be installed around all trees in the construction area. Six-foot high, chain link fences would be mounted on steel posts, driven two feet into the ground, at no more than 10-foot spacing. The fences shall enclose the entire area under the drip line of the trees or as close to the drip line area as practical. These barricades will be placed around individual trees and/or groups of trees.

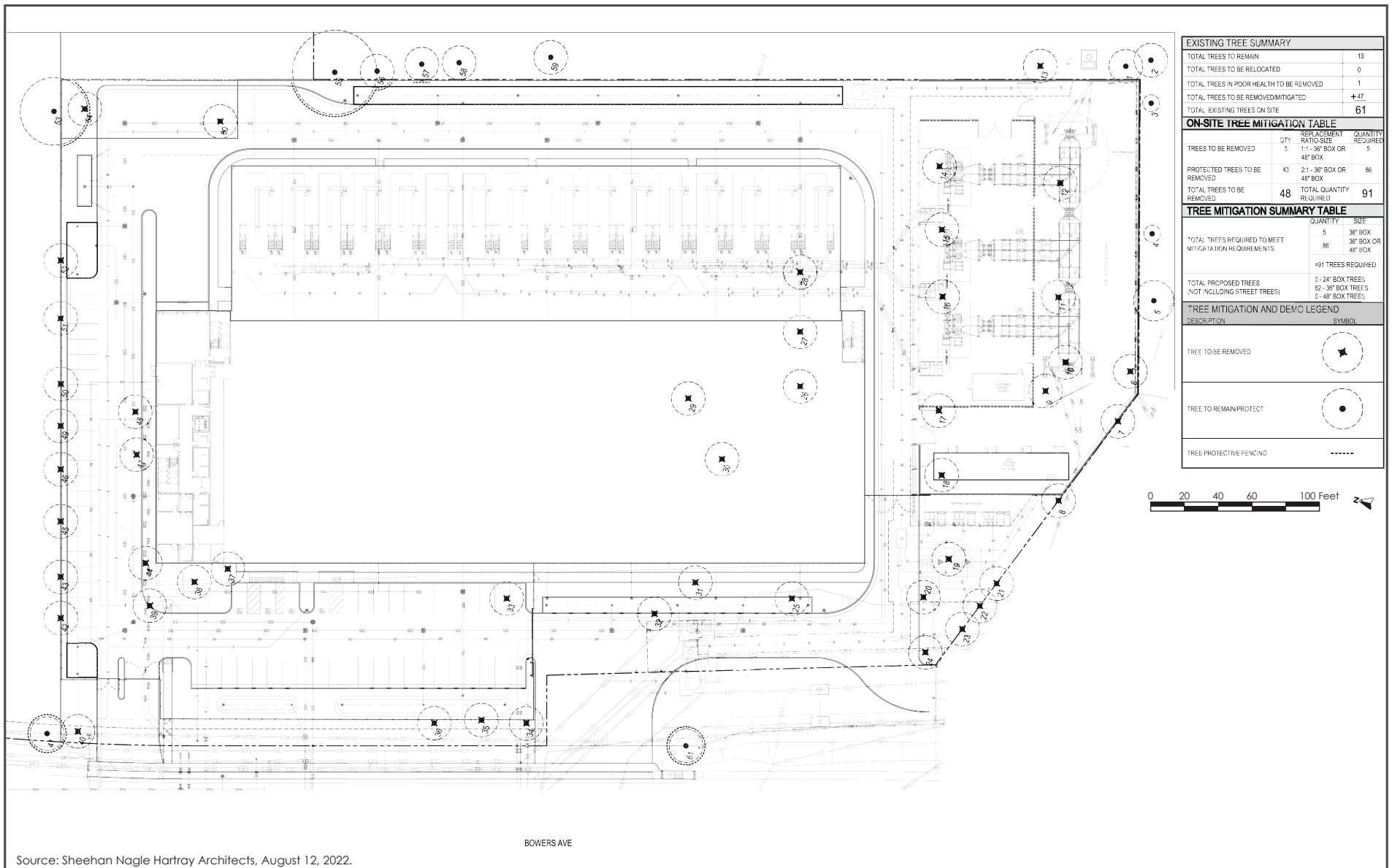
**PD BIO-2.2:** Root Pruning (if necessary) – During and upon completion of any trenching/grading operation within a tree's drip line, should any roots greater than one inch in diameter be damaged, broken or severed, root pruning to include flush cutting and sealing of exposed roots should be accomplished under the supervision of a qualified arborist to minimize root deterioration beyond the soil line within 24 hours.

**PD BIO-2.3:** Pruning – Pruning of the canopies to include removal of deadwood should be initiated prior to construction operations. Such pruning will provide any necessary construction clearance, will lessen the likelihood or potential for limb breakage, reduce 'windsail' effect and provide an environment suitable for healthy and vigorous growth.

**PD BIO-2.4:** Fertilization – Fertilization by means of deep root soil injection should be used for trees to be impacted during construction in the spring and summer months.

**PD BIO-2.5:** Mulch – Mulching with wood chips (maximum depth of three inches) within tree environments should be used to lessen moisture evaporation from soil, protect and encourage adventitious roots and minimize possible soil compaction.

With implementation of mitigation measures MM BIO-2.1 - 2.5, the project would result in a less than significant impact to trees. **(Less Than Significant Impact with Mitigation Incorporated)**



| EXISTING TREE SUMMARY                    |  |     |
|------------------------------------------|--|-----|
| TOTAL TREES TO REMAIN                    |  | 13  |
| TOTAL TREES TO BE RELOCATED              |  | 0   |
| TOTAL TREES IN POOR HEALTH TO BE REMOVED |  | 1   |
| TOTAL TREES TO BE REMOVED/MITIGATED      |  | +47 |
| TOTAL EXISTING TREES ON SITE             |  | 61  |

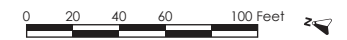
| ON-SITE TREE MITIGATION TABLE |     |                                                 |
|-------------------------------|-----|-------------------------------------------------|
| TREES TO BE REMOVED           | QTY | REPLACEMENT RATIO-SIZE 1:1 - 36" BOX OR 48" BOX |
| PROTECTED TREES TO BE REMOVED | 43  | 2:1 - 36" BOX OR 48" BOX                        |
| TOTAL TREES TO BE REMOVED     | 48  | TOTAL QUANTITY REQUIRED 91                      |

| TREE MITIGATION SUMMARY TABLE                        |     |                                 |
|------------------------------------------------------|-----|---------------------------------|
| TOTAL TREES REQUIRED TO MEET MITIGATION REQUIREMENTS | QTY | SIZE 36" BOX 36" BOX OR 48" BOX |
| TOTAL PROPOSED TREES (NOT INCLUDING STREET TREES)    | 86  | +91 TREES REQUIRED              |
|                                                      |     | 0 - 24" BOX TREES               |
|                                                      |     | 25 - 36" BOX TREES              |
|                                                      |     | 37 - 48" BOX TREES              |

| TREE MITIGATION AND DEMO LEGEND |        |
|---------------------------------|--------|
| DESCRIPTION                     | SYMBOL |
| TREE TO BE REMOVED              |        |
| TREE TO REMAIN/PROTECT          |        |
| TREE PROTECTIVE FENCING         |        |



TREE PROTECTION, MITIGATION, AND REMOVAL PLAN

FIGURE 3.4-1

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**Impact BIO-6:** The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. **(No Impact)**

---

The project site and recycled water line extension alignment are not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, it would have no impact. **(No Impact)**

### *Cumulative Impacts*

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**Impact BIO-C:** The project would not result in a cumulatively considerable contribution to a cumulatively significant biological resources impact. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

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3.4.2.2

The geographic area for cumulative biological resources impacts includes the project site and its surrounding area. The project site and recycled water line extension alignment do not contain sensitive, wetland, or riparian habitat and, therefore, the project has no potential to combine with other projects to result in cumulative impacts to these resources. **(No Cumulative Impact)**

Implementation of the proposed project could result in impacts to nesting raptors, migratory birds, and trees. All projects, however, would be subject to federal and state regulations that protect nesting birds and the City's General Plan Policy requiring the replacement of trees removed would avoid and/or reduce the cumulative impact to nesting birds and trees. Finally, through implementation of the mitigation measures described in this section, the project's contribution to a biological impact would not be cumulatively considerable. For these reasons, the proposed project would not result in a significant cumulative impact to biological resources. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

### 3.5 CULTURAL RESOURCES

This analysis is based on a Historical Resource Assessment and a Literature Review prepared by PaleoWest in August 2022. The Historical Resource Assessment is included as Appendix C, while the Literature Review was submitted with a Request for Confidentiality.

#### 3.5.1 Environmental Setting

##### *Regulatory Framework*

##### **Federal and State**

#### 3.5.1.1 National Historic Preservation Act

Federal protection is legislated by the National Historic Preservation Act of 1966 (NHPA) and the Archaeological Resource Protection Act of 1979. These laws maintain processes for determination of the effects on historical properties eligible for listing in the National Register of Historic Places (NRHP). Section 106 of the NHPA and related regulations (36 Code of Federal Regulations [CFR] Part 800) constitute the primary federal regulatory framework guiding cultural resources investigations and require consideration of effects on properties that are listed or eligible for listing in the NRHP. Impacts to properties listed in the NRHP must be evaluated under CEQA.

The NRHP is the nation's master inventory of historic resources that are considered significant at the national, state, or local level. The minimum criteria for determining NRHP eligibility include:

- The property is at least 50 years old (properties under 50 years of age that are of exceptional importance or are contributors to a district can also be included in the NRHP);
- It retains integrity of location, design, setting, materials, workmanship, feeling, and associations; and
- It possesses at least one of the following characteristics:
  - Association with events that have made a significant contribution to the broad patterns of history;
  - Association with the lives of persons significant in the past;
  - Distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant, distinguishable entity whose components may lack individual distinction; or
  - Has yielded, or may yield, information important to prehistory or history.

#### California Register of Historical Resources

The California Register of Historical Resources (CRHR) is administered by the State Office of Historic Preservation and encourages protection of resources of architectural, historical, archeological, and cultural significance. The CRHR identifies historic resources for state and local

planning purposes and affords protections under CEQA. Under Public Resources Code Section 5024.1(c), a resource may be eligible for listing in the CRHR if it meets any of the NRHP criteria.<sup>27</sup>

Historical resources eligible for listing in the CRHR must meet the significance criteria described previously and retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR if it maintains the potential to yield significant scientific or historical information or specific data.

The concept of integrity is essential to identifying the important physical characteristics of historical resources and, therefore, in evaluating adverse changes to them. Integrity is defined as “the authenticity of a historical resource’s physical identity evidenced by the survival of characteristics that existed during the resource’s period of significance.” The processes of determining integrity are similar for both the CRHR and NRHP and use the same seven variables or aspects to define integrity that are used to evaluate a resource’s eligibility for listing. These seven characteristics include 1) location, 2) design, 3) setting, 4) materials, 5) workmanship, 6) feeling, and 7) association.

## **State**

### Assembly Bill 52

AB 52, effective July 2015, established a new category of resources for consideration by public agencies called Tribal Cultural Resources (TCRs). AB 52 requires lead agencies to provide notice of projects to tribes that are traditionally and culturally affiliated with the geographic area if they have requested to be notified. Where a project may have a significant impact on a tribal cultural resource, consultation is required until the parties agree to measures to mitigate or avoid a significant effect on a tribal cultural resource or until it is concluded that mutual agreement cannot be reached.

Under AB 52, TCRs are defined as follows:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are also either:
  - Included or determined to be eligible for inclusion in the California Register of Historic Resources, or
  - Included in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).
- A resource determined by the lead agency to be a TCR.

### California Native American Historical, Cultural, and Sacred Sites Act

The California Native American Historical, Cultural, and Sacred Sites Act applies to both state and private lands. The act requires that upon discovery of human remains, construction or excavation activity must cease and the county coroner be notified.

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<sup>27</sup> California Office of Historic Preservation. “CEQA Guidelines Section 15064.5(a)(3) and California Office of Historic Preservation Technical Assistance Series #6.” Accessed August 31, 2020. <http://www.ohp.parks.ca.gov/pages/1069/files/technical%20assistance%20bulletin%206%202011%20update.pdf>.



## Public Resources Code Sections 5097 and 5097.98

Section 15064.5 of the CEQA Guidelines specifies procedures to be used in the event of an unexpected discovery of Native American human remains on non-federal land. These procedures are outlined in Public Resources Code Sections 5097 and 5097.98. These codes protect such remains from disturbance, vandalism, and inadvertent destruction, establish procedures to be implemented if Native American skeletal remains are discovered during construction of a project, and establish the Native American Heritage Commission (NAHC) as the authority to resolve disputes regarding disposition of such remains.

Pursuant to Public Resources Code Section 5097.98, in the event of human remains discovery, no further disturbance is allowed until the county coroner has made the necessary findings regarding the origin and disposition of the remains. If the remains are of a Native American, the county coroner must notify the NAHC. The NAHC then notifies those persons most likely to be related to the Native American remains. The code section also stipulates the procedures that the descendants may follow for treating or disposing of the remains and associated grave goods.

### **Local**

#### Santa Clara General Plan

General Plan policies applicable to cultural resources include, but are not limited to, the following listed below.

| <b>Policies</b> | <b>Description</b>                                                                                                                                                                                                                                                |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.6.3-P1        | Require that new development avoid or reduce potential impacts to archaeological, paleontological, and cultural resources.                                                                                                                                        |
| 5.6.3-P4        | Require that a qualified paleontologist/archaeologist monitor all grading and/or excavation if there is a potential to affect archeological or paleontological resources, including sites within 500 feet of natural water courses and the Old Quad neighborhood. |
| 5.6.3-P5        | In the event that archeological/paleontological resources are discovered, require that work be suspended until the significance of the find and recommended actions are determined by a qualified archeologist/paleontologist.                                    |
| 5.6.3-P6        | In the event that human remains are discovered, work with the appropriate Native American representative and follow the procedures set forth in State Law.                                                                                                        |

#### City of Santa Clara Criteria for Local Significance

The City of Santa Clara's Criteria for Local Significance establishes an evaluation framework that help to determine significance for properties not yet included in the City's Historic Resources Inventory (HRI). Any building, site, or property in Santa Clara that is 50 years old or older and meets at least one of the following criteria for cultural, historical, architectural, geographical, or archaeological significance is potentially eligible.<sup>28</sup>

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<sup>28</sup> City of Santa Clara. City of Santa Clara General Plan – 8.9 Historic Preservation and Resource Inventory. 8.9-18 and 8.9-19. Accessed April 10, 2020.

To be historically or culturally significant, a property must meet at least one of the following criteria:

1. The site, building or property has character, interest, integrity, and reflects the heritage and cultural development of the City, region, state, or nation.
2. The property is associated with a historical event.
3. The property is associated with an important individual or group who contributed in a significant way to the political, social, and/or cultural life of the community.
4. The property is associated with a significant industrial, institutional, commercial, agricultural, or transportation activity.
5. A building's direct association with broad patterns of local area history, including development and settlement patterns, early or important transportation routes or social, political, or economic trends and activities. Included is the recognition of urban street pattern and infrastructure.
6. A notable historical relationship between a site, building, or property's site and its immediate environment, including original native trees, topographical features, outbuildings or agricultural setting.

To be architecturally significant, a property must meet at least one of the following criteria:

1. The property characterizes an architectural style associated with a particular era and/or ethnic group.
2. The property is identified with a particular architect, master builder or craftsman.
3. The property is architecturally unique or innovative.
4. The property has a strong or unique relationship to other areas potentially eligible for preservation because of architectural significance.
5. The property has a visual symbolic meaning or appeal for the community.
6. A building's unique or uncommon building materials, or its historically early or innovative method of construction or assembly.
7. A building's notable or special attributes of an aesthetic or functional nature. These may include massing, proportion, materials, details, fenestration, ornamentation, artwork or functional layout.

To be geographically significant, a property must meet at least one of the following criteria:

1. A neighborhood, group, or unique area directly associated with broad patterns of local area history.
2. A building's continuity and compatibility with adjacent buildings and/or visual contribution to a group of similar buildings.
3. An intact, historical landscape or landscape features associated with an existing building.
4. A notable use of landscaping design in conjunction with an existing building.

## ***Existing Conditions***

### **Historic Context**

#### Prehistoric Resources

3.5.1.2 Native Americans occupied Santa Clara Valley and the greater Bay Area for more than 5,000 years. The exact time period of the Ohlone (originally referred to as Costanoan) migration into the Bay Area is debated by scholars. Dates of the migration range between 3000 B.C. and 500 A.D. Regardless of the actual time frame of their initial occupation of the Bay Area and, in particular, Santa Clara Valley, it is known the Ohlone had a well-established population of approximately 7,000 to 11,000 people with a territory that ranged from the San Francisco Peninsula and the East Bay, south through the Santa Clara Valley and down to Monterey and San Juan Bautista.

The Ohlone people practiced hunting, fishing, and collecting seasonal plant and animal resources, including tidal and marine resources from San Francisco Bay. The customary way of living, or lifeway, of the Costanoan/Ohlone people disappeared by about 1810 due to disruption by introduced diseases, a declining birth rate and the impact of the California mission system established by the Spanish in the area in 1777.

Although there are no existing conditions or obvious evidence that would suggest the presence of subsurface historic or prehistoric resources, the project site is located in a culturally sensitive area due to the known prehistoric and historic occupation of Santa Clara. Native American settlements are commonly associated with the abundant food supply in the Santa Clara Valley, and they often established settlements near local waterways.

#### Mission Period

Spanish explorers began coming to Santa Clara Valley in 1769. From 1769 to 1776, several expeditions were made during which time the explorers encountered the local Native American tribes. These expeditions lead to the establishment of the California Missions, including the first Mission Santa Clara founded in 1777 near what is today the Kifer Road/De La Cruz Boulevard intersection. After being destroyed by flooding, a second Mission Santa Clara was constructed near the present-day Martin Avenue/De La Cruz intersection. The third, fourth, and fifth Missions were constructed on what is today the Santa Clara University Campus, located approximately 0.4 miles east of the project site. During the Mission period, the Mission controlled much of the land (approximately 80,000 acres) in Santa Clara Valley and the Native Americans were brought into the Mission, effectively ending the Ohlone's traditional occupation of the valley.

### **Archaeological Resources Literature Review**

A records search at the Northwest Information Center (NWIC) was completed for the project. The results from the NWIC identified two previous cultural resource investigations within and adjacent to the project site, with an additional 14 investigations within the 0.50-mile search buffer. No previously identified cultural resources exist within the project site or 0.5-mile search buffer.

## Historic Resource Assessment

### Site History

Historical maps of the project area were examined to identify potential historic-period (45-years and older) cultural resources. In 1939, the study area was characterized almost completely by agricultural properties and orchards with some residences on the properties. Although the agricultural use of the project site is unclear, orchard properties of varying types are seen just to the west of the project site. By the 1950's, development of the area accelerated, and single-family residential housing tracts were constructed 0.5-mile south of the project site, near the Southern Pacific Railroad tracts. Vestiges of agricultural parcels remained near the project site until the early 1970's, when the area north of the Southern Pacific Railroad tracts experienced growth in office and light industrial development.

The current building on the project site was developed in 1974 to house Versatec, a company that built high-speed printers and plotters using an electrostatic writing technique. Since the early 2000's, the building has been filled with several small operations and businesses and not a single occupant like Versatec.

### Property Description

On June 22, 2022, a reconnaissance survey was completed of the project area to assess the current condition of the historic period building at 2805 Bowers Avenue. The existing building on the project site is a two-story, commercial office building on a rectangular plan with a minor 1970's era Spanish Colonial revival influence. A mansard roof with projecting beams along the parapet and extending clay tile roof tops the building. A recessed and centered primary entrance on the west elevation is supported by a large concrete column. Twin sets of concrete steps with centered signage and plantings leads to the two sets of plate glass entry doors. Metal framed window ribbons on the first and second stories flank the main entrance. Window treatments throughout the building are interrupted by symmetrically placed concrete pilaster features that are shaped to project outward and provide sunshade to adjacent windows. Smooth textured stucco clads all exterior surfaces of the building. See Photos One and Two for a visual depiction of the existing building.



**Photo 1:** The east elevation of 2805 Bowers Avenue, view Northwest



**Photo 2:** The south elevation of 2805 Bowers Avenue, view North

### 3.5.2 Impact Discussion

For the purpose of determining the significance of the project's impact on cultural resources, would the project:

- 1) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?
- 2) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?
- 3) Disturb any human remains, including those interred outside of dedicated cemeteries?

#### *Project Impacts*

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**Impact CUL-1:** The project would not cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5. **(Less than Significant Impact)**

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Pursuant to CEQA Guidelines Section 15064.5 (b)(1), a “substantial adverse change” in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired. The Historic Resource Evaluation completed for the site determined that the property is not eligible for listing in the NRHP, CRHR, or as a City of Santa Clara Cultural Resource. A summary of the Historic Resource Evaluation is included below in Table 3.17-1.

| <b>Table 3.17-1: Historic Resource Evaluation Results</b>                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NRHP and CRHR Significance Evaluation</b>                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Requirement for Significance</b>                                                                                                                                                                                     | <b>Findings</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Criterion A/1: Associated with events that made a significant contribution to the broad patterns of our history.                                                                                                        | Although Versatec, an electronic printer company that originally occupied the building, had a 15-year stay in the building, there is no evidence that Versatec represented a significant Silicon Valley company. Research did not suggest the property is associated with more specific events or patterns of events that have historical significance in Santa Clara.                                                                                                |
| Criterion B/2: Associated with the lives of persons significant in our past.                                                                                                                                            | Archival research failed to indicate any such direct association between individuals that are known to be historic figures at the national, state, or local level and 2805 Bowers Avenue.                                                                                                                                                                                                                                                                             |
| Criterion C/3: Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or distinguishable entity whose components may lack individual distinction. | While the existing building has a slight nod to 1970's era Spanish Colonial Revival style, the building does not possess sufficient distinctive characteristics to be considered a significant and representative example of the Spanish Colonial Revival style, as the building lacks several character-defining features of the style. Therefore, the building does not convey significance as an example of the Mid-Century modern Style in a commercial building. |

| Table 3.17-1: Historic Resource Evaluation Results                                                                                                                        |                                                                                                                                                                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NRHP and CRHR Significance Evaluation                                                                                                                                     |                                                                                                                                                                                                                                                                                        |
| Requirement for Significance                                                                                                                                              | Findings                                                                                                                                                                                                                                                                               |
|                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |
| Criterion D/4: Yielded, or may be likely to yield, information important in prehistory or history.                                                                        | The property is not significant under Criterion D of the NRHP or Criterion 4 of the CRHR as a source, or likely source, of important historical information, nor does it appear likely to yield important information about historic construction methods, materials, or technologies. |
| Integrity: To be eligible for listing in the NRHP or CRHR, properties must retain their physical integrity from the period in which they gained significance.             | The building at 2805 is not significant under any criteria, therefore it does not have a period of significance and the integrity of the structure does not require examination.                                                                                                       |
| <b>Conclusion</b>                                                                                                                                                         | <i>The property at 2805 Bowers Avenue is not eligible for listing in the NRHP or CRHR.</i>                                                                                                                                                                                             |
| City of Santa Clara Significance Evaluation – Criterion for Historical or Cultural Significance                                                                           |                                                                                                                                                                                                                                                                                        |
| Requirement for Significance                                                                                                                                              | Findings                                                                                                                                                                                                                                                                               |
| 1. The site, building, or property has character, interest, integrity, and reflects the heritage and cultural development of the city, region, state, or nation.          | 2805 Bowers Avenue reflects the 1970's era electronics and technology growth in the Santa Clara Valley's Silicon Valley. However, the property does not reflect the development of the City of Santa Clara as a whole.                                                                 |
| 2. The property is associated with a historical event.                                                                                                                    | Research has not indicated the property is associated with a particular historical event.                                                                                                                                                                                              |
| 3. The property is associated with an important individual or group who contributed in a significant way to the political, social, and/or cultural life of the community. | No persons or groups of significance are associated with the property.                                                                                                                                                                                                                 |

| Table 3.17-1: Historic Resource Evaluation Results                                                                                                                                                                                                                                                     |                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NRHP and CRHR Significance Evaluation                                                                                                                                                                                                                                                                  |                                                                                                                                                                                               |
| Requirement for Significance                                                                                                                                                                                                                                                                           | Findings                                                                                                                                                                                      |
| 4. The property is associated with a significant industrial, institutional, commercial, agricultural, or transportation activity.                                                                                                                                                                      | The property is only loosely associated with the commercial development in Santa Clara; it does not relate to the commercial development of the City as a whole.                              |
| 5. A building's direct association with broad patterns of local area history, including development and settlement patterns, early or important transportation routes or social, political, or economic trends and activities. Included is the recognition of urban street pattern and infrastructure. | The property is not associated with development patterns of the City of Santa Clara in an individually significant way.                                                                       |
| 6. A notable historical relationship between a site, building, or property's site and its immediate environment, including original native trees, topographical features, outbuildings or agricultural setting.                                                                                        | The property lacks a historical relationship with its immediate environment.                                                                                                                  |
| <b>Conclusion</b>                                                                                                                                                                                                                                                                                      | <i>The property at 2805 Bowers Avenue is not eligible for local listing under historical or cultural significance.</i>                                                                        |
| City of Santa Clara Significance Evaluation – Criterion for Architectural Significance                                                                                                                                                                                                                 |                                                                                                                                                                                               |
| Requirement for Significance                                                                                                                                                                                                                                                                           | Findings                                                                                                                                                                                      |
| 1. The property characterizes an architectural style associated with a particular era and/or ethnic group.                                                                                                                                                                                             | The design of the office building on this parcel was influenced by the Spanish Colonial Revival architectural styles; however, the building is not an exemplary representative of this style. |
| 2. The property is identified with a particular architect, master builder or craftsman.                                                                                                                                                                                                                | No design professionals are associated with the property.                                                                                                                                     |
| 3. The property is architecturally unique or innovative.                                                                                                                                                                                                                                               | The structure on the subject parcel does not appear to be architecturally unique or innovative.                                                                                               |



| Table 3.17-1: Historic Resource Evaluation Results                                                                                                                                                        |                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NRHP and CRHR Significance Evaluation                                                                                                                                                                     |                                                                                                                                                                                                                                                                    |
| Requirement for Significance                                                                                                                                                                              | Findings                                                                                                                                                                                                                                                           |
| 4. The property has a strong or unique relationship to other areas potentially eligible for preservation because of architectural significance.                                                           | The property does not appear to have any relationship to other potentially eligible areas.                                                                                                                                                                         |
| 5. The property has a visual symbolic meaning or appeal for the community.                                                                                                                                | The property does not appear to have any visual symbolic meaning or appeal for the community.                                                                                                                                                                      |
| 6. A building's unique or uncommon building materials, or its historically early or innovative method of construction or assembly.                                                                        | The building appears to have been of common construction and materials and are not unique or innovative in construction or assembly for their time.                                                                                                                |
| 7. A building's notable or special attributes of an aesthetic or functional nature. These may include massing, proportion, materials, details, fenestration, ornamentation, artwork of functional layout. | The property is ordinary with no notable or special attributes.                                                                                                                                                                                                    |
| <b>Conclusion</b>                                                                                                                                                                                         | <i>The property at 2805 Bowers Avenue does not appear eligible for listing for architectural significance.</i>                                                                                                                                                     |
| City of Santa Clara Significance Evaluation – Criterion for Geographic Significance                                                                                                                       |                                                                                                                                                                                                                                                                    |
| Requirement for Significance                                                                                                                                                                              | Findings                                                                                                                                                                                                                                                           |
| 1. A neighborhood, group, or unique area directly associated with broad patterns of local area history.                                                                                                   | Even though the property is associated with the 1970's era commercial growth in Santa Clara, it is not associated with broad patterns of the local area history in an individually significant way.                                                                |
| 2. A building's continuity and compatibility with adjacent buildings and/or visual contribution to a group of similar buildings.                                                                          | The existing building is compatible with the surrounding commercial buildings and landscape; most buildings are similar in scale and material. However, the connection is minimal, and this does not create a significant visual link with the adjacent buildings. |
| 3. An intact, historical landscape or landscape features associated with an existing building.                                                                                                            | There are no intact historical landscape features associated with 2805 Bowers Avenue.                                                                                                                                                                              |

| Table 3.17-1: Historic Resource Evaluation Results                               |                                                                                             |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| NRHP and CRHR Significance Evaluation                                            |                                                                                             |
| Requirement for Significance                                                     | Findings                                                                                    |
| 4. A notable use of landscaping design in conjunction with an existing building. | 2805 Bowers Avenue does not have a notable use of landscape design.                         |
| <b>Conclusion</b>                                                                | <i>2805 Bowers Avenue does not appear eligible for listing for geographic significance.</i> |

As summarized in Table 3.17-1, the project is not eligible for listing in the NRHP, CRHR, or as a City of Santa Clara Cultural Resource. Additionally, the recycled water line extension alignment consists of public right of way along Bowers Avenue and Walsh Avenue and would not affect any nearby structures. Therefore, the proposed project would have no impact on historically significant structures pursuant to CEQA Guidelines Section 15064.5. **(Less than Significant Impact)**

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**Impact CUL-2:** The project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5. **(Less than Significant Impact with Mitigation Incorporated)**

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The project would require excavation to depths of up to 16 feet. No cultural resources were identified within the project area as a result of the Records Search, and the City's spatial data indicate that the area is not archaeologically sensitive. However, the Santa Clara Valley contains a high density of prehistoric sites, and as such, the archaeological sensitivity of the region is considered moderate for buried archaeological deposits even though no cultural resources were identified on the surface. Therefore, the project will implement the following applicant proposed measures to prevent damage in case unrecorded subsurface resources are encountered during trenching and excavation of the site.

**Applicant Proposed Project Design Measures:**

The following applicant proposed project design measures would be implemented during construction to avoid significant impacts to unknown subsurface cultural resources:

**Impact CUL-1:** Construction activities could impact unknown subsurface cultural resources.

**PD CUL-1.1:** Treatment Plan: Prior to the issuance of any grading permit, a project-specific Cultural Resources Treatment Plan shall be prepared by a qualified archaeologist, in consultation with a qualified Native American monitor, registered with the Native American Heritage Commission (NAHC) for the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area. The Cultural Resources Treatment Plan shall reflect permit-level detail pertaining to depths and locations of all ground disturbing activities. The Cultural Resources Treatment Plan shall be prepared and submitted to the Santa Clara Director of Community Development prior to

approval of any grading permit. The Treatment Plan shall contain, at a minimum:

- Identification of the scope of work and range of subsurface effects (including location map and development plan), including requirements for preliminary field investigations.
- Description of the environmental setting (past and present) and the historic/prehistoric background of the parcel (potential range of what might be found).
- Development of research questions and goals to be addressed by the investigation (what is significant vs. what is redundant information).
- Detailed field strategy used to record, recover, or avoid the finds and address research goals.
- Analytical methods.
- Report structure and outline of document contents.
- Disposition of the artifacts.
- Appendices: all site records, correspondence, and consultation with Native Americans, etc.

**PD CUL-1.2:**

Investigation: Prior to issuance of any grading or demolition permits, the project applicant shall complete a preliminary field investigation program in conformance with the project-specific Cultural Resources Treatment Plan required under Project Design Feature PD CUL-1.1. The locations of subsurface testing and exploratory trenching shall be determined prior to issuance of any grading permit based on the Cultural Resources Treatment Plan recommendations. A qualified archaeologist and a qualified Native American monitor, registered with the Native American Heritage Commission (NAHC) for the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area, shall complete a presence/absence exploration. Results of the investigation shall be provided to the Santa Clara Director of Community Development prior to issuance of any grading permit.

If any finds were discovered during the preliminary field investigation, the project shall implement PD CUL-1.4 for evaluation and recovery methodologies. The results of the preliminary field investigation and program shall be submitted to Santa Clara Director of Community Development for review and approval prior to issuance of any grading permit.

**PD CUL-1.3:**

Construction Monitoring and Protection Measures: Although the data recovery and treatment program would be expected to recover potentially significant materials and information from the areas impacted by the project prior to grading, it is possible that additional resources could remain on-site. Therefore, all ground-disturbing activities (e.g., grading and excavation) shall be completed under the observation of a qualified archaeologist and a qualified Native American monitor, registered with the Native American Heritage Commission (NAHC) for the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area.

The qualified archaeologist or a qualified Native American monitor, registered with the Native American Heritage Commission (NAHC) for the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area, shall have authority to halt construction activities temporarily in the immediate vicinity of an unanticipated find. If, for any reasons, the qualified archaeologist or a qualified Native American monitor, registered with the Native American Heritage Commission (NAHC) for the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area, is not present, but construction crews encounter a cultural resource, all work shall stop temporarily within 50 feet of the find until a qualified archaeologist in consultation with a qualified Native American monitor, registered with the Native American Heritage Commission (NAHC) for the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area, has been contacted to determine the proper course of action. The Santa Clara Director of Community Development shall be notified of any finds during the grading or other construction activities. Any human remains encountered during construction shall be treated according to the protocol identified in PD CUL-1.5.

**PD CUL-1.4:**

Evaluation and Data Recovery: The Santa Clara Director of Community Development shall be notified of any finds during the preliminary field investigation, grading, or other construction activities. Any historic or prehistoric material identified in the project area during the preliminary field investigation and during grading or other construction activities shall be evaluated for eligibility for the California Register of Historic Resources and the City of Santa Clara Historic Preservation and Resource Inventory. Data recovery methods may include, but are not limited to, backhoe trenching, shovel test units, hand auguring, and hand-excavation.

The techniques used for data recovery shall follow the protocols identified in the project-specific Cultural Resources Treatment Plan. Data recovery shall include excavation and exposure of features, field documentation, and recordation.

**PD CUL-1.5:**

Human Remains: Native American coordination shall follow the protocols established under Assembly Bill 52, State of California Code, and applicable City of Santa Clara procedures.

If any human remains are found during any field investigations, grading, or other construction activities, all provisions of California Health and Safety Code Sections 7054 and 7050.5 and Public Resources Code Sections 5097.9 through 5097.99, as amended per Assembly Bill 2641, shall be followed. In the event of the discovery of human remains during construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlies adjacent remains. The project applicant or qualified archaeologist in consultation with a Native American representative registered with the Native American Heritage Commission from the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area shall immediately notify the Santa Clara Director of Community Development, who will then notify the Santa Clara County Coroner. The Coroner shall make a determination as to whether the remains are Native American.

If the remains are believed to be Native American, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC shall then designate a Most Likely Descendant (MLD). The MLD shall inspect the remains and make a recommendation on the treatment of the remains and associated artifacts.

If one of the following conditions occurs, the landowner or his authorized representative shall work with the Coroner, in consultation with a qualified Native American monitor, registered with the Native American Heritage Commission (NAHC) for the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area, to reinter the Native American human remains and associated grave goods with appropriate dignity in a location not subject to further subsurface disturbance:

- The Native American Heritage Commission is unable to identify a most likely descendant or the most likely descendant failed to make a recommendation within 48 hours after being notified by the commission.
- The descendant identified fails to make a recommendation; or
- The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

**PD CUL-1.6:**

Site Security: At the discretion of the Santa Clara Director of Community Development, site fencing shall be installed on-site during the investigation, grading, building, or other construction activities to avoid destruction and/or theft of potential cultural resources. The responsible qualified archaeologist, in consultation with a qualified Native American monitor, registered with the Native American Heritage Commission (NAHC) for the City of Santa Clara

and that is traditionally and culturally affiliated with the geographic area, shall advise the Santa Clara Director of Community Development as to the necessity for a guard. The purpose of the security guard shall be to ensure the safety of any potential cultural resources (including human remains) that are left exposed overnight. The Santa Clara Director of Community Development shall have the final discretion to authorize the use of a security guard at the project site.

**PD CUL-1.7:** Final Reporting: Once all analyses and studies required by the project-specific Cultural Resources Treatment Plan have been completed, the project applicant, or representative, shall prepare a final report summarizing the results of the field investigation, data recovery activities and results, and compliance with the Cultural Resources Treatment Plan during all demolition, grading, building, and other construction activities. The report shall document the results of field and laboratory investigations and shall meet the Secretary of the Interior's Standards for Archaeological Documentation. The contents of the report shall be consistent with the protocol included in the project-specific Cultural Resources Treatment Plan. The report shall be submitted to the Santa Clara Director of Community Development for review and approval prior to issuance of any Certificates of Occupancy (temporary or final). Once approved, the final documentation shall be submitted to the Northwest Information Center at Sonoma State University, as appropriate.

**PD CUL-1.8:** Curation: Upon completion of the final report required by the project-specific Cultural Resources Treatment Plan, all recovered archaeological materials not identified as tribal cultural resources by the Native American monitor, shall be transferred to a long-term curation facility. Any curation facility used shall meet the standards outlined in the National Park Services' Curation of Federally Owned and Administered Archaeological Collections (36 CFR 79). The project applicant shall notify the Santa Clara Director of Community Development of the selected curation facility prior to the issuance of any Certificates of Occupancy (temporary or final). To the extent feasible, and in consultation with the Native American representative, all recovered Native American/tribal cultural resources and artifacts shall be reburied on-site in an area that is unlikely to be disturbed again. Treatment of materials to be curated shall be consistent with the protocols included in the project-specific Cultural Resources Treatment Plan.

All archaeological materials recovered during the data recovery efforts shall be cleaned, sorted, catalogued, and analyzed following standard archaeological procedures, and shall be documented in a report submitted to the Santa Clara Director of Community Development and the NWIC.

**PD CUL-1.9:** Dignified and Respectful Treatment – Cultural Sensitivity Training Prior to Construction: An important aspect of the consultation process is a dignified and respectful treatment of Tribal Cultural Resources. Prior to issuance of the

Grading Permit, the project shall be required to submit evidence that an Archaeological Monitoring Contractor Awareness Training was held prior to ground disturbance. The training shall be facilitated by the project archaeologist in coordination with a Native American representative registered with the Native American Heritage Commissions for the City of Santa Clara and that is traditionally and culturally affiliated with the geographic area as described in Public Resources Code Section 21080.3.

The proposed project would be required to implement the provisions of a project-specific Cultural Resources Treatment Plan, as outlined in the mitigation measures above. Implementation of these measures would ensure extensive subsurface investigation where subsurface excavation and groundwork would occur. Through this field investigation and data recovery program, the project would avoid demolition, substantial alteration, or relocation of an eligible resource. Significant disturbance of any human remains, Native American or otherwise, would be avoided through a robust protection program designed to respond to an encounter with cultural resources and/or human remains in consultation with appropriate parties (e.g., the Most Likely Descendant).

With implementation of PD CUL-1.1 through PD CUL-1.9, the project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5. **(Less than Significant Impact with Mitigation Incorporated)**

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**Impact CUL-3:** The project would not disturb any human remains, including those interred outside of dedicated cemeteries. **(Less than Significant Impact with Mitigation Incorporated)**

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Although unlikely, trenching and excavation activities could disturb human remains, should they be encountered on the site or in the recycled water line extension alignment. The project would implement PD CUL-1.5, as described above, which would ensure that an appropriate process is followed in the event of accidental discovery of human remains during project construction. By following the process set forth in PDF CUL-1.5, the proposed project would not result in a significant impact to human remains. **(Less than Significant Impact with Mitigation Incorporated)**

3.5.2.2

### ***Cumulative Impacts***

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**Impact CUL-C:** The project would not result in a cumulatively considerable contribution to a cumulatively significant cultural resources impact. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

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The geographic area for cultural resources is the project site, recycled water line extension alignment, and adjacent parcels as cultural resource impacts are typically localized and generally limited to the immediate area in which a given cultural resources is located.

The cumulative projects analyzed under this project may require excavation and grading or other activities that may affect unknown prehistoric cultural resources and/or historic resources. Other

projects in the City of Santa Clara may also have cultural resources, irrespective of their designation as such on local, state, or federal registers. Any excavation or grading activities could affect these known and unknown cultural resources. Therefore, the City has adopted standard conditions that will be implemented by all projects to reduce potential impacts to cultural resources. Project-level analyses will determine the necessity of additional mitigation measures to reduce localized and site-specific impacts to these resources.

### **Historic Resources**

As discussed above, the project site is not classified as a historic resource nor is it eligible to be listed in the NRHP, CRHR, or as a City of Santa Clara Cultural Resource. Additionally, the recycled water line extension alignment consists of public right of way along Bowers Avenue and Walsh Avenue and would not affect nearby structures. For these reasons, the project would not contribute to a significant cumulative impact on historic resources. **(No Impact)**

### **Archaeological Resources**

The cumulative projects (including the proposed project) would be required to implement General Plan policies and standard permit conditions to reduce impacts to archaeological resources (if encountered) to a less than significant level. The project includes applicant proposed project design measures PD CUL-1.1 through PD CUL-1.9 in order to ensure the proposed development does not impact prehistoric or historic resources. All projects in the City of Santa Clara would be required to implement mitigation measures that would avoid impacts to subsurface archaeological resources and/or reduce them to a less than significant level. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

### **Human Remains**

All projects in the City of Santa Clara would be required to implement mitigation measures that would avoid impacts to human remains and/or reduce them to a less than significant level (refer to PD CUL-1.5 for the specific measure included in the proposed project). For these reasons, the cumulative projects, including the proposed project, would not result in significant cumulative impacts to human remains. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**



## 3.6 ENERGY

### 3.6.1 Environmental Setting

#### *Regulatory Framework*

#### **Federal and State**

##### Energy Star and Fuel Efficiency

3.6.1.1 At the federal level, energy standards set by the EPA apply to numerous consumer products and appliances (e.g., the EnergyStar™ program). The EPA also sets fuel efficiency standards for automobiles and other modes of transportation.

##### Renewables Portfolio Standard Program

In 2002, California established its Renewables Portfolio Standard Program, with the goal of increasing the percentage of renewable energy in the state's electricity mix to 20 percent of retail sales by 2010. Governor Schwarzenegger issued Executive Order (EO) S-3-05, requiring statewide emissions reductions to 80 percent below 1990 levels by 2050. In 2008, EO S-14-08 was signed into law, requiring retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. In October 2015, Governor Brown signed SB 350 to codify California's climate and clean energy goals. A key provision of SB 350 requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from renewable sources by 2030. SB 100, passed in 2018, requires 100 percent of electricity in California to be provided by 100 percent renewable and carbon-free sources by 2045.

##### Executive Order B-55-18 To Achieve Carbon Neutrality

In September 2018, Governor Brown issued an executive order, EO-B-55-18 To Achieve Carbon Neutrality, setting a statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." The executive order requires CARB to "ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal." EO-B-55-18 supplements EO S-3-05 by requiring not only emissions reductions, but also that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO<sub>2</sub> from the atmosphere through sequestration.

##### California Building Standards Code

The Energy Efficiency Standards for Residential and Nonresidential Buildings, as specified in Title 24, Part 6 of the California Code of Regulations (Title 24), was established in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24 is updated approximately every three years.<sup>29</sup> Compliance with Title 24 is mandatory at the time new building permits are issued by city and county governments.<sup>30</sup>

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<sup>29</sup> California Building Standards Commission. "California Building Standards Code." Accessed August 1, 2022. <https://www.dgs.ca.gov/BSC/Codes#@ViewBag.JumpTo>.

<sup>30</sup> California Energy Commission (CEC). "2019 Building Energy Efficiency Standards." Accessed August 1, 2022. <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency>.

### California Green Building Standards Code

CALGreen establishes mandatory green building standards for buildings in California. CALGreen was developed to reduce GHG emissions from buildings, promote environmentally responsible and healthier places to live and work, reduce energy and water consumption, and respond to state environmental directives. CALGreen covers five categories: planning and design, energy efficiency, water efficiency and conservation, material and resource efficiency, and indoor environmental quality.

### Advanced Clean Cars Program

CARB adopted the Advanced Clean Cars program in 2012 in coordination with the EPA and National Highway Traffic Safety Administration. The program combines the control of smog-causing pollutants and GHG emissions into a single coordinated set of requirements for vehicle model years 2015 through 2025. The program promotes development of environmentally superior passenger cars and other vehicles, as well as saving the consumer money through fuel savings.<sup>31</sup>

## **City of Santa Clara**

### Santa Clara General Plan

The City of Santa Clara 2010-2035 General Plan includes goals, policies, and actions to protect and conserve energy resources in the City. The following goals, policies, and actions are applicable to the proposed project:

| <b>Policies</b> | <b>Description</b>                                                                                                                                       |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.10.3-P1       | Promote the use of renewable energy resources, conservation, and recycling programs.                                                                     |
| 5.10.3-P4       | Encourage new development to incorporate sustainable building design, site planning and construction, including encouraging solar opportunities.         |
| 5.10.3-P5       | Reduce energy consumption through sustainable construction practices, materials, and recycling.                                                          |
| 5.10.3-P6       | Promote sustainable buildings and land planning for all new development, including programs that reduce energy and water consumption in new development. |
| 5.10.3-P8       | Provide incentives for LEED certified, or equivalent development.                                                                                        |

### Reach Code

The City of Santa Clara recently adopted “Reach Code” ordinance, effective January 1, 2022, which requires newly constructed buildings be all-electric and prohibits the installation of natural gas utilities. Exceptions to the Reach Code apply to certain uses such as non-residential kitchens or if a Building Official or designee determines that it is infeasible to meet the requirements (e.g., lack of commercially available technology).

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<sup>31</sup> California Air Resources Board. “The Advanced Clean Cars Program.” Accessed August 1, 2022. <https://www.arb.ca.gov/msprog/acc/acc.htm>.

## ***Existing Conditions***

Total energy usage in California was approximately 6,956.6 trillion British thermal units (Btu) in the year 2020, the most recent year for which this data was available.<sup>32</sup> Out of the 50 states, California is ranked second in total energy consumption and 49<sup>th</sup> in energy consumption per capita. The breakdown by sector was approximately 21.8 percent (1,507.7 trillion Btu) for residential uses, 19.6 percent (1,358.3 trillion Btu) for commercial uses, 24.6 percent (1,701.2 trillion Btu) for industrial uses, and 34 percent (2,355.5 trillion Btu) for transportation.<sup>33</sup> This energy is primarily supplied in the form of natural gas, petroleum, nuclear electric power, and hydroelectric power.

## **Electricity**

Electricity in Santa Clara County in 2020 was consumed primarily by the non-residential sector (73 percent), followed by the residential sector consuming 24 percent. In 2020, a total of approximately 16,435 gigawatt hours (GWh) of electricity was consumed in Santa Clara County.<sup>34</sup>

Silicon Valley Power (SVP) is the City of Santa Clara's energy utility and would provide electricity service to the project site. For commercial customers, SVP offers several options for participation in green energy programs, including a carbon-free energy option.<sup>35</sup>

California's total system electric generation in 2020 was approximately 272,576 gigawatt-hours (GWh), which was down two percent from 2019's total generation of approximately 277,704 GWh. California's in-state electric generation decreased by six percent to 190,913 GWh compared to approximately 200,475 GWh in 2019.<sup>36</sup> This decline was due to decreased generation from in-state large hydroelectric power plants, down 45 percent (15,207 GWh) from 2019.

In 2020, natural gas represented the largest portion of the state's energy sources (at 48 percent). Solar, wind, and hydro generation accounted for more than 33 percent of all renewable electricity generation.<sup>37</sup>

## **Natural Gas**

PG&E provides natural gas services within the City of Santa Clara. In 2020, approximately two percent of California's natural gas supply came from in-state production, while the remaining supply was imported from other western states and Canada.<sup>38</sup> In 2020 California used 2,144 trillion Btu of

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<sup>32</sup> United States Energy Information Administration. "State Profile and Energy Estimates, 2020." Accessed August 1, 2022. <https://www.eia.gov/state/?sid=CA#tabs-2>.

<sup>33</sup> United States Energy Information Administration. "State Profile and Energy Estimates, 2020." Accessed August 2, 2022. <https://www.eia.gov/state/?sid=CA#tabs-2>.

<sup>34</sup> California Energy Commission. Energy Consumption Data Management System. "Electricity Consumption by County." Accessed August 1, 2022. <http://ecdms.energy.ca.gov/elecbycounty.aspx>.

<sup>35</sup> Silicon Valley Power. "Did you Know?" Accessed August 1, 2022. <https://www.siliconvalleypower.com/svp-and-community/about-svp/faqs>.

<sup>36</sup> CEC. "2020 Total System Electric Generation." Accessed August 1, 2022. <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2020-total-system-electric-generation>

<sup>37</sup> Ibid.

<sup>38</sup> California Gas and Electric Utilities. *2020 California Gas Report*. Accessed August 1, 2022. [https://www.socalgas.com/sites/default/files/2020-10/2020\\_California\\_Gas\\_Report\\_Joint\\_Utility\\_Biennial\\_Comprehensive\\_Filing.pdf](https://www.socalgas.com/sites/default/files/2020-10/2020_California_Gas_Report_Joint_Utility_Biennial_Comprehensive_Filing.pdf).

natural gas.<sup>39</sup> In 2020, Santa Clara County used less than one percent of the state's total consumption of natural gas.<sup>40</sup>

### **Fuel for Motor Vehicles**

In 2019, 15.4 billion gallons of gasoline were sold in California.<sup>41</sup> The average fuel economy for light-duty vehicles (autos, pickups, vans, and sport utility vehicles) in the United States has steadily increased from about 13.1 miles per gallon (mpg) in the mid-1970s to 25.4 mpg in 2020.<sup>42</sup> Federal fuel economy standards have changed substantially since the Energy Independence and Security Act was passed in 2007. That standard, which originally mandated a national fuel economy standard of 35 miles per gallon by the year 2020, was updated in April 2022 to require all cars and light duty trucks achieve an overall industry average fuel economy of 49 mpg by model year 2026.<sup>43,44</sup>

#### **3.6.2 Impact Discussion**

For the purpose of determining the significance of the project's impact on energy, would the project:

1. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or unnecessary consumption of energy resources, during project construction or operation?
2. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

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<sup>39</sup> United States Energy Information Administration. "State Profile and Energy Estimates, 2020." Accessed August 1, 2022. <https://www.eia.gov/state/?sid=CA#tabs-2>.

<sup>40</sup> California Energy Commission. "Natural Gas Consumption by County." Accessed August 1, 2022. <http://ecdms.energy.ca.gov/gasbycounty.aspx>.

<sup>41</sup> California Department of Tax and Fee Administration. "Net Taxable Gasoline Gallons." Accessed August 1, 2022. <https://www.cdtfa.ca.gov/dataportal/dataset.htm?url=VehicleTaxableFuelDist>.

<sup>42</sup> United States Environmental Protection Agency. "The 2021 EPA Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975." November 2021. <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockkey=P1010U68.pdf>

<sup>43</sup> United States Department of Energy. *Energy Independence & Security Act of 2007*. Accessed August 1, 2022. <http://www.afdc.energy.gov/laws/eisa>.

<sup>44</sup> United States Department of Transportation. USDOT Announces New Vehicle Fuel Economy Standards for Model Year 2024-2026." Accessed August 1, 2022. <https://www.nhtsa.gov/press-releases/usdot-announces-new-vehicle-fuel-economy-standards-model-year-2024-2026>

## ***Project Impacts***

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|                     |                                                                                                                                                                                                                                             |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Impact EN-1:</b> | The project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation <b>(Less than Significant Impact)</b> |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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### **3.6.2.1**

#### **Construction**

Construction of the project, including the recycled water line extension, would require energy for the manufacture and transportation of building materials, preparation of the project site (i.e., demolition and grading), and the construction of the building and infrastructure. Construction energy usage is temporary and would not result in excessive energy consumption because construction processes are generally designed to be efficient to avoid excess monetary costs. The project would be constructed in an urbanized area with close access to roadways, construction supplies, and workers, making the project more efficient than construction occurring in outlying, more isolated areas. The construction process is already efficient and opportunities for increasing energy efficiency during construction are limited.

As discussed in Section 3.3 Air Quality, the project would be required to implement BAAQMD Best Management Practices, which would restrict unnecessary idling of construction equipment and require the applicant to post signs on the project site reminding workers to shut off idle equipment, thus reducing the potential for energy waste

#### **Operation**

Operation of the project would consume energy for multiple purposes including, but not limited to, building heating and cooling, server operations, lighting, appliances, and electronics. Energy would also be consumed during each vehicle trip generated by employees and visitors. The project would be constructed in accordance with Title 24 and CALGreen standards and would include green building measures to reduce energy consumption. The project would also utilize lighting control to reduce energy usage for new exterior lighting and air economization for building cooling. Water efficient landscaping and ultra-low flow plumbing fixtures in the building would be implemented to limit water consumption. Other than the proposed emergency backup generators, the project would be designed to be 100 percent electric. No natural gas infrastructure would be included, in accordance with the City of Santa Clara Reach Code. Due to the energy efficiency measures incorporated into the facility, the project would not result in a wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources.

Power Usage Effectiveness, or PUE, is a metric used to compare the efficiency of facilities that house computer servers. PUE is defined as the ratio of total facility energy use to Information Technology (IT) (i.e., server) power draw (e.g.,  $PUE = \text{Total Facility Source Energy} / \text{IT Source Energy}$ ). For example, a PUE of two (2), means that the data center or laboratory must draw two (2) watts of electricity for everyone (1) watt of power consumed by the IT/server equipment. It is equal to the total energy consumption of a data center (for all fuels) divided by the energy consumption used for the IT equipment. The ideal PUE is one (1) where all power drawn by the facility goes to the IT infrastructure. The average annual PUE would be 1.25 (Total 60 MW demand of Building average conditions divided by 48 MW Design Critical IT Load). These PUE estimates are based on design assumptions and represent worst case. Based on industry surveys, the average PUE for data centers is

1.67, although newly constructed data centers typically have PUEs ranging from 1.1 to 1.4.<sup>45</sup> Due to the energy efficiency measures incorporated into the facility, the project would not result in wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources.

Energy would also be consumed by the BBGF during regular testing and maintenance of the emergency backup generators. Each generator would be limited to a maximum of 50 hours per year of operation. Based on maximum fuel consumption assumptions in the air quality analysis prepared for the project (refer to Appendix AQ), the BBGF could consume up to roughly 331,200 gallons of fuel per year for generator maintenance and testing. According to the California Energy Commission's 2021 Weekly Fuel's Watch Report, the annual production of CARB Diesel Fuel in California was 1,256,396 barrels annually (or 52,768,632 gallons).<sup>46,47</sup> The potential maximum consumption of CARB Diesel Fuel by the BBGF would be less than 0.6 percent of the total California capacity. In reality, the BBGF is highly unlikely to consume this amount of fuel. These calculations are based on a maximum impact scenario where all engines are operated at 100 percent load for the full 50 hours per year that would be allowed under the BAAQMD permits. Typically, generators are tested at loads ranging from 10 to 100 percent, and only rarely would the BBGF generators be tested at 100 percent load. Additionally, it is not anticipated that the BBGF would test the generators the maximum 50 hours per year allowed under the BAAQMD permits. Because the generators would only be operated when necessary for testing and maintenance, and would not be used regularly for electricity generation, the BBGF would not result in a wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources. Additionally, the BBGF would not have a significant adverse effect on local or regional energy supplies and would not create a significant adverse impact on California's energy resources.

For all the reasons listed above, construction and operation of the proposed project would have a less than significant impact. **(Less than Significant Impact)**

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|                     |                                                                                                                                             |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Impact EN-2:</b> | The project would not conflict with or obstruct a state or local plan for renewable energy efficiency <b>(Less than Significant Impact)</b> |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------|

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Statewide energy efficiency and renewable energy goals are set forth in the California Renewables Portfolio Standard Program, which is one of California's key programs for advancing renewable energy. The CEC verifies the eligibility of renewable energy procured by all entities serving retail sales of electricity in California, as these entities are obligated to participate and report energy

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<sup>45</sup> Uptime Institute. Annual Data Center Survey Results - 2019. Available at: <https://datacenter.com/wp-content/uploads/2019/06/data-center-survey-2019.pdf>

<sup>46</sup> Average of Production Capacity from January 1, 2021 through December 31, 2021. Source: California Energy Commission. California Energy Commission California Refinery Inputs. 2022. Accessed July 25, 2022. [https://tableau.cnra.ca.gov/t/CNRA\\_CEC/views/WFW2\\_0\\_16391728913510/CaliforniaRefineryInputsandProduction?%3Adisplay\\_count=n&%3Aembed=y&%3AisGuestRedirectFromVizportal=y&%3Aorigin=viz\\_share\\_link&%3AAshowAppBanner=false&%3AAshowVizHome=n](https://tableau.cnra.ca.gov/t/CNRA_CEC/views/WFW2_0_16391728913510/CaliforniaRefineryInputsandProduction?%3Adisplay_count=n&%3Aembed=y&%3AisGuestRedirectFromVizportal=y&%3Aorigin=viz_share_link&%3AAshowAppBanner=false&%3AAshowVizHome=n)

<sup>47</sup> United States Energy Information Administration. "Frequently Asked Questions: How many gallons of gasoline and diesel fuel are made from one barrel of oil?". Last updated April 19, 2022. Accessed July 25, 2022. <https://www.eia.gov/tools/faqs/faq.php?id=327&t=10#:~:text=Petroleum%20refineries%20in%20the%20United,galon%20barrel%20of%20crude%20oil.>

portfolios to the CEC to comply with the Renewables Portfolio Standard Program.<sup>48</sup> Electricity would be provided to the project by SVP from sources of renewable and carbon-free power including wind, solar, geothermal, and hydroelectric. As described above, SVP is subject to verification by the CEC as an electricity-providing entity. By sourcing electricity from SVP, the project would be compliant with statewide energy goals as set forth in the California Renewables Portfolio Standard Program.

In addition, the proposed project would be required to comply with various policies and regulations adopted to improve energy efficiency in new developments and increase utilization of renewable energy sources, such as the efficiency standards set forth in Title 24, CALGreen, the RPS Program, and the City Code. Therefore, the project would comply with state and local plans for energy efficiency. **(Less than Significant Impact)**

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<sup>48</sup> California Energy Commission. “Renewables Portfolio Standard – Verification and Compliance.” Accessed July 25, 2023. <https://www.energy.ca.gov/programs-and-topics/programs/renewables-portfolio-standard/renewables-portfolio-standard>

## 3.7 GEOLOGY AND SOILS

The following discussion is based, in part, upon a Soil Report generated from the Natural Resources Conservation Service's website in December 2021. A copy of the report is attached in Appendix D of this Initial Study.

### 3.7.1 Environmental Setting

#### *Regulatory Framework*

##### **State**

#### 3.7.1.1 Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed following the 1971 San Fernando earthquake. The act regulates development in California near known active faults due to hazards associated with surface fault ruptures. Alquist-Priolo maps are distributed to affected cities, counties, and state agencies for their use in planning and controlling new construction. Areas within an Alquist-Priolo Earthquake Fault Zone require special studies to evaluate the potential for surface rupture to ensure that no structures intended for human occupancy are constructed across an active fault.

#### Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (SHMA) was passed in 1990 following the 1989 Loma Prieta earthquake. The SHMA directs the California Geological Survey (CGS) to identify and map areas prone to liquefaction, earthquake-induced landslides, and amplified ground shaking. CGS has completed seismic hazard mapping for the portions of California most susceptible to liquefaction, landslides, and ground shaking, including the central San Francisco Bay Area. The SHMA requires that agencies only approve projects in seismic hazard zones following site-specific geotechnical investigations to determine if the seismic hazard is present and identify measures to reduce earthquake-related hazards.

#### California Building Standards Code

The CBC prescribes standards for constructing safe buildings. The CBC contains provisions for earthquake safety based on factors including occupancy type, soil and rock profile, ground strength, and distance to seismic sources. The CBC requires that a site-specific geotechnical investigation report be prepared for most development projects to evaluate seismic and geologic conditions such as surface fault ruptures, ground shaking, liquefaction, differential settlement, lateral spreading, expansive soils, and slope stability. The CBC is updated every three years.

#### California Division of Occupational Safety and Health Regulations

Excavation, shoring, and trenching activities during construction are subject to occupational safety standards for stabilization by the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) under Title 8 of the California Code of Regulations and Excavation Rules. These regulations minimize the potential for instability and collapse that could injure construction workers on the site.



## Public Resources Code Section 5097.5

Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. They range from mammoth and dinosaur bones to impressions of ancient animals and plants, trace remains, and microfossils. These materials are valued for the information they yield about the history of the earth and its past ecological settings. California Public Resources Code Section 5097.5 specifies that unauthorized removal of a paleontological resource is a misdemeanor. Under the CEQA Guidelines, a project would have a significant impact on paleontological resources if it would disturb or destroy a unique paleontological resource or site or unique geologic feature.

### **Local**

#### City Code

Title 15 of the Santa Clara City Code (SCCC) includes the City's adopted Building and Construction Code. These regulations are based on the CBC and include requirements for building foundations, walls, and seismic resistant design. Requirements for grading and excavation permits and erosion control are included in Chapter 15.15 (Building Code). Requirements for building safety and earthquake reduction hazard are addressed in Chapter 15.55 (Seismic Hazard Identification).

#### Santa Clara General Plan

General Plan policies applicable to geology and soils include, but are not limited to, the following listed below.

| <b>Policies</b>      | <b>Description</b>                                                                                                                                                                                                                |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.6.3-P5             | In the event that archaeological/paleontological resources are discovered, require that work be suspended until the significance of the find and recommended actions are determined by a qualified archaeological/paleontologist. |
| 5.10.5-P5            | Regulate development, including remodeling or structural rehabilitation, to ensure adequate mitigation of safety hazards, including flooding, seismic, erosion, liquefaction and subsidence dangers.                              |
| 5.10.5-P6            | Require that new development is designed to meet current safety standards and implement appropriate building code to reduce risks associated with geologic conditions.                                                            |
| 3.7.1.2<br>5.10.5-P7 | Implement all recommendations and design solutions identified in project soils reports to reduce potential adverse effects associated with unstable soils or seismic hazards.                                                     |

### ***Existing Conditions***

### **Regional Geology**

The City of Santa Clara is located in the northern portion of the Santa Clara Valley. The Santa Clara Valley, an alluvial basin, is oriented northwest to southeast and is bounded by the Santa Cruz Mountains to the west and the Hamilton/Diablo Range to the east. The Santa Clara Valley was formed when sediments derived from the Santa Cruz Mountains and the Hamilton/Diablo Range were exposed by continued tectonic uplift and regression of the inland sea that had previously inundated this area. Bedrock in this area is made up of the Franciscan Complex, a diverse group of

igneous, sedimentary, and metamorphic rocks of Late Jurassic to Cretaceous age (70 to 140 million years old). Overlaying the bedrock at substantial depths are marine and terrestrial sedimentary rocks of Tertiary and Quaternary age.

### **Soil Conditions**

Native soil underlying the project site and recycled water line extension alignment are classified as urban land. Mapped soils on the project site are documented as Urbanland-Hangerone complex and Urbanland-Campbell complex soils.<sup>49</sup> The project site is underlain by alluvial fans.

### **Groundwater**

Depth to groundwater beneath the project site and in the area of the recycled water line extension alignment is typically encountered at 13-18 feet below ground surface (bgs) and flows in a northeasterly direction.<sup>50</sup> Fluctuations in groundwater levels are common due to seasonal fluctuations, underground drainage patterns, regional fluctuations, and other factors.

### **Seismicity and Seismic Hazards**

The San Francisco Bay Area is one of the most seismically active areas in the United States. While seismologists cannot predict earthquake events, the U.S. Geological Survey's Working Group on California Earthquake Probabilities estimates there is a 72 percent chance of at least one magnitude 6.7 earthquake occurring in the Bay Area region between 2002 and 2032. Higher levels of shaking and damage would be expected for earthquakes occurring at closer distances. The faults considered capable of generating significant earthquakes in the area are generally associated with the well-defined areas of crustal movement, which trend northwesterly.

The three major faults in the region are the Calaveras Fault (approximately 10.8 miles east of the site), the San Andreas Fault (approximately 11.4 miles west of the site), and the Hayward Fault (approximately 7.5 miles east of the site).

The site is not located within a State-designated Alquist Priolo Earthquake Fault Zone, a Santa Clara County Fault Zone, or a County Fault Rupture Hazard Zones.<sup>51,52</sup> The earthquake shaking hazard on-site is predicted to be severe shaking as determined by the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC).<sup>53</sup>

### **Liquefaction**

Soil liquefaction is a condition where saturated granular soils near the ground surface undergo a substantial loss of strength during seismic events. Loose, water-saturated soils are transformed from a

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<sup>49</sup> United States Department of Agriculture. "Web Soil Survey." Accessed April 21, 2022.

<https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>.

<sup>50</sup> AEI Consultants. *Phase 1 Environmental Site Assessment – 2805 Bowers Avenue*. February 3, 2021.

<sup>51</sup> California Department of Conservation. California Earthquake Hazards Zone Application. Updated September 23, 2021. <https://www.conservation.ca.gov/cgs/geohazards/eq-zapp>.

<sup>52</sup> Santa Clara County. Geologic Hazard Zones. Accessed April 20, 2022.

<https://www.arcgis.com/apps/webappviewer/index.html?id=5ef8100336234fbdafc5769494cfe373>.

<sup>53</sup> ABAG and MTC. Hazard Viewer Map – Probabilistic Earthquake Shaking Hazard. Updated 2018.

<https://www.arcgis.com/apps/webappviewer/index.html?id=4a6f3f1259df42eab29b35dfcd086fc8>.

solid to a liquid state during ground shaking. Liquefaction can result in significant deformations and ground rupture or sand boils. Soils most susceptible to liquefaction are loose, uniformly graded, saturated, fine-grained sands that lie close to the ground surface. The project site and recycled water line extension alignment are located within a State-designated Liquefaction Hazard Zone and a Santa Clara County Liquefaction Hazard Zone.<sup>54,55</sup>

### **Landslides**

The topography of the project area is flat, with elevations ranging from 44 – 48 feet above sea level, therefore erosion hazards are limited. Additionally, according to the Landslide Zones from the California Department of Conservation and the Geologic Hazard Zones map from Santa Clara County, the proposed project is not located in a Landslide Zone or County Landslide Hazard Zone, respectively.<sup>56,57</sup>

### **Lateral Spreading**

Lateral spreading is a type of ground failure related to liquefaction. It consists of the horizontal displacement of flat-lying alluvial material toward an open face, such as the steep bank of a stream channel.

There are no open faces within a distance considered susceptible to later spreading, therefore the project site would not be subject to lateral spreading.

### **Paleontological Resources**

The City of Santa Clara is situated on alluvial fan deposits of the Holocene age. These sediments have low potential to yield fossil resources or to contain significant nonrenewable paleontological resources. However, these recent sediments overlie sediments of older Pleistocene sediments with high potential to contain paleontological resources. These older sediments, often found at depths of ten feet or more below the ground surface, have yielded the fossil remains of plants and extinct terrestrial Pleistocene vertebrates. Ground disturbing activities of ten feet or more have the potential to impact undiscovered paleontological resources in older Pleistocene sediments.<sup>58</sup>

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<sup>54</sup> California Department of Conservation, California Geological Survey. Earthquake Zones of Required Investigation. Accessed December 17, 2021. <https://maps.conservation.ca.gov/cgs/EQZApp/app/>.

<sup>55</sup> Santa Clara County. Geologic Hazard Zones. Accessed April 20, 2022. <https://www.arcgis.com/apps/webappviewer/index.html?id=5ef8100336234fbdafc5769494cfe373>.

<sup>56</sup> California State Geoportal. Landslide Zones. Accessed April 20, 2022. <https://gis.data.ca.gov/maps/08d18656a0194881a7e0f95fde19f08c/explore>.

<sup>57</sup> Santa Clara County. Geologic Hazard Zones. Accessed April 20, 2022. <https://www.arcgis.com/apps/webappviewer/index.html?id=5ef8100336234fbdafc5769494cfe373>.

<sup>58</sup> City of Santa Clara. City of Santa Clara Draft 2010-2035 General Plan. January 2011. Page 328.

### 3.7.2 Impact Discussion

For the purpose of determining the significance of the project's impact on geology and soils, would the project:

- 1) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication 42)?
  - Strong seismic ground shaking?
  - Seismic-related ground failure, including liquefaction?
  - Landslides?
- 2) Result in substantial soil erosion or the loss of topsoil?
- 3) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?
- 4) Be located on expansive soil, as defined in the current California Building Code, creating substantial direct or indirect risks to life or property?
- 5) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?
- 6) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

#### 3.7.2.1

#### ***Project Impacts***

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|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Impact GEO-1:</b> | The project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides.<br><b>(Less than Significant Impact)</b> |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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#### **Fault Rupture**

The project site and recycled water line extension alignment are not located within an Alquist-Priolo Earthquake Fault Zone or a Santa Clara County Fault Rupture Hazard Zone, making fault rupture at the site unlikely. While existing faults are located within 7.5 miles of the site (the Hayward Fault), the proposed project is outside of the fault zone, and significant impacts from fault ruptures are not anticipated to occur.

## Seismic Ground Shaking and Liquefaction

The project site and recycled water line extension alignment would be subject to severe seismic ground shaking and seismic-related ground failure, including liquefaction in the event of a large earthquake. Consistent with the City's General Plan and City Code, to avoid and/or minimize potential damage from seismic shaking, the proposed project would be built using standard engineering and seismic safety design techniques. The building foundation design would incorporate liquefaction control measures, such as a concrete mat slab or a ground improvement system such as soil mixed columns or drilled displacement piles. Consistent with these requirements, the following standard permit condition language has been incorporated into the following Project Design Measure to ensure the proposed development is designed to address seismic hazards.

**Impact GEO-1:** The project site would be subject to severe seismic ground shaking and seismic-related ground failure

### **Applicant Project Design Measure:**

**PD GEO-1.1:** To avoid or minimize potential damage from seismic shaking, the project would be built using standard engineering and seismic safety design techniques. Building redevelopment design and construction at the site shall be completed in conformance with the recommendations of a design-level geotechnical investigation, which will be included in a report to the City. The report shall be reviewed and approved by the City of Santa Clara's Building Division as part of the building permit review and issuance process. The building shall meet the requirements of applicable Building and Fire Codes, including the 2019 California Building Code, as adopted or updated by the City. The project shall be designed to withstand potential geologic hazards identified on the site and the project shall be designed to reduce the risk to life or property to the extent feasible and in compliance with the Building Code.

Incorporation of the Project Design Measure PD GEO-1.1 would ensure the proposed development is designed to address seismic hazards.

## Landslides

The proposed project is not located in a State Seismic Hazard Landslide Zone or County Landslide Hazard Zone, and therefore would not expose people or structures to adverse effects due to naturally occurring or earthquake-induced landslides.

The proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides. **(Less than Significant Impact)**

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**Impact GEO-2:** The project would not result in substantial soil erosion or the loss of topsoil. **(Less than Significant Impact)**

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Ground disturbance at the site and along the recycled water line extension alignment would be required for demolition and on-site improvements. Ground disturbance would expose soils and increase the potential for wind or water related erosion and sedimentation at the site until construction is complete. Compliance with the erosion control measures, as required by the National Pollutant Discharge Elimination System (NPDES) (see Section 3.10) is the primary means of enforcing erosion control measures through the grading and building permit process. In accordance with General Plan policies, construction activities would be subject to the requirements of the regulatory programs and policies in place and, therefore, would have a less than significant soil erosion impact. **(Less than Significant Impact)**

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**Impact GEO-3:** The project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. **(Less than Significant Impact)**

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The project site and recycled water line extension alignment are located in a mapped State and County liquefaction hazard zone. The site is not located within a State or County landslide hazard zone. Compliance with the Standard Permit Condition discussed under Impact GEO-1 and incorporated into the project design as mitigation would avoid or reduce impacts related to the stability of soil on-site. The project would not change or exacerbate the geologic conditions of the project area and would not result in a significant geology hazards impact. **(Less than Significant Impact)**

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**Impact GEO-4:** The project would not be located on expansive soil, as defined in the current California Building Code, creating substantial direct or indirect risks to life or property. **(Less than Significant Impact)**

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The project site is not located on expansive soil as defined in Section 1803.5.3 of the CBC.<sup>59</sup> The project would be required to adhere to the SHMA and CBC, which would reduce impacts related to expansive soils to a less than significant level. The policies of the City of Santa Clara 2010-2035 General Plan have been adopted for the purpose of avoiding or mitigating environmental effects resulting from planned development within the City. Santa Clara General Plan Policy 5.10.5-P6 requires that new development be designed to meet current safety standards and implement appropriate building codes to reduce risk associated with geologic conditions. As a result, development of the proposed project would not expose future occupants of the site or nearby properties to hazards related to expansive soils. **(Less Than Significant Impact)**

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<sup>59</sup> Santa Clara County. Soils of Santa Clara County. Accessed April 21, 2022.  
<https://www.arcgis.com/apps/webappviewer/index.html?id=39cca200bb4743eeab0e15838ab85d2>.

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**Impact GEO-5:** The project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. **(No Impact)**

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The project site is located within an urban area of Santa Clara where sewers are available to dispose wastewater from the project site. Therefore, the project site would not need to support septic tanks or alternative wastewater disposal systems. **(No Impact)**

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**Impact GEO-6:** The project would not directly or indirectly destroy a unique paleontological resource or site or unique geological feature. **(Less than Significant Impact with Mitigation Incorporated)**

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There are no known unique paleontological resources or unique geological features within the City. However, ground disturbing activities of 10 feet or more have the potential to impact undiscovered paleontological resources. The project would require excavation to depths of up to 16 feet. Although unlikely, paleontological resources could be encountered during construction.

**Impact GEO-1:** Project excavation could encounter and damage undiscovered paleontological resources.

**Applicant Project Design Measure:**

**PD GEO-1.2:** In the event paleontological resources are discovered all work shall be halted within 50 feet of the find and a Paleontological Resource Mitigation Plan shall be prepared by a qualified paleontologist to address assessment and recovery of the resource. A final report documenting any found resources, their recovery, and disposition shall be prepared in consultation with the Director of Community Development and filed with the City and local repository.

3.7.2.2 With implementation of these measures, impacts to undiscovered paleontological resources would be less than significant. **(Less than Significant Impact with Mitigation Incorporated)**

***Cumulative Impacts***

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**Impact GEO-C:** The project would not result in a cumulatively considerable contribution to a cumulatively significant geology and soils impact. **(Less than Significant Cumulative Impact)**

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The geographic area for cumulative geological impacts would be locations adjacent to the site and recycled water line extension alignment since geological impacts are limited to the project site, utility alignment, and adjacent properties. All projects in the City of Santa Clara are required to comply with mitigation measures to reduce construction-related erosion impacts. The project will comply with the CBC to reduce seismic-related impacts on people and/or property. Therefore,

implementation of the cumulative projects would not result in significant cumulative impact (related to geology and soils) to people and/or property. **(Less Than Significant Cumulative Impact)**



### 3.8 GREENHOUSE GAS EMISSIONS

The following discussion is based, in part, on emission calculations prepared for the project by Atmospheric Dynamic, Inc., dated July 2022. A copy of the emission calculations is included in Appendix AQ of this Initial Study.

#### 3.8.1 Environmental Setting

##### *Background Information*

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. In GHG emission inventories, the weight of each gas is multiplied by its global warming potential (GWP) and is measured in units of CO<sub>2</sub> equivalents (CO<sub>2</sub>e). The most common GHGs are carbon dioxide (CO<sub>2</sub>) and water vapor but there are also several others, most importantly methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO<sub>2</sub> and N<sub>2</sub>O are byproducts of fossil fuel combustion.
- N<sub>2</sub>O is associated with agricultural operations such as fertilization of crops.
- CH<sub>4</sub> is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations.
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents, but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and SF<sub>6</sub> emissions are commonly created by industries such as aluminum production and semiconductor manufacturing.

An expanding body of scientific research supports the theory that global climate change is currently causing changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California are adversely affected by the global warming trend. Increased precipitation and sea level rise will increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution.

## ***Regulatory Framework***

### **State**

#### Assembly Bill 32

3.8.1.2 Under the California Global Warming Solutions Act, also known as AB 32, CARB established a statewide GHG emissions cap for 2020, adopted mandatory reporting rules for significant sources of GHGs, and adopted a comprehensive plan, known as the Climate Change Scoping Plan, identifying how emission reductions would be achieved from significant GHG sources.

In 2016, SB 32 was signed into law, amending the California Global Warming Solution Act. SB 32, and accompanying Executive Order B-30-15, require CARB to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030. CARB updated its Climate Change Scoping Plan in December of 2017 to express the 2030 statewide target in terms of million metric tons of CO<sub>2</sub>e (MMTCO<sub>2</sub>e). Based on the emissions reductions directed by SB 32, the annual 2030 statewide target emissions level for California is 260 MMTCO<sub>2</sub>e.

#### Senate Bill 375

SB 375, known as the Sustainable Communities Strategy and Climate Protection Act, was signed into law in September 2008. SB 375 builds upon AB 32 by requiring CARB to develop regional GHG reduction targets for automobile and light truck sectors for 2020 and 2035. The per capita GHG emissions reduction targets for passenger vehicles in the San Francisco Bay Area include a seven percent reduction by 2020 and a 15 percent reduction by 2035.

Consistent with the requirements of SB 375, the Metropolitan Transportation Commission (MTC) partnered with the Association of Bay Area Governments (ABAG), BAAQMD, and the Bay Conservation and Development Commission to prepare the region's Sustainable Communities Strategy (SCS) as part of the Regional Transportation Plan process. The SCS is referred to as Plan Bay Area 2050. Plan Bay Area 2050 establishes a course for reducing per capita GHG emissions through the promotion of compact, high-density, mixed-use neighborhoods near transit, particularly within identified Priority Development Areas (PDAs).

### **Regional and Local**

#### 2017 Clean Air Plan

To protect the climate, the 2017 Clean Air Plan (prepared by BAAQMD) includes control measures designed to reduce emissions of methane and other super-GHGs that are potent climate pollutants in the near-term, and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

#### CEQA Air Quality Guidelines

The BAAQMD CEQA Air Quality Guidelines are intended to serve as a guide for those who prepare or evaluate air quality impact analyses for projects and plans in the San Francisco Bay Area. The jurisdictions in the San Francisco Bay Area Air Basin utilize the thresholds and methodology for assessing GHG impacts developed by BAAQMD within the CEQA Air Quality Guidelines. The

guidelines include information on legal requirements, BAAQMD rules, methods of analyzing impacts, and recommended mitigation measures.

### Santa Clara Climate Action Plan 2022

The City of Santa Clara Climate Action Plan 2022 (2022 CAP) is the latest update to the City's CAP and is designed to meet the statewide GHG reduction targets for 2030 set by Senate Bill 32. As a Qualified Climate Action Plan, the 2022 CAP allows for tiering and streamlining of GHG analyses under CEQA. The 2022 CAP identifies existing City policies and regulations as well as new measures to be implemented by development projects in the areas of building/energy use, transportation & land use, materials & consumption, natural resources & water resources, and community resilience & wellbeing. Projects that comply with the policies and strategies outlined in the 2022 CAP and that are consistent with the General Plan land use designation on the project site would have a less than significant GHG impact.

### ***Existing Conditions***

- 3.8.1.3 Unlike emissions of criteria and toxic air pollutants, which have regional and local impacts, emissions of GHGs have a broader, global impact. Global warming is a process whereby GHGs accumulating in the upper atmosphere contribute to an increase in the temperature of the earth and changes in weather patterns.

The project site is currently developed with an approximately 55,000 square-foot, two-story office building and associated paved surface parking. The building is currently occupied, and GHGs are currently generated on-site through energy use for heating, cooling, and lighting the existing building. GHGs are also generated by vehicles traveling to and from the project site.

### **3.8.2      Impact Discussion**

For the purpose of determining the significance of the project's impact on energy, would the project:

5. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or unnecessary consumption of energy resources, during project construction or operation?
6. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

### **Significance Criteria**

GHG emissions worldwide contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change. No single land use project could generate sufficient GHG emissions on its own to noticeably change the global average temperature. The combination of GHG emissions from past, present, and future projects in Santa Clara, the entire state of California, and across the nation and around the world, contribute cumulatively to the phenomenon of global climate change and its associated environmental impacts.

Per the CEQA Guidelines, a lead agency may analyze and mitigate significant GHG emissions in a plan for the reduction of GHG emissions that has been adopted in a public process following environmental review. GHG impacts from project-related emission sources are typically considered

to have a less-than-significant impact if the project is consistent with the City's 2022 CAP as well as applicable regulatory programs and policies adopted by ARB or other California agencies. This project includes a General Plan Amendment, therefore consistency with the 2022 CAP cannot be used to determine significance under CEQA, as the project's proposed land use was not evaluated within the General Plan buildout assumptions that the 2022 CAP relies on. The project, however, would still be required to be consistent with the requirements of the 2022 CAP, and implementation of required 2022 CAP measures would reduce GHG emissions from the project.

Per BAAQMD guidance for stationary sources such as the project's backup generators, the threshold to determine the significance of an impact from GHG emissions is 10,000 metric tons of CO<sub>2</sub>e per year. This threshold is consistent with stationary source thresholds adopted by other air quality management districts throughout the state and is intended to capture 95 percent of all GHG emissions from new permit applications from stationary sources in the San Francisco Bay Area Basin. Stationary-source projects include land uses that would accommodate processes and equipment that emit GHG emissions and would require a BAAQMD permit to operate. The standby generators included as part of the project would be permitted sources, and as such, the BAAQMD's 10,000 metric tons of CO<sub>2</sub>e per year threshold is appropriate for analyzing the significance of emissions produced by the generators. If annual emissions of operational-related GHGs from the generators exceed these levels, the project would result in a cumulatively considerable contribution of GHG emissions and a cumulatively significant impact to global climate change. Emissions from mobile sources and area sources associated with data center operation would not be included for comparison to this threshold, based on guidance in the BAAQMD's CEQA Guidelines.

On April 20, 2022, the BAAQMD Board of Directors held a public meeting and adopted updated CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans. These thresholds are presented below. GHG impacts from data center operation would be considered to have a less than significant impact if the project is consistent with the updated BAAQMD thresholds.

#### BAAQMD GHG Thresholds for Land Use Projects (Must Include A or B)

A. Projects must include, at a minimum, the following project design elements:

1. Buildings

- a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
- b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.

2. Transportation

- a. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
  - i. Residential projects: 15 percent below the existing VMT per capita
  - ii. Office projects: 15 percent below the existing VMT per employee
  - iii. Retail projects: no net increase in existing VMT

b. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

B. Projects must be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

Because the project includes a General Plan Amendment, it cannot rely on a GHG Reduction Strategy as outlined in Option B of the BAAQMD thresholds. As a result, the project's consistency with the requirements of Option A of the BAAQMD thresholds will be used to determine the significance of the project's operational GHG emissions.

### ***Project Impacts***

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|                                 |                                                                                                                                                                                                        |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Impact GHG-1:</b><br>3.8.2.1 | The project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. <b>(Less than Significant Impact with Mitigation Incorporated)</b> |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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### **GHG Emissions Impacts**

#### Construction Emissions

GHG emissions associated with construction are estimated to be approximately 256 metric tons per year, including demolition, site preparation, grading, and on-and-off-site construction. Because construction emissions would cease once construction is complete, they are considered short-term. Neither the City nor BAAQMD have an adopted threshold of significance for construction related GHG emissions. Because construction of the project would be temporary in nature and would not result in a permanent increase in emissions, the project would not interfere with the implementation of AB 32 or SB 32.

#### Stationary Source Emissions from Routine Generator Testing and Maintenance

The consumption of diesel fuel to test generators at the BBGF would result in direct CO<sub>2</sub> emissions. On an annual basis, the project's total operational emissions related to emergency backup generator maintenance and testing use would be approximately 3,405 metric tons of CO<sub>2</sub>e per year (refer to Table 3.3-8 in Section 3.3 Air Quality, which shows 3,753 short tons of CO<sub>2</sub>e per year, equivalent to 3,405 metric tons of CO<sub>2</sub>e per year). This is well below the BAAQMD threshold for stationary sources of 10,000 metric tons per year of CO<sub>2</sub>e for stationary sources.

#### Operational Emissions

As described previously, BAAQMD adopted updated GHG thresholds in April 2022. Operational emissions from the project would be considered less than significant impact if the project is consistent with the updated BAAQMD thresholds. An analysis of the project's consistency with these thresholds is included in Table 3.8-1, below.

| <b>Table 3.8-1: Consistency with BAAQMD Thresholds for Land Use Projects</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>BAAQMD Threshold</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Project Consistency</b>                                                                                                                                                                                                                               |
| <b>Buildings</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                          |
| a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Consistent.</b> The project would not include natural gas appliances or natural gas plumbing.                                                                                                                                                         |
| b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Consistent.</b> As described in further detail in Section 3.6 Energy, the project would not result in any wasteful, inefficient, or unnecessary energy usage.                                                                                         |
| <b>Transportation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                          |
| a. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:<br>i. Residential projects: 15 percent below the existing VMT per capita<br>ii. Office projects: 15 percent below the existing VMT per employee<br>iii. Retail projects: no net increase in existing VMT | <b>Consistent.</b> As described in further detail in Section 3.17 Transportation, project generated VMT would be 15 percent below the countywide average with implementation of Transportation Demand Management (TDM) measures included in the project. |
| b. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Consistent.</b> The project is working with the City to include the necessary electric vehicle parking spaces to comply with the requirements of CALGreen Tier 2.                                                                                     |

Because the project would have stationary source emissions below BAAQMD's stationary source threshold and would be consistent with the requirements for operational emissions in BAAQMD's updated GHG thresholds for land use projects, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. **(Less Than Significant Impact)**

### **Overview of Project-Related GHG Emissions**

Although the updated BAAQMD GHG thresholds prescribe a qualitative analysis of a project's GHG emissions, it is our understanding that the CEC prefers SPPE Applications to include a quantitative discussion of a project's GHG emissions. The quantification of emissions in the following discussion is included for informational purposes only.

GHG emissions from the proposed project would consist of emissions from vehicle trips to and from the building and emissions related to the generation of electricity used in the data center building. Data centers are an energy-intensive land use, requiring more electricity than other types of development. The primary function of the data center is to house computer servers, which require electricity and cooling 24 hours a day to operate.

GHG emissions generated by the project are summarized in Table 3.8-2.

| <b>Table 3.8-2: BDC GHG Emissions</b>                                                                                                                                                                                                                                                                                                                                                                     |                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| <b>Source</b>                                                                                                                                                                                                                                                                                                                                                                                             | <b>Annual Emissions (Metric Tons of CO<sub>2</sub>e)</b> |
| Electricity Use <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                              | 0                                                        |
| Mobile Sources and Building Operation <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                        | 826                                                      |
| Generator Testing and Maintenance                                                                                                                                                                                                                                                                                                                                                                         | 3,405                                                    |
| <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                              | <b>4,231</b>                                             |
| Notes:<br><sup>1</sup> Based on a carbon intensity factor of zero due to the City's 2022 CAP requirement for 100% renewable energy for data centers.<br>Source: Atmospheric Dynamic, Inc. Air Quality and Greenhouse Gas Emission Assessment. July 2022. See Appendix AQ. Note, GHG emissions presented as short tons in the Atmospheric Dynamics report were converted to metric tons for this analysis. |                                                          |

As shown in Table 3.8-2, the primary source of GHG emissions from the project is generator testing and maintenance. As discussed previously, the project's total operational emissions related to emergency backup generator maintenance and testing of 3,405 metric tons of CO<sub>2</sub>e per year is well below the BAAQMD threshold for stationary sources of 10,000 metric tons per year of CO<sub>2</sub>e for stationary sources. Per 2022 CAP Action Item B-1-7 and MM GHG-1 below, the project would utilize 100% carbon neutral energy, and therefore would result in zero GHG emissions from electricity use. All other project operations, including mobile emissions from vehicles, water consumption, and waste generation, would produce 826 metric tons of CO<sub>2</sub>e per year (refer to Table 3.13-3 of Section 3.3 Air Quality).

### **Proposed Efficiency Measures**

#### **Overview: Power Usage Effectiveness During Operation**

Power Usage Effectiveness, or PUE, is a metric used to compare the efficiency of facilities that house computer servers. PUE is defined as the ratio of total facility energy use to Information Technology (IT) (i.e., server) power draw (e.g.,  $PUE = \text{Total Facility Source Energy} / \text{IT Source Energy}$ ). For example, a PUE of two (2), means that the data center or laboratory must draw two (2) watts of electricity for everyone (1) watt of power consumed by the IT/server equipment. It is equal to the total energy consumption of a data center (for all fuels) divided by the energy consumption used for the IT equipment. The ideal PUE is one (1) where all power drawn by the facility goes to the IT infrastructure.

The theoretical peak PUE for the Worst Day Calculation would be 1.50 (Total 72 MW demand of Building on Worst Case Day divided by 48 MW Total Critical IT Load). The average annual PUE

would be 1.25 (Total 60 MW demand of Building average conditions divided by 48 MW Design Critical IT Load). These PUE estimates are based on design assumptions and represent worst case.

As described above, the expected PUE is much lower because the Critical IT that is leased by clients is rarely fully utilized. GI Partners' experience with operation of other data centers is that the actual annualized PUE will be closer to 1.25.

Both the worst case and average PUE for the project would be considered efficient, as industry surveys state that the average PUE for data centers is 1.67 (although newly constructed data centers typically have PUEs ranging from 1.1 to 1.4).<sup>60</sup>

#### Energy and Water Use Efficiency Measures in Building Design

Due to the heat generated by the data center equipment, cooling is one of the main uses of electricity in data center operations. In order to reduce GHG emissions and reduce the use of energy related to building operations, the project proposes to implement the following efficiency measures:

- Evaporative cooling instead of mechanical cooling.
- Meet or exceed Title 24 requirements.
- Clean air vehicle parking.
- Low flow plumbing fixtures.
- Landscaping would meet City of Santa Clara requirements for low water use.

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**Impact GHG-2:** The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. **(Less than Significant Impact)**

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#### **2017 BAAQMD Clean Air Plan**

As discussed in Section 3.3 Air Quality, the project supports the goals of the 2017 Clean Air Plan for protecting public health and the climate and is consistent with 2017 Clean Air Plan control measures of reducing exposure to TACs and reducing DPM emissions by:

- The BBGF will comply with all applicable rules and regulations of the BAAQMD regarding emissions of criteria and toxic pollutants.
- The proposed engines at the BBGF will comply with the applicable federal Tier 4 emissions standards for emergency standby electrical generation CI engines.
- The BBGF will obtain and maintain all required air quality related permits from the BAAQMD, and requirements imposed by the California Energy Commission.
- Implementing BMPs to reduce criteria air pollutants during construction,
- Reducing motor VMT by proposing office/employment development in proximity to existing/proposed/planned pedestrian, bicycle, and transit facilities,

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<sup>60</sup> Uptime Institute. Annual Data Center Survey Results - 2019. Available at: <https://datacenter.com/wp-content/uploads/2019/06/data-center-survey-2019.pdf>



- Including a TDM program that encourages automobile-alternative transportation, and ridesharing,
- Complying with applicable regulations that would result in energy and water efficiency including Title 24 and California Green Building Standards Code,
- Planting new trees in accordance with the City's General Plan Policy 5.3.1-P10 to reduce the urban heat island effect, and
- Complying with the City's construction debris diversion ordinance and state waste diversion requirements to reduce the amount of waste in landfills.

In addition, the project would not disrupt or hinder the implementation of applicable control measures in the 2017 Clean Air Plan.

### **Santa Clara Climate Action Plan**

As described previously, the 2022 CAP is the latest update to the City's CAP and was designed to meet the statewide GHG reduction targets for 2030 set by Senate Bill 32. As a Qualified Climate Action Plan, the 2022 CAP allows for tiering and streamlining of GHG analyses under CEQA. Projects that comply with the policies and strategies outlined in the 2022 CAP would have a less than significant GHG impact. The project includes a General Plan Amendment and therefore would not be able to tier off the 2022 CAP, as the project's proposed land use was not included in the General Plan's build-out assumptions. However, compliance with the CAP measures is still required. A summary of the project's consistency with applicable 2022 CAP measures is provided in Table 3.8-3.

| <b>Table 3.8-3: Summary of Applicable Climate Action Plan Measures and Project Consistency</b> |                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Applicable Climate Action Plan Measures</b>                                                 |                                                                                                                                                                                                      | <b>Notes/Comments</b>                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Water Conservation</b>                                                                      |                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                             |
| N-3-3                                                                                          | Water-Efficient landscaping requirements: Expand requirements for water-efficient landscaping practices, including requirements for cooling (trees, green roofs) and drought-tolerant native plants. | The project proposes to integrate water conservation practices, such as efficient landscapes and high-efficiency irrigation systems.                                                                                                                                                                                                                                                                                        |
| N-3-5                                                                                          | Recycled Water Connection Requirements: Require the use of recycled water for all non-potable uses where recycled water is available, per City Code 13                                               | There is a recycled water pipeline located at the intersection of Walsh Avenue and Northwestern Parkway, approximately 2,600 feet to the southeast of the subject property. The project would extend the recycled water line as a primary source of water for cooling and landscaping as shown on Figure 2-14. The data center will be designed to use up to 0.5 AFY of recycled water provided by the City of Santa Clara. |
| <b>Materials and Consumption – Increase Waste Diversion</b>                                    |                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                             |
| M-1-1                                                                                          | Compliance with State Solid Waste Ordinance: Comply with state solid waste                                                                                                                           | The proposed project would include recycling services and participate in the City's                                                                                                                                                                                                                                                                                                                                         |

**Table 3.8-3: Summary of Applicable Climate Action Plan Measures and Project Consistency**

| <b>Applicable Climate Action Plan Measures</b>                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Notes/Comments</b>                                                                                                                                                                                                          |
|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                         | laws, including AB-1826, AB-341, and SB-1383. These bills require that businesses, public entities, and communities expand recycling and composting infrastructure to meet the state’s ambitious landfill waste reduction targets. AB-1826 requires commercial businesses that generate a certain level of organic waste arrange for recycling services for that waste. AB-341 similarly requires that commercial businesses and public entities that generate a certain level of weekly waste have a recycling program in place. SB-1383 requires that California reduce waste to landfills by 75% by 2025 and rescue 20% of surplus edible food in phases beginning in 2022. | Construction and Demolition Debris Recycling Program.                                                                                                                                                                          |
| <b>Transportation and Land Use</b>                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                |
| T-1-2                                                                   | EV Charging for all New Construction: Implement EV charging requirements as specified in the adopted 2021 Reach Codes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | The project would provide at least four electric vehicles parking spaces (of which one is EV van accessible), and six clean air vehicle parking spaces, as shown on Figure 2-4.                                                |
| <b>Natural Systems and Water Resources – Increase Tree Canopy Cover</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                |
| N-1-3                                                                   | Urban Forest Partnership: Promote healthy, well-managed urban forests by participating in the County’s Urban Forest Alliance partnership.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | The BDC proposes to mitigate for the loss of 47 trees by planting 69 trees on-site, while the remaining required 25 replacement trees would be planted off-site in accordance with the City’s General Plan (Policy 5.3.1-P10). |
| <b>Community Resilience and Well-Being: Prepare for Climate Change</b>  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                |
| C-2-1                                                                   | High-Albedo Parking Lots: As part of conditions of approval, require new parking lots to be surfaced with more sustainable pavement materials (e.g., high-albedo permeable pavement, e-pavement, etc.) to reduce heat gain during extreme heat events, reduce energy consumption related to cooling, and reduce stormwater runoff.                                                                                                                                                                                                                                                                                                                                             | Per City requirements, the proposed surface parking would be paved with sustainable pavement, such as high-albedo permeable pavement or e-pavement.                                                                            |
| <b>Electric Fuels to Achieve Net-Zero Carbon Buildings</b>              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                |
| B-1-5                                                                   | Reach Codes for New Construction: Implement all-electric codes, with                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | The project would comply with the City’s Reach Codes and would not use natural gas.                                                                                                                                            |

| <b>Table 3.8-3: Summary of Applicable Climate Action Plan Measures and Project Consistency</b> |                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Applicable Climate Action Plan Measures</b>                                                 |                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Notes/Comments</b>                                                                                                                                                                                                                                                                                                                                              |
|                                                                                                | exceptions. The codes would require: The All-electric building electrification with electric vehicle charging reach code ordinance would apply to all new building permit applications per City Ordinance 2034.                                                                                                                                                                                     | The project would provide four electric vehicles parking spaces                                                                                                                                                                                                                                                                                                    |
| B-1-7                                                                                          | Carbon-Neutral Data Centers: Require all new data centers to operate on 100% carbon neutral energy, with offsets as needed. This requirement does not apply to data centers with planning application approval within six months of the CAP adoption date. Use offsets as needed to help ease the transition to carbon neutral energy but ensure that reducing emissions remains the main priority. | Per Applicant Proposed Mitigation Measure MM GHG-1, the project would contract with SVP at the 2020 Green Power Standard (i.e., 100% carbon-free electricity) for electricity accounts associated with the project or participate in a clean energy program that accomplishes the same goals of 100% carbon-free electricity as the SVP 2020 Green Power Standard. |
| <b>Maximize Renewable Energy Generation and Storage Capacity</b>                               |                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                    |
| B-3-6                                                                                          | Alternative Backup Generators: Provide information and technical assistance to data centers and other large commercial users to transition from diesel to lower-carbon backup generators (e.g., renewable diesel). Consider promoting the use of non-diesel alternatives as alternative back-up power source for data centers when SVP service is unavailable.                                      | As discussed in Section 7.0 Alternatives, GI Partners evaluated the use of biodiesel and renewable diesel as replacement for the CARB diesel proposed for use in the BBBGF. Neither alternative provides a highly reliable source of fuel, nor provides any demonstrable reduction in emissions.                                                                   |

As described previously, Action Item B-1-7 of the 2022 CAP requires all new data centers to operate on 100% carbon neutral energy, with offsets as needed. The project includes the following applicant proposed mitigation measure to ensure compliance with this requirement.

**Impact GHG-1:** The project would consume energy, which could result in GHG emissions.

**Applicant Proposed Project Design Measure:**

**PD GHG-1:** In accordance with Action Item B-1-7 in the City of Santa Clara’s 2022 Climate Action Plan, the project owner shall contract with SVP at the 2020 Green Power Standard (i.e., 100% carbon-free electricity) for electricity accounts associated with the project, or participate in a clean energy program that accomplishes the same goals of 100% carbon-free electricity as the SVP 2020 Green Power Standard.

For the reasons described in Table 3.8-3, and with implementation of Applicant Proposed Mitigation Measure MM GHG-1, the project would be consistent with the 2022 CAP.

### General Plan Policies

In addition to the reduction measures in the 2022 CAP, the City of Santa Clara General Plan has goals and policies to address sustainability (see Appendix 8.13: Sustainability Goals and Policies Matrix in the General Plan) aimed at reducing the City's contribution to GHG emissions. For the proposed project, implementation of policies that increase energy efficiency or reduce energy use would effectively reduce indirect GHG emissions associated with energy generation. The consistency of the proposed project with the Air Quality, Energy, Transportation, and Water Policies of the General Plan is described in Table 3.8-4.

| Table 3.8-4: General Plan Sustainability Policies                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emission Reduction Policies                                                                                                                                        | Project Consistency                                                                                                                                                                                                                                                                                                                                                                                                       |
| Air Quality Policies                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 5.10.2-P3 Encourage implementation of technological advances that minimize public health hazards and reduce the generation of air pollutants.                      | Per Applicant Proposed Mitigation Measure MM GHG-1, the project would contract with SVP at the 2020 Green Power Standard (i.e., 100% carbon-free electricity) for electricity accounts associated with the project, or participate in a clean energy program that accomplishes the same goals of 100% carbon-free electricity as the SVP 2020 Green Power Standard.                                                       |
| 5.10.2-P4 Encourage measures to reduce GHG emissions to reach 30 percent below 1990 levels by 2020.                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Energy Policies                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 5.10.3-P1 Promote the use of renewable energy resources, conservation, and recycling programs.                                                                     | The proposed project would include recycling services and participate in the City’s Construction and Demolition Debris Recycling Program.<br><br>The project would utilize lighting controls to reduce energy usage for new exterior lighting and air economization for building cooling. Water efficient landscaping and ultra-low flow plumbing fixtures in the building would be installed to limit water consumption. |
| 5.10.3-P4 Encourage new development to incorporate sustainable building design, site planning and construction, including encouraging solar opportunities.         |                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 5.10.3-P5 Reduce energy consumption through sustainable construction practices, materials, and recycling.                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 5.10.3-P6 Promote sustainable buildings and land planning for all new development, including programs that reduce energy and water consumption in new development. |                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 5.10.3-P8 Provide incentives for LEED certified, or equivalent development.                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Table 3.8-4: General Plan Sustainability Policies                                                                                                                                                                                                                                                                                                             |                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Emission Reduction Policies                                                                                                                                                                                                                                                                                                                                   | Project Consistency                                                                                                                     |
| 5.3.1-P10 Provide opportunities for increased landscaping and trees in the community, including requirements for new development to provide street trees and a minimum 2:1 on- or off-site replacement for trees removed as part of the proposal to help increase the urban forest and minimize the heat island effect.                                       | The project would plant trees that would provide shading throughout the site to reduce the heat island effect.                          |
| Transportation Policies                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                         |
| 5.3.1-P14 Encourage TDM strategies and the provision of bicycle and pedestrian amenities in all new development greater than 24 housing units or more than 10,000 non-residential square feet, and for City employees, in order to decrease use of the single-occupant automobile and reduce vehicle miles traveled, consistent with the Climate Action Plan. | The project includes a TDM program that provides incentives and services to encourage alternatives to personal motorized vehicle trips. |
| 5.8.5-P1 Require new development and City employees to implement TDM programs that can include site-design measures, including preferred carpool and vanpool parking, enhanced pedestrian access, bicycle storage and recreational facilities.                                                                                                                |                                                                                                                                         |
| 5.8.5-P5 Encourage TDM programs that provide incentives for the use of alternative travel modes to reduce the use of single-occupant vehicles.                                                                                                                                                                                                                |                                                                                                                                         |
| Water Policies                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                         |
| 5.10.4-P7 Require installation of native and low-water consumption plant species with landscaping new development and public spaces to reduce water usage.                                                                                                                                                                                                    | The project would use water efficient landscaping with low water usage plant material to minimize irrigation requirements.              |

### **Plan Bay Area 2040/California SB 375**

Under the requirements of SB 375, the MTC and ABAG developed a Sustainable Communities Strategy (SCS) with the adopted Plan Bay Area 2040 to achieve the Bay Area's regional GHG reduction target. Plan Bay Area 2040 sets a 15 percent GHG emissions reduction per capita target from passenger vehicles by 2035 when compared to the project 2005 emissions. However, these emission reduction targets are intended for land use and transportation strategies only. The project would be required to implement TDM measures to reduce vehicle trips and VMT and would not contribute to a substantial increase in passenger vehicle travel within the region.

## California SB 100

SB 100 advances the RPS renewable resources requirement to 50 percent by 2026 and 60 percent by 2030. It also requires renewable energy resources and zero-carbon resources to supply 100 percent of all retail sales of electricity by 2045. Because all electricity supplied to the project by SVP would be subject to the RPS requirements promulgated under SB 100, the project would not conflict with plans, policies, or regulations adopted pursuant to SB 100.

## ARB Scoping Plan

The ARB Scoping Plan outlines the State's plan for achieving the emissions reductions necessary to meet the 2030 emission target set by SB 32. As described above, the project's stationary source emissions are under relevant thresholds set by BAAQMD, and the project would be consistent with BAAQMD's updated GHG thresholds for operational emissions which are intended to ensure project's do not interfere with the State's ability to achieve the 2030 GHG emissions target. Additionally, the project would utilize 100% carbon-neutral electricity, resulting zero emissions related to electricity consumption. The project, therefore, would be consistent with the ARB Scoping Plan.

## Conclusion

The project is consistent with the 2017 Clean Air Plan, the City's 2022 CAP, the City's General Plan policies and measures, Plan Bay Area 2040/SB 375, SB 100, and the ARB Scoping Plan. The project, therefore, would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs. **(Less Than Significant Impact with Mitigation Incorporated)**

### 3.8.2.2

#### *Cumulative Impacts*

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**Impact GHG-C:** The project would not result in a cumulatively considerable contribution to a significant cumulative GHG emissions impact **(Less than Significant Cumulative Impact with Mitigation)**

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As discussed in Section 3.8.2.1, GHG emissions worldwide contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change. No single land use project could generate sufficient GHG emissions on its own to noticeably change the global average temperature. The combination of GHG emissions from past, present, and future projects in Santa Clara, the entire state of California, and across the nation and around the world, contribute cumulatively to the phenomenon of global climate change and its associated environmental impacts. The above analysis of the project's GHG emissions impacts is, therefore, also an analysis of the project's contribution to cumulative GHG emissions impacts. **(Less than Significant Cumulative Impact with Mitigation)**

### 3.9 HAZARDS AND HAZARDOUS MATERIALS

The discussion in this section is based in part upon a Phase I Report prepared for the project by AEI Consultants in February 2021. A copy of this report is included in Appendix E of this EIR.

#### 3.9.1 Environmental Setting

##### *Regulatory Framework*

##### **Overview**

3.9.1.1 The storage, use, generation, transport, and disposal of hazardous materials and waste are highly regulated under federal and state laws. In California, the EPA has granted most enforcement authority over federal hazardous materials regulations to the California Environmental Protection Agency (CalEPA). In turn, local agencies have been granted responsibility for implementation and enforcement of many hazardous materials regulations under the Certified Unified Program Agency (CUPA) program.

Worker health and safety and public safety are key issues when dealing with hazardous materials. Proper handling and disposal of hazardous material is vital if it is disturbed during project construction. Cal/OSHA enforces state worker health and safety regulations related to construction activities. Regulations include exposure limits, requirements for protective clothing, and training requirements to prevent exposure to hazardous materials. Cal/OSHA also enforces occupational health and safety regulations specific to lead and asbestos investigations and abatement.

##### **Federal and State**

##### Federal Aviation Regulations Part 77

Federal Aviation Regulations, Part 77 Objects Affecting Navigable Airspace (FAR Part 77) sets forth standards and review requirements for protecting the airspace for safe aircraft operation, particularly by restricting the height of potential structures and minimizing other potential hazards (such as reflective surfaces, flashing lights, and electronic interference) to aircraft in flight. These regulations require that the Federal Aviation Administration (FAA) be notified of certain proposed construction projects located within an extended zone defined by an imaginary slope radiating outward for several miles from an airport's runways, or which would otherwise stand at least 200 feet in height above the ground.

##### Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Over five years, \$1.6 billion was collected and the tax went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. CERCLA accomplished the following objectives:

- Established prohibitions and requirements concerning closed and abandoned hazardous waste sites;
- Provided for liability of persons responsible for releases of hazardous waste at these sites; and
- Established a trust fund to provide for cleanup when no responsible party could be identified.

The law authorizes two kinds of response actions:

- Short-term removals, where actions may be taken to address releases or threatened releases requiring prompt response; and
- Long-term remedial response actions that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious, but not immediately life-threatening. These actions can be completed only at sites listed on the EPA's National Priorities List.

CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.<sup>61</sup>

### Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA), enacted in 1976, is the principal federal law in the United States governing the disposal of solid waste and hazardous waste. RCRA gives the EPA the authority to control hazardous waste from the "cradle to the grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also sets forth a framework for the management of non-hazardous solid wastes.

The Federal Hazardous and Solid Waste Amendments (HSWA) are the 1984 amendments to RCRA that focused on waste minimization, phasing out land disposal of hazardous waste, and corrective action for releases. Some of the other mandates of this law include increased enforcement authority for the EPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank program.<sup>62</sup>

### Government Code Section 65962.5

Section 65962.5 of the Government Code requires CalEPA to develop and update a list of hazardous waste and substances sites, known as the Cortese List. The Cortese List is used by state and local agencies and developers to comply with CEQA requirements. The Cortese List includes hazardous

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<sup>61</sup> United States Environmental Protection Agency. "Superfund: CERCLA Overview." Accessed March 11, 2022. <https://www.epa.gov/superfund/superfund-cercla-overview>.

<sup>62</sup> United States Environmental Protection Agency. "Summary of the Resource Conservation and Recovery Act." Accessed March 11, 2022. <https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act>.



substance release sites identified by the Department of Toxic Substances Control (DTSC) and State Water Resources Control Board (SWRCB).<sup>63</sup>

### Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) of 1976 provides the EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics, and pesticides. The TSCA addresses the production, importation, use, and disposal of specific chemicals including polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paint.

### California Accidental Release Prevention Program

The California Accidental Release Prevention (CalARP) Program aims to prevent accidental releases of regulated hazardous materials that represent a potential hazard beyond the boundaries of a property. Facilities that are required to participate in the CalARP Program use or store specified quantities of toxic and flammable substances (hazardous materials) that can have off-site consequences if accidentally released. The City of Santa Clara Fire Department reviews CalARP risk management plans as the Certified Unified Program Agency (CUPA).

### Asbestos-Containing Materials

Friable asbestos is any asbestos-containing material (ACM) that, when dry, can easily be crumbled or pulverized to a powder by hand, allowing the asbestos particles to become airborne. Common examples of products that have been found to contain friable asbestos include acoustical ceilings, plaster, wallboard, and thermal insulation for water heaters and pipes. Common examples of non-friable ACMs are asphalt roofing shingles, vinyl floor tiles, and transite siding made with cement. The EPA phased out use of friable asbestos products between 1973 and 1978. National Emission Standards for Hazardous Air Pollutants (NESHAP) guidelines require that potentially friable ACMs be removed prior to building demolition or remodeling that may disturb the ACMs.

### CCR Title 8, Section 1532.1

The United States Consumer Product Safety Commission banned the use of lead-based paint in 1978. Removal of older structures with lead-based paint is subject to requirements outlined by the Cal/OSHA Lead in Construction Standard, CCR Title 8, Section 1532.1 during demolition activities. Requirements include employee training, employee air monitoring, and dust control. If lead-based paint is peeling, flaking, or blistered, it is required to be removed prior to demolition.

## **Regional and Local**

### Municipal Regional Permit Provision C.12.f

Polychlorinated biphenyls (PCBs) were produced in the United States between 1955 and 1978 and used in hundreds of industrial and commercial applications, including building and structure

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<sup>63</sup> California Environmental Protection Agency. "Cortese List Data Resources." Accessed March 11, 2022. <https://calepa.ca.gov/sitecleanup/corteselist/>.

materials such as plasticizers, paints, sealants, caulk, and wood floor finishes. In 1979, the EPA banned the production and use of PCBs due to their potential harmful health effects and persistence in the environment. PCBs can still be released to the environment today during demolition of buildings that contain legacy caulks, sealants, or other PCB-containing materials.

With the adoption of the San Francisco Bay Region Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (MRP) by the San Francisco Bay Regional Water Quality Control Board on November 19, 2015, Provision C.12.f requires that permittees develop an assessment methodology for applicable structures planned for demolition to ensure PCBs do not enter municipal storm drain systems.<sup>64</sup> Municipalities throughout the Bay Area are currently modifying demolition permit processes and implementing PCB screening protocols to comply with Provision C.12.f. Buildings constructed between 1950 and 1980 that are proposed for demolition must be screened for the presence of PCBs prior to the issuance of a demolition permit. Single family homes and wood-frame structures are exempt from these requirements.

### Santa Clara Emergency Operations Plan

In June 2016, the City of Santa Clara adopted an Emergency Operations Plan (EOP) to address the planned response of the City of Santa Clara to emergency situations associated with natural disasters and technological incidents, as well as chemical, biological, radiological, nuclear and explosive emergencies. The EOP establishes the emergency organization, assign tasks, specifies policies and general procedures, and provides for coordination of planning efforts for emergency events such as earthquake, flooding, dam failure, and hazardous materials responses.

### City of Santa Clara General Plan

The Santa Clara 2010-2035 General Plan includes policies that address hazards and hazardous materials during the planning horizon of the General Plan. The following goals, policies, and actions are applicable to the proposed project:

| <b>Policies</b> | <b>Description</b>                                                                                                                                                                                                                                                                                   |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.10.5-P22      | Regulate development on sites with known or suspected contamination of soil and/or groundwater to ensure that construction workers, the public, future occupants and the environment are adequately protected from hazards associated with contamination, in accordance with applicable regulations. |
| 5.10.5-P24      | Protect City residents from risks inherent in the transport, distribution, use and storage of hazardous materials.                                                                                                                                                                                   |
| 5.10.5-P25      | Use Best Management Practices to control the transport of hazardous substances and to identify appropriate haul routes to minimize community exposure to potential hazards.                                                                                                                          |
| 5.10.5-P26      | Survey pre-1980 buildings and abate any lead-based paint and asbestos prior to structural renovation and demolition, in compliance with all applicable regulations.                                                                                                                                  |
| 5.10.5-P33      | Limit the height of structures in accordance with the Federal Aviation Administration Federal Aviation Regulations, FAR Part 77 criteria.                                                                                                                                                            |

<sup>64</sup> California Regional Water Quality Control Board. *San Francisco Bay Region Municipal Regional Stormwater NPDES Permit*. November 2015.

## ***Existing Conditions***

### **Historic Site Uses**

The project site was historically used for agricultural purposes from approximately 1939 through 1968. There is potential that agricultural chemicals, such as pesticides, herbicides, and fertilizers, were used on site. The entire area of the project site is either paved over or covered by improvements that make direct contact with any potential remaining concentrations in the soil unlikely.

The project site was developed between 1974 and 1975 and has been occupied by various industrial and commercial occupants since that time.

### **Regulatory Agency Records Review**

Based on a review of agency records and city directories, Versatec, a company later associated with Xerox Engineering Systems (XES), occupied the project site from at least 1975 to 1992. According to a 1993 Work Plan for Sump Closure Activities on file with the Santa Clara Fire Department (SCFD), the XES building, referred to as Building One, was constructed in 1975. The building was part of a former complex of five buildings. The facility was used for the manufacturing of electronic printers and plotters. The facility had been inactive since December 1992, and the building remained vacant. Associated with the building's former printed circuit board lab was a waste treatment area located outside the facility on the southern side of the building. An epoxy seal-coated concrete vault (also referred to as a sump) used for pH neutralization of process liquids was installed at the project site in 1975. According to a 1985 letter from Versatec to the SCFD, the waste treatment facility was "visually monitored on a daily basis by Versatec employees". Additionally, the piping of the system was noted as single and double walled PVC, and the tank leak detection method was marked as unknown in a 1993 Underground Storage Tank Permit (UST) Application filed by XES. The 'tank' was noted to be permanently closed on-site in the 1993 UST Permit Application. It appears that the references to 'tank' and UST were pertaining to 1,200-gallon container located within the actual 6,000-gallon capacity vault.

Based on the length of time Versatec/XES occupied the project site, the documented use of halogenated solvent, and the former site features of concern (hazardous waste sump, hazardous waste storage area, hazardous waste handling area, steam-cleaning area, waste treatment area, and diesel fuel storage area), these former operations and associated features may have resulted in a release to the subsurface which represents a recognized environmental concern (REC). Additionally, based on this information, the potential for a related vapor-phase migration concern could not be ruled out.

Evidence indicating current or prior use or storage of hazardous substances was not on file for the project site on the Santa Clara Building Department or the Santa Clara Planning Department website.

Additional information on the regulatory agency records review can be found in Section 4.0 of Appendix E.

### **SWRCB GeoTracker Database Summary**

The project site was identified in the Regional Water Quality Control Board (RWQCB) GeoTracker database as a closed Spills, Leaks, Investigations, and Clean Up sites (SLIC) release case. The

database suggests that both soil and groundwater were impacted by a release at the site. Potential contaminants of concern included 1,1,1-TCA, Freon, Vinyl Chloride, Dichloroethane and Dichloroethene. The case was granted closure on December 3, 2015. However, due to the presence of volatile organic chemicals in the groundwater under the site, it is appropriate to continue to monitor the site's three monitoring wells. The RWQCB requested that the wells be sampled semi-annually, and samples be analyzed using EPA Method 8010. However, the RWQCB did not state the specific location of the three monitoring wells. A previous Phase I Report states that 1995 lease records associated with the project site indicated that soil and groundwater at the site were impacted by the former Xerox operations. Xerox performed soil and groundwater remediation at the project site and case closure for the release was reportedly pending in 1995. No additional information on the sampling, remediation, or closure were reportedly available for review in the regulatory records.

Phase I reports completed in 2011, 2014, and 2016 did not identify any RECs, CRECs, or HRECs as part of their assessment. The following environmental concerns were noted: onsite historical use of chlorinated solvents, potential for ACMs, and southern adjoining release case. No further investigation was recommended. However, a Phase I completed in 2017 by Parner, stated that "Due to the lack of documentation available regarding site characterization and remedial actions at the property adjacent to the south, Partner cannot rule out the potential for a vapor encroachment condition (VEC) at project site. Based on the findings of the Tier 1 screen, vapor intrusion may be an issue of concern in connection with the existing structures on the project site. As such, additional assessment may be warranted." Additionally, the most recent Phase I completed for the site (refer to Appendix E) concluded that based on reported subsurface contamination by VOC's at the project site for which no documentation is available, paired with the likelihood for a related vapor-phase migration condition which was not previously evaluated for, the site is representative of a REC.

#### California DTSC HWTS Database Summary

Versatec/Xerox was listed as generating large quantities of hazardous wastes in 1993, likely associated with their facility closure. Notable wastes generated included halogenated solvents and other empty containers > = 30 gallons (listing indicative of possible former ASTs/USTs). National Semiconductor, a formal occupant of the site, was listed in 1995, however no detailed manifest records were present.

Other current and former occupants of the project site were listed in the DTSC HWTS database. No release of any of these materials were reported to the regulatory agencies. No evidence of a hazardous material release or of interior potential subsurface conduits were observed during the property inspection. Based on the relatively short duration of time that these wastes were reported to be generated in the HWTS database, which were disposed of off-site under waste manifest control and regulatory oversight, as well as the lack of observed interior potential subsurface conduits, the former use of these materials by the remaining tenants is not expected to constitute a significant environmental concern.

## Site Reconnaissance Findings

A site reconnaissance was completed for the project, as summarized in Table 4.9-1 below.

| Table 4.9-1: Reconnaissance Findings Summary                                                    |                          |                                |
|-------------------------------------------------------------------------------------------------|--------------------------|--------------------------------|
| Feature                                                                                         | Observed on Project Site | Observed on Adjoining Property |
| Regulated Hazardous Substances/Wastes and/or Petroleum Products in Connection with Property Use |                          | X                              |
| Aboveground/Underground Hazardous Substance or Petroleum Product Storage Tanks (ASTs/USTs)      |                          | X                              |
| Hazardous Substance and Petroleum Product Containers Not in Connection with Property Use        |                          |                                |
| Unidentified Substance Containers                                                               |                          |                                |
| Electrical or Mechanical Equipment Likely to Contain Fluids                                     | X                        | X                              |
| Interior Stains or Corrosion                                                                    |                          |                                |
| Strong, Pungent, or Noxious Odors                                                               |                          |                                |
| Pools of Liquid                                                                                 |                          |                                |
| Drains, Sumps, and Clarifiers                                                                   | X                        | X                              |
| Pits, Ponds, and Lagoons                                                                        |                          |                                |
| Stained Soil or Pavement                                                                        |                          |                                |
| Stressed Vegetation                                                                             |                          |                                |
| Solid Waste Disposal or Evidence of Fill Materials                                              |                          |                                |
| Wastewater Discharges                                                                           |                          |                                |
| Wells                                                                                           |                          |                                |
| Septic Systems                                                                                  |                          |                                |
| Biomedical Wastes                                                                               |                          |                                |
| Other                                                                                           | X                        |                                |

### Electrical or Mechanical Equipment Likely to Contain Fluids

Toxic PCBs were commonly used historically in electrical equipment such as transformers, fluorescent lamps ballasts, and capacitors. According to United States EPA regulation 40 CFR Part 761, there are three categories for classifying such equipment: <50 ppm of PCBs is considered “Non-PCB”; between 50 and 500 ppm is considered “PCB-Contaminated”; and >500 ppm is considered “PCB-Containing.” Pursuant to 15 U.S.C 2605(e)(2)(A), the manufacture, process, or distribution in commerce or use of any polychlorinated biphenyl in any manner other than in a totally enclosed manner was prohibited after January 1, 1977.

**Transformers.** A transformer is an apparatus for reducing or increasing the voltage of an alternating current.

| Table 4.9-2: Transformers Found On-Site |          |       |                               |                  |                        |
|-----------------------------------------|----------|-------|-------------------------------|------------------|------------------------|
| Type                                    | Quantity | Owner | Presumed Date of Installation | Spills or Stains | Non-PCB Label (Yes/No) |
|                                         |          |       |                               |                  |                        |

|             |   |                      |       | <b>Observed<br/>(Yes/No)</b> |    |
|-------------|---|----------------------|-------|------------------------------|----|
| Pad-Mounted | 1 | Silicon Valley Power | 1970s | No                           | No |
| Subsurface  | 1 | Silicon Valley Power | 1970s | No                           | No |

The management of potential PCB-containing transformers is the responsibility of the local utility or the transformer owner. Actual material samples need to be collected to determine if transformers are PCB-containing.

Transformers installed prior to 1977 may be PCB containing while transformers installed after 1977 are unlikely to be PCB containing. Federal Regulations (40 CFR 761 Subpart G) require any release of material containing >50 ppm PCB and occurring after May 4, 1987, to be cleaned up by the transformer owner following the United States EPA's PCB spill cleanup policy.

AEI did not observe evidence of spills, staining, or leaks on or around the pad-mounted transformer. Based on the good condition of the equipment, the transformer is not expected to represent a significant environmental concern. Due to the sub-grade nature of the subsurface transformer, AEI was unable to observe the condition of the equipment.

**Elevators.** The project site is equipped with two hydraulic elevators. The hydraulic fluid contained within elevator systems can potentially contain toxic PCBs. Based on the construction date of the building (pre-1978), the potential exists that hydraulic fluid within the equipment may have contained PCBs. The equipment for the elevators is located on the first floor of the building. No evidence of stains or leaks was observed at the base of the equipment during the site reconnaissance. The elevators are reportedly maintained by a company called ThyssenKrupp. Based on the good condition and regular maintenance of the elevators, they are not expected to represent a significant environmental condition.

#### Drains, Sumps, and Clarifiers

Various storm drains were observed in the parking area of the project site. AEI did not observe evidence of hazardous substances or petroleum products in the vicinity of the drains. Based on the use of the drains solely for storm water runoff, the presence of the drains is not expected to represent a significant environmental concern.

#### Other

Cleaning supplies are stored in designated janitorial closets inside the project site building. All chemicals were packaged in consumer quantities. Based on the nature of these materials, the presence of cleaning supplies at the project site is not expected to represent a significant environmental concern.

Approximately 40-gallons of building maintenance products, such as paints, paint related products, propane, and fuel, were observed in a flammable cabinet stored in an exterior fenced enclosure on the south side of the building and within the building maintenance shop in the KeyPoint Credit Union unit. Six paint cans were also stored next to the flammable cabinet on the concrete pavement. The

containers were properly labeled and stored. AEI also observed two, 5-gallon propane containers used by Colfax International for the operation of their forklift. No signs of spills or leaks were observed in conjunction with any of the containers. No significant staining or evidence of release of any of the materials was observed during the site reconnaissance. Based on the relatively small quantities observed and the lack of evidence of the mismanagement of these materials, the use of these materials on site is not expected to represent a significant environmental concern.

#### Adjoining Property Reconnaissance Findings

Multiple adjoining sites were observed to be occupied by industrial businesses. Based on the nature of use, hazardous substances are likely utilized/stored on the site.

An AST (liquid nitrogen) was observed at the northeastern adjoining property. The site was identified in the regulatory database.

Several pad-mounted and subsurface transformers were observed on the adjoining sites during the site reconnaissance. No spills, staining, or leaks were observed on or around the pad-mounted transformers. Based on the good condition of the equipment, the transformers are not expected to represent a significant environmental concern.

Several storm drains were observed in the parking areas of the adjoining properties and adjoining roadways. AEI did not observe evidence of hazardous substances or petroleum products in the vicinity of the drains. Based on the use of drains solely for storm water runoff, the presence of the drains is not expected to represent a significant environmental concern.

### **Recycled Water Line Extension Alignment**

The recycled water line extension alignment is located within existing public right of way along Bowers Avenue and Walsh Avenue. The alignment is located in an area underlain by soil and/or fill that has been deemed suitable for construction of the existing roadways and installation of existing underground utility infrastructure.

#### **3.9.2      Impact Discussion**

For the purpose of determining the significance of the project's impact on hazards and hazardous materials, would the project:

- 1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- 2) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- 3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
- 4) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

- 5) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?
- 6) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- 7) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

### ***Project Impacts***

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**Impact HAZ-1:** The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. **(Less than Significant Impact)**

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3.9.2.1

Some oils and lubricants could be stored on-site for maintenance of mechanical equipment in the equipment yards. Additionally, operation of the proposed project would include the use and storage of diesel fuel for testing and maintenance of the backup generators. The generators would be configured in stacked pairs. Each of the 16 pairs of generators serving the data center area would have an approximately 12,000-gallon diesel fuel storage tank located beneath the generator installed at ground level and a 500-gallon day tank installed on the structural rack for the upper generator.

Each generator unit and its integrated fuel tanks would be designed with double walls. The interstitial space between the walls of each tank would be continuously monitored electronically for the existence of liquids. This monitoring system would be electronically linked to an alarm system in the engineering office that would alert personnel if a leak were detected. Additionally, the standby generator units would be housed within a self-sheltering enclosure that would prevent the intrusion of storm water.

To prevent potential spills during refueling, a spill catch basin would be located at each fill port for the generators. To prevent a release from entering the storm drain system, drains would be blocked off by the truck driver and/or facility staff during fueling events. Rubber pads or similar devices would be kept in the generator yard to allow quick blockage of the storm sewer drains during fueling events. To further minimize the potential for diesel fuel to end up in stormwater, to the extent feasible, fueling operations would be scheduled at times when storm events are improbable.

Hazardous material storage at the proposed data center would be regulated under local, state and federal regulations. For example, the project would be subject to the Aboveground Petroleum Storage Act (APSA) due to the volume of fuel that would be stored in aboveground tanks. Tank facilities under APSA must comply with all APSA requirements and prepare and implement a Spill Prevention, Control, and Countermeasure Plan. The spill prevention measures described above would be incorporated into the Plan. Additionally, a Hazardous Materials Business Plan would be completed for the safe storage and use of chemicals and would incorporate all relevant regulations.

Conformance with relevant laws and regulations would minimize the likelihood of hazardous material releases from the proposed fuel storage tanks and the use or storage of diesel fuel, oils, and



lubricants by the project would not create a significant impact on the environment. **(Less Than Significant Impact)**

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**Impact HAZ-2:** The project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. **(Less than Significant Impact with Mitigation Incorporated)**

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### **Project Operation**

As described in the discussion under Impact HAZ-1, the proposed project would include the use and storage of diesel fuel for testing and maintenance of the backup generators. A Hazardous Materials Business Plan would be completed for the safe storage and use of chemicals. Conformance with relevant laws and regulations would minimize the likelihood of hazardous material releases from the proposed fuel storage tanks and the use or storage of diesel fuel, oils and lubricants by the project would not create a significant impact on the environment. **(Less than Significant Impact)**

### **Soil and Groundwater Contamination Impacts During Construction**

The project site and recycled water line extension alignment may contain contaminated soil, groundwater and soil vapor from previous on- and off-site uses. Construction workers could be exposed to contaminated soil and or groundwater during excavation, grading, and construction activities including relocation or sanitary sewer lines.

**Impact HAZ-1:** Site contamination could expose construction workers and members of the public to hazardous materials during construction activities.

**Applicant Proposed Design Measures:** The project proponent shall implement the following measures to reduce impacts from hazardous materials to a less than significant level:

**PD HAZ-1.1:** Prior to the issuance of grading permits, shallow soil samples shall be taken in areas where soil disturbance is anticipated to determine if contaminated soils with concentrations above established construction/trench worker thresholds may be present due to historical agricultural use and from historical leaks and spills. The soil sampling plan must be reviewed and approved by the Santa Clara Fire Department Fire Prevention and Hazardous Materials Division prior to initiation of work. Once the soil sampling analysis is complete, a report of the findings will be provided to the Santa Clara Fire Department Fire Prevention and Hazardous Materials Division and other applicable City staff for review.

Documentation of the results of the soil sampling shall be submitted to and reviewed by the City of Santa Clara prior to the issuance of a grading permit. Any soil with concentrations above applicable Environmental Screening Levels or hazardous waste limits would be characterized, removed, and

disposed of off-site at an appropriate landfill according to all state and federal requirements.

**PD HAZ-1.2:**

A Site Management Plan (SMP) will be prepared for the project site to establish management practices for handling impacted groundwater and/or soil material that may be encountered during site development and soil-disturbing activities. Components of the SMP will include: a detailed discussion of the site background; a summary of the analytical results from PD HAZ-2.1; preparation of a Health and Safety Plan by an industrial hygienist; protocols for conducting earthwork activities in areas where impacted soil and/or groundwater are present or suspected; worker training requirements, health and safety measures and soil handling procedures shall be described; protocols shall be prepared to characterize/profile soil suspected of being contaminated so that appropriate mitigation, disposal or reuse alternatives, if necessary, can be implemented; notification procedures if previously undiscovered significantly impacted soil or groundwater is encountered during construction; notification procedures if previously unidentified hazardous materials, hazardous waste, underground storage tanks are encountered during construction; on-site soil reuse guidelines; sampling and laboratory analyses of excess soil requiring disposal at an appropriate off-site waste disposal facility; soil stockpiling protocols; and protocols to manage groundwater that may be encountered during trenching and/or subsurface excavation activities. Prior to issuance of grading permits, a copy of the SMP must be approved by the Santa Clara County Environmental Health Department, and the Santa Clara Fire Department Fire Prevention and Hazardous Materials Division.

**PD HAZ-1.3:**

If contaminated soils are found in concentrations above risk-based thresholds pursuant to the terms of the SMP, remedial actions and/or mitigation measures will be taken to reduce concentrations of contaminants to levels deemed appropriate by the selected regulatory oversight agency for ongoing site uses. Any contaminated soils found in concentrations above thresholds to be determined in coordination with regulatory agencies shall be either (1) managed or treated in place, if deemed appropriate by the oversight agency or (2) removed and disposed of at an appropriate disposal facility according to California Hazardous Waste Regulations and applicable local, state, and federal laws.

**PD HAZ-1.4:**

The discharge of any water from construction dewatering activities shall be required to comply with National Pollutant Discharge Elimination System (NPDES) permit requirements or wastewater discharge permit conditions to the sanitary sewer, which may involve installation of a treatment system(s) at the dewatering location. For short-term discharge (less than 1-year), a discharge permit shall be obtained from the City of Santa Clara and the water discharged to the sanitary sewer. For long term discharge (greater than 1-year), the Project applicant shall obtain a NPDES permit from the California Regional Water Quality Control Board for discharge to the storm system.

Both discharge permits require pre-testing of the water to determine if the water meets the respective City or Regional Water Quality Control Board (RWQCB) pollutant discharge limits. The water shall be analyzed by a State-certified laboratory for the suspected pollutants prior to discharge. Water that exceeds discharge limits (if any) shall be treated to reduce pollutant concentrations to acceptable levels prior to discharge. Based on the results of the analytical testing, the project applicant shall work with the RWQCB and the local wastewater treatment plant to determine appropriate disposal options and then implement same. A copy of the discharge permit or NPDES permit, whichever is applicable, shall be submitted to the City of Santa Clara Director of Community Development prior to the start of construction.

With implementation of the measures identified above, the proposed project would result in a less than significant soil and groundwater contamination impact.

### **Asbestos and Lead Based Paint Impacts**

Due to the age of the existing building on site (pre-1980 construction), asbestos-containing materials (ACMs) and lead-based paint may be present.

**Impact HAZ-2:** Demolition of the existing building on the project site could expose construction workers or residents in the vicinity of the project site to harmful levels of ACMs or lead.

**Applicant Proposed Design Measures:** The project proponent shall implement the following measure to reduce impacts from hazardous materials to a less than significant level:

**PD HAZ-2.1:** The project would implement the following applicant proposed mitigation measures to reduce impacts to the presence of ACMs and/or lead-based paint:

- In conformance with State and local laws, a visual inspection/pre-demolition survey, and possible sampling, shall be conducted prior to the demolition of on-site buildings to determine the presence of asbestos-containing materials and/or lead-based paint.
- Prior to demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Construction Standard, Title 8, California Code of Regulations (CCR) 1523.1, including employee training, employee air monitoring, and dust control. Any debris or soil containing lead-based paint or coatings would be disposed of at landfills that meet acceptance criteria for the waste being disposed.
- All potentially friable ACMs shall be removed in accordance with NESGAP guidelines prior to any building demolition or renovation that may disturb the materials. All demolition activities will be undertaken in accordance with Cal/OSHA standards contained in Title 8 of CCR, Section 1529, to protect workers from exposure to asbestos.

- A registered asbestos abatement contractor shall be retained to remove and dispose of ACMs identified in the asbestos survey performed for the site in accordance with the standards stated above.
- Materials containing more than one percent asbestos are also subject to Bay Area Air Quality Management District (BAAQMD) regulations. Removal of materials containing more than one percent asbestos shall be completed in accordance with BAAQMD requirements.

Conformance with aforementioned regulatory requirements and applicant proposed mitigation measures would result in a less than significant impact from ACMs and lead. **(Less than Significant Impact with Mitigation)**

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**Impact HAZ-3:** The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. **(Less than Significant Impact)**

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The nearest school to the project site is Bracher Elementary School (approximately 0.26 miles southeast of the project site). Therefore, the project site is not within one-quarter mile of an existing school. As described in Section 3.3 Air Quality, the project would not generate significant levels of hazardous air emissions. Although hazardous materials may be encountered during construction activities, potential exposure would be limited to the project site, and Project Design Measures would be implemented to reduce impacts to nearby receptors (including schools and residences) to less than significant levels (see PD HAZ-1.1 through PD HAZ-1.4 and PD HAZ-2.1). The project would not handle acutely hazardous materials or hazardous waste during project operation. For these reasons, the project would not impact schools within the project area. **(Less Than Significant Impact)**

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**Impact HAZ-4:** The project would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment. **(Less than Significant Impact with Mitigation Incorporated)**

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Due to the known contamination on the site, the site is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Implementation of identified Project Design Measures (see PD HAZ-1.1 through PD HAZ-1.4 and PD HAZ-2.1) would ensure that the project would not create a significant hazard to the public or the environment. **(Less than Significant Impact with Mitigation Incorporated)**

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**Impact HAZ-5:** The project would not be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport. The project would not result in a safety hazard or excessive noise for people residing or working in the project area. **(Less than Significant Impact)**

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The proposed project site is approximately 1.8 miles northwest of the Norman Y. Mineta San José International Airport (Airport). The project site is not within an identified safety zone as defined in the CLUP. Additionally, the project would be located outside of the 65 CNEL Aircraft Noise Contour and would not be exposed to excessive noise. Therefore, the project would not result in a safety hazard or excessive noise for people residing or working in the project area. **(Less than Significant Impact)**

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**Impact HAZ-6:** The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. **(No Impact)**

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In June 2016, the City adopted an Emergency Response Plan which addresses the planned response of the City of Santa Clara to emergency situations associated with natural disasters, technological incidents, and chemical, biological, radiological, nuclear and explosive emergencies. The project would include development of a data center facility on a site designated for High Intensity Office/R&D and would comply with relevant building and fire codes. The proposed project would not, therefore, impair or interfere with the implementation of an adopted emergency response plan or emergency evacuation plan. **(No Impact)**

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**Impact HAZ-7:** The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. **(No Impact)**

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The project site is located in an urbanized area of Santa Clara. According to the California Department of Forestry and Fire Protection (CAL FIRE), the project site is not located within a moderate, high, or very high fire hazard severity zone.<sup>65</sup> **(No Impact)**

3.9.2.2

#### ***Cumulative Impacts***

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**Impact HAZ-C:** The project would not result in a cumulatively considerable contribution to a cumulatively significant hazards and hazardous materials impact. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

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The geographic area for cumulative hazards and hazardous materials impacts is the project site and immediate vicinity.

As described previously, the proposed project would include the use and storage of diesel fuel for testing and maintenance of the backup generators. A Hazardous Materials Business Plan would be completed for the safe storage and use of chemicals. Conformance with relevant laws and regulations would minimize the likelihood of hazardous material releases from the proposed fuel storage tanks and the use or storage of diesel fuel, oils and lubricants by the project would not result in or

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<sup>65</sup> CAL FIRE. "Draft Fire Hazard Severity Zones." Accessed December 22, 2021.  
[http://frap.fire.ca.gov/webdata/maps/statewide/fhszl06\\_1\\_map.jpg](http://frap.fire.ca.gov/webdata/maps/statewide/fhszl06_1_map.jpg).

substantially contribute to a significant cumulative impact related to the use and storage of hazardous materials.

Because the project would implement Project Design Measures to remediate existing soil and groundwater contamination on the site (see PD HAZ-1.1 through PD HAZ-1.4 and PD HAZ-2.1), thereby reducing contamination in the project area, the project would not result in or substantially contribute to a cumulative impact related to soil and groundwater contamination.

As described in Section 3.3 Air Quality, the project would not result in or substantially contribute to a cumulative impact related to hazardous air emissions. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

### **3.10 HYDROLOGY AND WATER QUALITY**

#### **3.10.1 Environmental Setting**

##### ***Regulatory Framework***

##### **Federal and State**

3.10.1.1 The federal Clean Water Act and California's Porter-Cologne Water Quality Control Act are the primary laws related to water quality in California. Regulations set forth by the Environmental Protection Agency (EPA) and the State Water Resources Control Board (SWRCB) have been developed to fulfill the requirements of this legislation. EPA regulations include the National Pollutant Discharge Elimination System (NPDES) permit program, which controls sources that discharge pollutants into the waters of the United States (e.g., streams, lakes, bays, etc.). These regulations are implemented at the regional level by the Regional Water Quality Control Boards (RWQCBs). The project site is within the jurisdiction of the San Francisco Bay RWQCB.

##### **National Flood Insurance Program**

The Federal Emergency Management Agency (FEMA) established the National Flood Insurance Program (NFIP) to reduce impacts of flooding on private and public properties. The program provides subsidized flood insurance to communities that comply with FEMA regulations protecting development in floodplains. As part of the program, FEMA publishes Flood Insurance Rate Maps (FIRMs) that identify Special Flood Hazard Areas (SFHAs). An SFHA is an area that would be inundated by the one-percent annual chance flood, which is also referred to as the base flood or 100-year flood.

##### **Statewide Construction General Permit**

The SWRCB has implemented an NPDES General Construction Permit for the State of California (Construction General Permit). For projects disturbing one acre or more of soil, a Notice of Intent (NOI) must be filed with the RWQCB by the project sponsor, and a Storm Water Pollution Prevention Plan (SWPPP) must be prepared by a qualified professional prior to commencement of construction and filed with the RWQCB by the project sponsor. The Construction General Permit includes requirements for training, inspections, record keeping, and, for projects of certain risk levels, monitoring. The general purpose of the requirements is to minimize the discharge of pollutants and to protect beneficial uses and receiving waters from the adverse effects of construction-related storm water discharges.

##### **Regional and Local**

##### **San Francisco Bay Basin Plan**

The San Francisco Bay Regional Water Quality Control Board (RWQCB) regulates water quality in accordance with the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan). The Basin Plan lists the beneficial uses that the San Francisco Bay RWQCB has identified for local aquifers, streams, marshes, rivers, and the San Francisco Bay, as well as the water quality objectives and criteria that must be met to protect these uses. The San Francisco Bay RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements, including permits for nonpoint

sources such as the urban runoff discharged by a City's stormwater drainage system. The Basin Plan also describes watershed management programs and water quality attainment strategies.

### Municipal Regional Permit Provision C.3

The San Francisco Bay RWQCB re-issued the Municipal Regional Stormwater NPDES Permit (MRP) in 2015 to regulate stormwater discharges from municipalities and local agencies (co-permittees) in Alameda, Contra Costa, San Mateo, and Santa Clara Counties, and the cities of Fairfield, Suisun City, and Vallejo.<sup>66</sup> Under Provision C.3 of the MRP, new and redevelopment projects that create or replace 10,000 square feet or more of impervious surface area are required to implement site design, source control, and Low Impact Development (LID)-based stormwater treatment controls to treat post-construction stormwater runoff. LID-based treatment controls are intended to maintain or restore the site's natural hydrologic functions, maximizing opportunities for infiltration and evapotranspiration, and using stormwater as a resource (e.g., rainwater harvesting for non-potable uses). The MRP also requires that stormwater treatment measures are properly installed, operated, and maintained.

In addition to water quality controls, the MRP requires new development and redevelopment projects that create or replace one acre or more of impervious surface to manage development-related increases in peak runoff flow, volume, and duration, where such hydromodification is likely to cause increased erosion, silt pollutant generation, or other impacts to local rivers, streams, and creeks. Projects may be deemed exempt from these requirements if they do not meet the minimized size threshold, drain into tidally influenced areas or directly into the Bay, or drain into hardened channels, or if they are infill projects in subwatersheds or catchment areas that are greater than or equal to 65 percent impervious.

### Municipal Regional Permit Provision C.12.f

Provision C.12.f of the MRP requires co-permittee agencies to implement a control program for PCBs that reduces PCB loads by a specified amount during the term of the permit, thereby making substantial progress toward achieving the urban runoff PCBs wasteload allocation in the Basin Plan by March 2030.<sup>67</sup> Programs must include focused implementation of PCB control measures, such as source control, treatment control, and pollution prevention strategies. Municipalities throughout the Bay Area are updating their demolition permit processes to incorporate the management of PCBs in demolition building materials to ensure PCBs are not discharged to storm drains during demolition.

### Water Resources Protection Ordinance and District Well Ordinance

Valley Water operates as the flood control agency for Santa Clara County. Their stewardship also includes creek restoration, pollution prevention efforts, and groundwater recharge. Permits for well construction and destruction work, most exploratory boring for groundwater exploration, and projects within Valley Water property or easements are required under Valley Water's Water Resources Protection Ordinance and District Well Ordinance.

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<sup>66</sup> MRP Number CAS612008

<sup>67</sup> San Francisco Bay Regional Water Quality Control Board. *Municipal Regional Stormwater Permit, Provision C.12*. November 19, 2015.



## Dam Safety

Since August 14, 1929, the State of California has regulated dams to prevent failure, safeguard life, and protect property. The California Water Code entrusts dam safety regulatory power to the California Department of Water Resources, Division of Safety of Dams (DSOD). The DSOD provides oversight on the design, construction, and maintenance of over 1,200 jurisdictional sized dams in California.<sup>68</sup>

As part of its comprehensive dam safety program, Valley Water routinely monitors and studies the condition of each of its 10 dams. Valley Water also has its own Emergency Operations Center and a response team that inspects dams after significant earthquakes. These regulatory inspection programs reduce the potential for dam failure.

## Construction Dewatering Waste Discharge Requirements

Each of the RWQCBs regulate construction dewatering discharges to storm drains or surface waters within its Region under the NPDES program and Waste Discharge Requirements.

## City of Santa Clara General Plan

The Santa Clara 2010-2035 General Plan includes policies that address hydrology and water quality. The following goals, policies, and actions are applicable to the proposed project:

| <b>Policies</b> | <b>Description</b>                                                                                                                                                                                                                                                                                |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.10.5-P11      | Require that new development meet stormwater and water management requirements in conformance with state and regional regulations.                                                                                                                                                                |
| 5.10.5-P15      | Require new development to minimize paved and impervious surfaces and promote on-site Best Management Practices for infiltration and retention, including grassy swales, pervious pavement, covered retention areas, bioswales, and cisterns, to reduce urban water runoff.                       |
| 5.10.5-P16      | Require new development to implement erosion and sedimentation control measures to maintain an operational drainage system, preserve drainage capacity and protect water quality.                                                                                                                 |
| 5.10.5-P17      | Require that grading and other construction activities comply with the Association of Bay Area Governments' Manual of Standards for Erosion and Sediment Control Measures and with the California Stormwater Quality Associations, Stormwater Best Management Practice Handbook for Construction. |
| 5.10.5-P18      | Implement the Santa Clara Valley Nonpoint Source Pollution Control Program, Santa Clara Valley Urban Runoff Pollution Prevention Program, and the Urban Runoff Management Plan.                                                                                                                   |
| 5.10.5-P21      | Require that storm drain infrastructure is adequate to serve all new development and is in place prior to occupancy.                                                                                                                                                                              |

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<sup>68</sup> California Department of Water Resources, Division of Safety of Dams. Accessed March 11, 2022. [https://water.ca.gov/Programs/All-Programs/Division-of-Safety-of-Dams#:~:text=Since%20August%2014%2C%201929%2C%20the,Safety%20of%20Dams%20\(DSOD\).](https://water.ca.gov/Programs/All-Programs/Division-of-Safety-of-Dams#:~:text=Since%20August%2014%2C%201929%2C%20the,Safety%20of%20Dams%20(DSOD).)

## ***Existing Conditions***

### **Flooding**

The site and recycled water line extension alignment are not located within a 100-year flood (one percent annual flood) hazard zone. According to the FEMA's Flood Insurance Rate Map, the project site and utility alignment are located within Zone X.<sup>69</sup> Zone X is defined as "areas of the 0.2 percent annual chance flood; area of one percent annual chance flood with average depths of less than one foot or with drainage areas less than one square mile; and areas protected by levees from one percent annual chance flood." The existing elevation ranges from approximately 44 - 48 feet above mean sea level (msl).

### **Inundation Hazards**

The proposed project site is located approximately 2,000 feet west of San Tomas Aquino Creek. The project is within the San Tomas Aquino Creek Watershed. The project site is within the Lexington Dam failure inundation area under the "fair weather" scenario, which assumes that dam failure occurs during non-storm conditions with a normal full pool elevation in the reservoir and normal flow conditions downstream of the dam.<sup>70</sup>

In the ocean, seismically induced waves are caused by displacement of the sea floor by a submarine earthquake and are called tsunamis. Seiches are waves produced in a confined body of water such as a lake or reservoir by earthquake ground shaking or landsliding. Seiches are possible at reservoir, lake or pond sites. The project area is not subject to inundation from a seiche, tsunami, or mudflow.<sup>71</sup>

### **Storm Drainage**

The City of Santa Clara owns and maintains the municipal storm drainage system in the project vicinity. Stormwater on site currently drains to an on-site storm drain field inlet or drains as sheet flow towards the storm drainage system on Bowers Avenue. The runoff eventually empties into the San Tomas Aquino Creek and flows into the San Francisco Bay.

### **Groundwater**

The project site and recycled water line extension alignment are located within the Santa Clara Valley groundwater basin and the Santa Clara sub-basin.<sup>72,73</sup> The site and utility alignment are within the Santa Clara Plain Confined Area and are not within an area used for in-stream or other groundwater recharge.<sup>74</sup> Depth to groundwater beneath the project site is typically encountered at 13-18 feet below ground surface (bgs), and flows in a northeasterly direction.<sup>75</sup> The depth to

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<sup>69</sup> Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel No. 06085C0226H. May 18, 2009.

<sup>70</sup> Santa Clara Valley Water District. Lenihan (Lexington) Dam Flood Inundation Maps. 2016.

<sup>71</sup> Association of Bay Area Governments. San Francisco Bay Area Hazards. Accessed March 11, 2022.

<sup>72</sup> California Department of Water Resources. *A Comprehensive Groundwater Protection Evaluation for the South San Francisco Bay Basins*. May 2003. Figure 7.

<sup>73</sup> Santa Clara Valley Water District. Groundwater Management Plan. 2016.

<sup>74</sup> Santa Clara Valley Urban Runoff Pollution Prevention Program. Santa Clara Basin Stormwater Resource Plan. Figure 2.1. August 2019.

<sup>75</sup> AEI Consultants. *Phase 1 Environmental Site Assessment – 2805 Bowers Avenue*. February 3, 2021.

groundwater can vary due to factors such as variations in rainfall, temperature, runoff, irrigation, and groundwater withdrawal and/or recharge. The regional topographic gradient is generally north northeast towards the bay.

### 3.10.2 **Impact Discussion**

For the purpose of determining the significance of the project's impact on hydrology and water quality, would the project:

- 1) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?
- 2) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?
- 3) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
  - result in substantial erosion or siltation on- or off-site;
  - substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
  - create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
  - impede or redirect flood flows?
- 4) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?
- 5) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

#### 3.10.2.1

#### ***Project Impacts***

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|                      |                                                                                                                                                                                                                                  |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Impact HYD-1:</b> | The project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. <b>(Less than Significant Impact with Mitigation Incorporated)</b> |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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The project would create or replace more than 10,000 square feet of impervious surface area and, therefore, is classified as a Regulated Project under the MRP's Provision C.3, meaning it is subject to the LID source control, site design, and stormwater treatment control requirements of Provision C.3. The project would include stormwater quality best management practices (BMPs) such as directing site runoff into bioretention areas. In addition, the project would include site maintenance (i.e., pavement sweeping, catch basin cleaning, good housekeeping) and the use of beneficial landscaping (i.e., minimizing irrigation, pesticides, and fertilizer application) as source control measures. These measures are consistent with the site design, treatment control, and source control requirements of Provision C.3.

## Construction Impacts

Implementation of the project would disturb approximately 5.12 acres. Therefore, requirements under the City's MRP would apply to the project. Construction activities could generate dust, sediment, litter, oil, and other pollutants that could temporarily contaminate water runoff from the site. The City of Santa Clara has developed Standard Permit Conditions based on the RWQCB BMPs to reduce construction-related water quality impacts. As such, the following standard permit condition would be applied to the proposed project as a Project Design Measure.

**Project Design Measures:** The project proponent shall implement the following measure to reduce construction-related water quality impacts a less than significant level:

**PD HYD-1.1:** The project will incorporate the following measures into the project to 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 cover all trucks or maintain at least two feet of freeboard.
- All paved access roads, parking areas, and staging areas adjacent to the construction sites 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 would include the above applicant proposed mitigation measures to avoid or reduce construction-related water quality impacts to less than significant level.

## Impervious and Pervious Surfaces

The project drainage infrastructure would include overland stormwater management catch basins and would connect to the existing City of Santa Clara storm drain system. Bioretention areas would be installed in on-site landscape areas as part of the project, which would help to detain stormwater

runoff and infiltrate water into the soil. Additional C.3/post-construction measures, such as directing runoff to vegetated swales, would be implemented. On-site drainage facilities would be designed to meet City of Santa Clara standards and would drain to the existing storm drain system.

The current site includes 82 percent impervious cover and 18 percent pervious cover. The project would become approximately 86 percent impervious cover and 14 percent pervious cover, as shown in Table 3.10-1.

| <b>Table 3.10-1: Pervious/Impervious Surfaces</b> |                        |                      |                        |                           |
|---------------------------------------------------|------------------------|----------------------|------------------------|---------------------------|
|                                                   | <b>Impervious (sf)</b> | <b>Pervious (sf)</b> | <b>Total Area (sf)</b> | <b>Percent Impervious</b> |
| <b>Existing</b>                                   | 186,093                | 40,600               | 226,693                | 82                        |
| <b>Proposed</b>                                   | 195,513                | 31,180               | 226,693                | 86                        |

The project would include stormwater quality best management practices (BMPs), such as directing site runoff into bioretention areas with infiltration rates of at least five inches per hour for treatment and detention before being conveyed off-site to existing stormdrains in Bowers Avenue. Although the project would increase the amount of impervious surfaces on the site, the proposed detention system would limit runoff from the proposed project to the equivalent of existing conditions. Therefore, the project would not contribute runoff water that would exceed the capacity of the existing City of Santa Clara stormwater drainage systems. **(Less than Significant Impact)**

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**Impact HYD-2:** The project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. **(Less than Significant Impact)**

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The project does not propose to pump groundwater or install groundwater extraction wells. In addition, as discussed in Section 3.10.1.2, the project site is not within an area used for groundwater recharge. The project would require excavation to depths of up to 16 feet, whereas depth to groundwater beneath the project site is typically encountered at 13-18 feet below ground surface; therefore, dewatering may be required.<sup>76</sup> As described in Section 3.9, the project includes measures (PD HAZ-1.4) to ensure any required groundwater dewatering would not negatively impact groundwater. For these reasons, the project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge. **(Less than Significant Impact)**

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<sup>76</sup> AEI Consultants. *Phase 1 Environmental Site Assessment – 2805 Bowers Avenue*. February 3, 2021.

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**Impact HYD-3:** The project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows. **(Less than Significant Impact)**

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The project would not alter the course of a stream, river, or other waterway. As discussed under Impact HYD-1, the project would include stormwater quality best management practices (BMPs) that would limit runoff from the proposed project to the equivalent of existing conditions. As a result, no off-site flooding would occur. The project site is outside of the 100-year flood hazard zone, and therefore, would not impede or redirect flood flows. **(Less than Significant Impact)**

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**Impact HYD-4:** The project would not risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones. **(Less than Significant Impact)**

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### **Flooding, Tsunami and Seiche**

As described previously, the project site and recycled water line extension alignment are outside of the 100-year flood hazard zone, and therefore, would not expose people or structures to 100-year flood hazards. Additionally, as discussed in Section 3.10.1.2, the project area is not subject to inundation from a seiche, tsunami, or mudflow.

### **Dam Inundation Hazards**

The project area is within the dam failure inundation area for Lexington Reservoir (Lenihan Dam)<sup>77</sup>. Lexington Reservoir is maintained by the Santa Clara Valley Water District (Valley Water) and the dam is continuously monitored for seepage and settling and is inspected when an earthquake occurs. Due to the inspection and monitoring program, the distance from the site, and the nature of the on-site uses, proposed site improvements are not anticipated to result in a new substantial hazard from dam failure. While inundation resulting from dam failure could result in damage to structures, the probability of such a failure is extremely remote. The project, therefore, would not be subject to a significant risk of inundation from dam failure, and the release of pollutants from the site being inundated due to dam failure is also extremely remote. **(Less than Significant Impact)**

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<sup>77</sup> Santa Clara Valley Water District. Lenihan (Lexington) Dam Flood Inundation Maps. 2016.

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**Impact HYD-5:** The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. **(Less than Significant Impact)**

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As discussed under Impacts HYD-1 and HYD-2, the project would comply with applicable water quality control regulations and would not substantially decrease groundwater supplies or interfere with groundwater recharge. As described in Section 3.9, the project includes measures (PD HAZ-1.4) to ensure any required groundwater dewatering would not negatively impact groundwater. **(Less than Significant Impact)**

### *Cumulative Impacts*

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**Impact HYD-C:** The project would not result in a cumulatively considerable contribution to a cumulatively significant hydrology and water quality impact. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

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The geographic area for cumulative hydrology and water quality impacts is the San Tomas Aquino Creek watershed. With the implementation of best management practices and Project Design Measures to reduce impacts to water quality discussed and applicable regulations discussed in Section 3.10.1, development projects that could impact this watershed (including the proposed project) are required to undertake steps to avoid, minimize, and/or mitigate flooding and water quality impacts. For these reasons, the cumulative projects are in compliance with applicable regulations and would not result in significant cumulative hydrology or water quality impacts. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

### 3.11 LAND USE AND PLANNING

#### 3.11.1 Environmental Setting

##### *Regulatory Framework*

#### City of Santa Clara

##### City of Santa Clara General Plan

- 3.11.1.1 The Santa Clara 2010-2035 General Plan includes policies that address land uses during the planning horizon of the General Plan. The following goals, policies, and actions are applicable to the proposed project:

| Policies  | Description                                                                                                                                                                                                                                                |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.3.1-P3  | Support high quality design consistent with adopted design guidelines and the City's architectural review process.                                                                                                                                         |
| 5.3.1-P9  | Require that new development provide adequate public services and facilities, infrastructure, and amenities to serve the new employment or residential growth.                                                                                             |
| 5.3.5-P16 | Protect the industrial land use designations from incompatible uses in order to maintain the City's strong fiscal health and quality services that are supported by new businesses and technologies and retention of well-established existing businesses. |

##### General Plan Land Use Designation

The Land Use Diagram of the *2010-2035 General Plan* contains three phases: Phase 1: 2010-2015, Phase II: 2015-2023, and Phase III: 2023-2035. The project site is designated as *High Intensity Office/R&D* and would retain its designation for Phases I, II and III. The *High Intensity Office/R&D* classification allows for high-rise or campus like developments for corporate headquarters, R&D and supporting uses with landscaped areas for employee activities. Permitted uses include offices and prototype R&D uses. Data centers under this designation are limited to those that serve the use on-site. Medical facilities, except pharmacies, are not allowed. In addition, manufacturing uses that are limited to less than ten percent of the building area are permitted. Accessory, or secondary, small-scale supporting retail uses that serve local employees and visitors are also permitted. Parking is typically structured or below-grade. The maximum floor area ratio (FAR) is 2.00, excluding any FAR devoted to supporting retail uses.

##### Zoning District

The project site is zoned *ML - Light Industrial*. The *ML – Light Industrial* zoning district (Chapter 18.48 of the City Code) is intended for (but not limited to) commercial storage and wholesale distribution warehouses, plants and facilities for the manufacturing, processing, and repair of equipment and merchandise, retail sales of industrial products, and uses of a similar nature. Retail commercial and services uses, kennels, and lumber yards (and other similar uses) may also be allowed as a conditional use with City approval of a Use Permit. The maximum permitted building height within this zone is 70 feet and the maximum building coverage is 75 percent.



## **Norman Y. Mineta San José International Airport**

The proposed project site is approximately 1.8 miles northwest of the Norman Y. Mineta San José International Airport (Airport) and is not located within the Airport Influence Area (AIA) defined by the Santa Clara County Airport Land Use Commission's Comprehensive Land Use Plan (CLUP) for the Airport.

### ***Surrounding Land Uses***

3.11.1.2 The project site is bound to the north by an existing one-story office building, to the east by a material testing laboratory and a one-story office building, to the south by an existing Silicon Valley Power (SVP) substation (Uranium Substation) and to the west by Bowers Avenue. The closest residences are approximately 500 feet southwest, across the existing Union Pacific CalTrain railroad right-of-way. The project area consists primarily of commercial and industrial land uses to the north, east, and west, and residential uses to the southeast. Buildings to the north are similar in height and scale to the existing building on the project site. Buildings to the east of Walsh Avenue are similar in height and scale to the proposed project.

The recycled water line extension alignment is located with the public right of way along Bowers Avenue and Walsh Avenue. The alignment is bordered by existing industrial and commercial land uses similar to those surrounding the project site.

### **3.11.2 Impact Discussion**

For the purpose of determining the significance of the project's impact on land use and planning, would the project:

- 1) Physically divide an established community?
  - 2) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?
- 3.11.2.1

### ***Project Impacts***

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|                     |                                                                                      |
|---------------------|--------------------------------------------------------------------------------------|
| <b>Impact LU-1:</b> | The project would not physically divide an established community. <b>(No Impact)</b> |
|---------------------|--------------------------------------------------------------------------------------|

---

The project site and recycled water line extension alignment are located in an industrial area surrounded by industrial development and commercial uses. The project would not include any physical features that would physically divide the community (e.g., blocking of roadways or sidewalks) and would not interfere with the movement of residents through a neighborhood. For these reasons, construction of the proposed project would not divide an established community. **(No Impact)**

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**Impact LU-2:** The project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. **(Less than Significant Impact)**

---

The project area consists primarily of commercial and industrial land uses, including a substation. The nearest sensitive receptors to the proposed project site are existing residences along Agate Drive, about 500 feet southwest of the southern project boundary. The residences are separated from the site by the Union Pacific CalTrain railroad right-of-way tracks. The Airport is located approximately 1.8 miles southeast of the site. Aircraft, along with truck and other vehicle traffic, are readily apparent in the area. Noise and lighting levels associated with the proposed project are not anticipated to adversely affect adjacent properties. The proposed project, therefore, would not introduce a land use to the site that would create a land use compatibility conflict in the project area.

#### Santa Clara General Plan

The project site is designated as *High Intensity Office/R&D* in the General Plan. Data centers under this designation are limited to those that serve the use on-site. The project site is zoned as ML Light Industrial, which allows data center uses that are not limited to those that serve the use on-site. Therefore, the zoning and the General Plan are inconsistent. Although the zoning would normally take precedent, the City of Santa Clara has requested the applicant request a General Plan Amendment to conform the General Plan designation to the zoning designation. Therefore, the project proposes a General Plan Amendment to Light Industrial, a land use designation under which data centers serving off-site uses are an allowed use. The maximum floor area ratio (FAR) of the Light Industrial designation is 0.60. The proposed FAR of the project is 1.04. While the project is not strictly consistent with this component of the land use designation, the maximum FAR described in the General Plan is not policy adopted for the purpose of avoiding or mitigating an environmental effect. The environmental impacts of the project are evaluated in this SPPE Application and have been determined to be less than significant. Therefore, with respect to its consistency with the General Plan designation on the site, the project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

#### City Code

The project site is zoned *ML - Light Industrial*. The *ML – Light Industrial* zoning district (Chapter 18.48 of the City Code) is intended for (but not limited to) commercial storage and wholesale distribution warehouses, plants and facilities for the manufacturing, processing, and repair of equipment and merchandise, retail sales of industrial products, and uses of a similar nature. Retail commercial and services uses, kennels, and lumber yards (and other similar uses) may also be allowed as a conditional use with City approval of a Use Permit. The maximum permitted building height within this zone is 70 feet and the maximum building coverage is 75 percent.

As stated above, the project site is zoned *ML - Light Industrial*. The City has routinely approved of data centers and supporting backup generation facilities as a use consistent with the *ML* zoning

designation. The maximum permitted building height within this zone is 70 feet. The City allows up to a 25 percent increase in permitted building heights with a minor modification to the zoning requirements. The data center building would be approximately 87.5 feet in height, with additional screening and decorative features extending to a height of approximately 103.3 feet. With approval of a minor modification, the proposed building height of 87.5 feet would be consistent with the zoning on the site. Per Section 18.64.010(a), the proposed parapets are not subject to the height restrictions. Additionally, noise generated by the project operation would comply with the City Code noise limits for adjacent land uses (refer to Section 3.13 Noise). The proposed project, therefore, would not conflict with the City's General Plan or Zoning Ordinance.

### ***Cumulative Impacts***

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|                                 |                                                                                                                                                                                       |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Impact LU-C:</b><br>3.11.2.2 | The project would not result in a cumulatively considerable contribution to a cumulatively significant land use and planning impact. <b>(Less than Significant Cumulative Impact)</b> |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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The geographic area for cumulative land use impacts is the City of Santa Clara. Construction of the cumulative projects within the City would consist of redevelopment of currently (or previously) developed sites. Development on a number of these sites would result in a change of uses and/or an intensification of development.

The compatibility of new development with adjacent land uses, and the general character of surrounding areas are considered as a part of the City of Santa Clara's architectural and environmental review processes.

All Santa Clara projects listed in Table 3.0-1 and the proposed project are subject to conformance with applicable land use plans (including the General Plan) for the purposes of avoiding or mitigating environmental effects. In addition, the setback, design, and operational requirements of the City Code minimize land use compatibility issues. The cumulative projects, in conformance with the applicable General Plan goals and policies, would not result in significant cumulative land use compatibility impacts or conflict with policies or regulation adopted for the purpose of avoiding or mitigating an environmental impact. For these reasons, the cumulative projects, combined with the proposed project, would not result in significant cumulative land use impacts. **(Less Than Significant Cumulative Impact)**

## **3.12 MINERAL RESOURCES**

### **3.12.1 Environmental Setting**

#### ***Regulatory Framework***

##### **State**

#### **Surface Mining and Reclamation Act**

3.12.1.1 The Surface Mining and Reclamation Act (SMARA) was enacted by the California legislature in 1975 to address the need for a continuing supply of mineral resources, and to prevent or minimize the negative impacts of surface mining to public health, property, and the environment. As mandated under SMARA, the State Geologist has designated mineral land classifications in order to help identify and protect mineral resources in areas within the state subject to urban expansion or other irreversible land uses which would preclude mineral extraction. SMARA also allowed the State Mining and Geology Board (SMGB), after receiving classification information from the State Geologist, to designate lands containing mineral deposits of regional or statewide significance.

#### ***Existing Conditions***

3.12.1.2 The City of Santa Clara is located in an area zoned MRZ-1 for aggregate materials by the State of California. MRZ-1 zones are areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence. The area is not known to support significant mineral resources of any type. No mineral resources are currently being extracted in the City. The State Office of Mine Reclamation's list of mines (AB 3098 list) regulated under the Surface Mining and Reclamation Act does not include any mines within the City.

### **3.12.2 Impact Discussion**

For the purpose of determining the significance of the project's impact on mineral resources, would the project:

- 1) Result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state?
- 2) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

### ***Project Impacts***

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**Impact MIN-1:** The project would not result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state. **(No Impact)**

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#### **3.12.2.1**

Based on the United States Geological Survey (USGS) map of mines and mineral resources, the project site is not comprised of known mineral resources or mineral resource production areas.<sup>78</sup> Therefore, the project would not result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state. **(No Impact)**

---

**Impact MIN-2:** The project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. **(No Impact)**

---

The project site is not delineated in the General Plan or other land use plan as a locally important mineral resource recovery site. For this reason, the project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. **(No Impact)**

### ***Cumulative Impacts***

#### **3.12.2.2**

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**Impact MIN-C:** The project would not result in a cumulatively considerable contribution to a cumulatively significant mineral resources impact. **(No Cumulative Impact)**

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As mentioned in Section 3.12.2.1, no mineral resources have been identified within the City. Since the project would not result in impacts to mineral resources, the project has no potential to combine with other projects to result in cumulative impacts to these resources. **(No Cumulative Impact)**

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<sup>78</sup> United States Geological Survey. *Mineral Resources Online Spatial Data: Interactive maps and downloadable data for regional and global Geology, Geochemistry, Geophysics, and Mineral Resources.* <https://mrdata.usgs.gov/> Accessed December 7, 2021.

### 3.13 NOISE

The following analysis is based, in part, on a Noise and Vibration Assessment prepared by *Bollard Acoustical Consultants, Inc.* in July 2022. A copy of this report is included as Appendix F of this Application.

#### 3.13.1 Environmental Setting

##### *Background Information*

##### **Noise**

- 3.13.1.1 Factors that influence sound as it is perceived by the human ear, include the actual level of sound, period of exposure, frequencies involved, and fluctuation in the noise level during exposure. Noise is measured on a decibel scale, which serves as an index of loudness. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness. Because the human ear cannot hear all pitches or frequencies, sound levels are frequently adjusted or weighted to correspond to human hearing. This adjusted unit is known as the A-weighted decibel, or dBA.

Since excessive noise levels can adversely affect human activities and human health, federal, state, and local governmental agencies have set forth criteria or planning goals to minimize or avoid these effects. Noise guidelines are generally expressed using one of several noise averaging methods, including  $L_{eq}$ , DNL, or CNEL.<sup>79</sup> These descriptors are used to measure a location's overall noise exposure, given that there are times when noise levels are higher (e.g., when a jet is taking off from an airport or when a leaf blower is operating) and times when noise levels are lower (e.g., during lulls in traffic flows on freeways or in the middle of the night).  $L_{max}$  is the maximum A-weighted noise level during a measurement period.

##### **Vibration**

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Vibration amplitude can be quantified using Peak Particle Velocity (PPV), which is defined as the maximum instantaneous positive or negative peak of the vibration wave. PPV has been routinely used to measure and assess ground-borne construction vibration. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 inches/second (in/sec) PPV.

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<sup>79</sup>  $L_{eq}$  is a measurement of average energy level intensity of noise over a given period of time. Day-Night Level (DNL) is a 24-hour average of noise levels, with a 10 dB penalty applied to noise occurring between 10:00 PM and 7:00 AM. Community Noise Equivalent Level (CNEL) includes an additional five dB applied to noise occurring between 7:00 PM and 10:00 PM. Where traffic noise predominates, the CNEL and DNL are typically within two dBA of the peak-hour  $L_{eq}$ .

## Regulatory Framework

### Federal

#### Federal Transit Administration

3.13.1.2 The City of Santa Clara Municipal Code does not currently have established noise limits for construction activities. Rather, the City controls noise impacts from construction by restricting allowable hours of construction (Municipal Code Section 9.10.230). As a result, this assessment applies construction noise impact criteria developed by the U.S. Federal Transit Administration (FTA) to assess project construction noise level exposure. For construction restricted to daytime hours (7:00 a.m. and 10:00 p.m.), FTA guidance suggests that construction sound levels at or below the levels identified in Table 3.13-1

| Table 3.13-1: FTA Construction Noise Impact Criteria |                                  |
|------------------------------------------------------|----------------------------------|
| Land Use                                             | Daytime Eight-Hour $L_{eq}$ (dB) |
| Residential                                          | 80                               |
| Commercial                                           | 85                               |
| Industrial                                           | 90                               |

Source: FTA. Transit Noise and Vibration Impact Assessment Manual, Table 7-3. 2018.

### State and Local

#### General Plan

The City of Santa Clara General Plan identifies noise and land use compatibility standards for various land uses (General Plan Table 5.10-2). The noise standard is 70 dBA Community Noise Equivalent Level (CNEL) for uses with an industrial land use designation and 55 dBA CNEL for uses with a residential land use designation. The following policies are applicable to the project:

| Policies  | Description                                                                                                                                                                                                                                                                                                                |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.10.6-P1 | Review all land use and development proposals for consistency with the General Plan compatibility standards and acceptable noise exposure levels defined on Table 5.10-1.                                                                                                                                                  |
| 5.10.6-P2 | Incorporate noise attenuation measures for all projects that have noise exposure levels greater than General Plan “normally acceptable” levels, as defined on Table 5.10-1.                                                                                                                                                |
| 5.10.6-P3 | New development should include noise control techniques to reduce noise to acceptable levels, including site layout (setbacks, separation and shielding), building treatments (mechanical ventilation system, sound-rated windows, solid core doors and baffling) and structural measures (earthen berms and sound walls). |
| 5.10.6-P4 | Encourage the control of noise at the source through site design, building design, landscaping, hours of operation and other techniques.                                                                                                                                                                                   |
| 5.10.6-P5 | Require noise-generating uses near residential neighborhoods to include solid walls and heavy landscaping along common property lines, and to place compressors and mechanical equipment in sound-proof enclosures.                                                                                                        |
| 5.10.6-P7 | Implement measures to reduce interior noise levels and restrict outdoor activities in areas subject to aircraft noise in order to make Office/Research and Development uses compatible with the Norman Y. Mineta International Airport land use restrictions.                                                              |

## City Code

The City of Santa Clara Municipal Code establishes noise level performance standards for non-transportation (stationary) noise sources, such as those that would occur on the project site. Specifically, Section 9.10.040 of the Municipal Code limits noise levels at residential uses to 55 dB during daytime hours (7:00 a.m. to 10:00 p.m.) and 50 dB during nighttime hours (10:00 p.m. to 7:00 a.m.). Section 9.10.040 also establishes noise level limits at light industrial uses to 70 dB (anytime). However, if the measures ambient noise level at any given location differs from those levels indicated above, the allowable noise level standard shall be adjusted in five dB increments as appropriate to encompass or reflect the ambient noise level.

The City Code does not define the acoustical time descriptor such as  $L_{eq}$  (the average noise level) or  $L_{max}$  (the maximum instantaneous noise level) that is associated with the above limits. For the purposes of this assessment, the City's noise level limits were reasonably interpreted to be an average noise level ( $L_{eq}$ ).

Chapter 9.10 "Regulation of Noise and Vibration," of the City of Santa Clara City Code identifies allowable hours for construction to limit impacts to sensitive uses within 300 feet of a project site. The nearest sensitive receptors to the proposed project site are existing residences along Agate Drive, about 500 feet southwest of the southern project boundary. The residences are separated from the site by the Union Pacific CalTrain railroad right-of-way tracks. Of those properties, the nearest sensitive receptor is located approximately 500 feet from the project area (APN: 216-23-052). The nearest existing structure to where construction activities would occur on the project site is located approximately 75 feet east of the project site on an industrially zoned property (2630 Walsh Avenue, APN: 216-28-106).

Section 9.10.060(c) states: "If the measured ambient noise level at any given location differs from those levels set forth in SCCC 9.10.040, Schedule A, the allowable noise exposure standard shall be adjusted in five dBA increments in each category as appropriate to encompass or reflect said ambient noise level."

Section 9.10.020 and 9.10.070 state that emergency work, including the operation of emergency generators necessary to provide services during an emergency, are exempt from the criteria. Private utility work to restore services and protect property from damage is also exempt.

## California Department of Transportation

Section 9.10.050 of the City of Santa Clara Municipal Code prohibits vibration from a fixed source from exceeding vibration levels above the perception threshold of an individual. However, the Municipal Code does not define the term "perceptible". As a result, the vibration impact criteria developed by the California Department of Transportation (Caltrans) was applied to project construction activities. The Caltrans guidelines to assess the potential for annoyance and potential damage to structures is presented in Table 3.13-2.

| <b>Table 3.13-2: Reaction of People and Damage to Buildings, PPV (in/sec)</b> |                       |                            |
|-------------------------------------------------------------------------------|-----------------------|----------------------------|
| <b>Velocity Level, PPV (in/sec)</b>                                           | <b>Human Reaction</b> | <b>Effect on Buildings</b> |



|               |                                                                                                                                 |                                                                                                                                                                                             |
|---------------|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0.006 – 0.019 | Threshold of perception, possibility of intrusion                                                                               | Vibrations unlikely to cause damage of any type                                                                                                                                             |
| 0.08          | Vibration readily perceptible                                                                                                   | Recommended upper level of the vibration to which ruins and ancient monuments should be subjected                                                                                           |
| 0.10          | Level at which continuous vibration begins to annoy people                                                                      | Virtually no risk of architectural damage to normal buildings                                                                                                                               |
| 0.20          | Vibration annoying to people in buildings                                                                                       | Threshold at which this is a risk of architectural damage to normal dwelling – houses with plaster walls/ceilings                                                                           |
| 0.4 – 0.6     | Vibration considered unpleasant by people subjected to continuous vibration and unacceptable to some people walking on bridges. | Vibration at a greater level than normally expected from traffic but would cause architectural damage and possibly minor structural damage to buildings built of concrete, steel or timber. |

### **Norman Y. Mineta San José International Comprehensive Land Use Plan**

The Santa Clara County Airport Land Use Commission (ALUC) has adopted a Land Use Compatibility table for projects near Norman Y. Mineta San José International Airport (Airport). Under the ALUC's land use compatibility noise policies, industrial uses are compatible in noise environments (from aircraft overflights) that are 70 CNEL or less. The site is located outside of the 65 CNEL airport noise contours on the Comprehensive Land Use Plan noise map.

#### **3.13.1.3**

#### ***Existing Conditions***

The project site is bound to the north by an existing one-story office building, to the east by a material testing laboratory and a one-story office building, to the south by an existing Silicon Valley Power (SVP) substation (Uranium Substation) and to the west by Bowers Avenue. The closest residences are approximately 500 feet southwest, across the existing Union Pacific CalTrain railroad right-of-way. The project area consists primarily of commercial and industrial land uses to the north, east, and west, and residential uses to the southeast. The predominant ambient noise sources are attributed to the automobile traffic on Bowers Avenue and Walsh Avenue and by activities at adjacent light industrial uses.

#### **Ambient Conditions - Long-Term Noise Survey**

An ambient noise monitoring program was conducted in the areas surrounding the project site. Precision, calibrated sound level meters were used to take long-term noise level measurement, capturing noise data over a 48-hour period between June 29<sup>th</sup> and June 30<sup>th</sup>, 2022, at the locations shown in Figure 3.13-1.

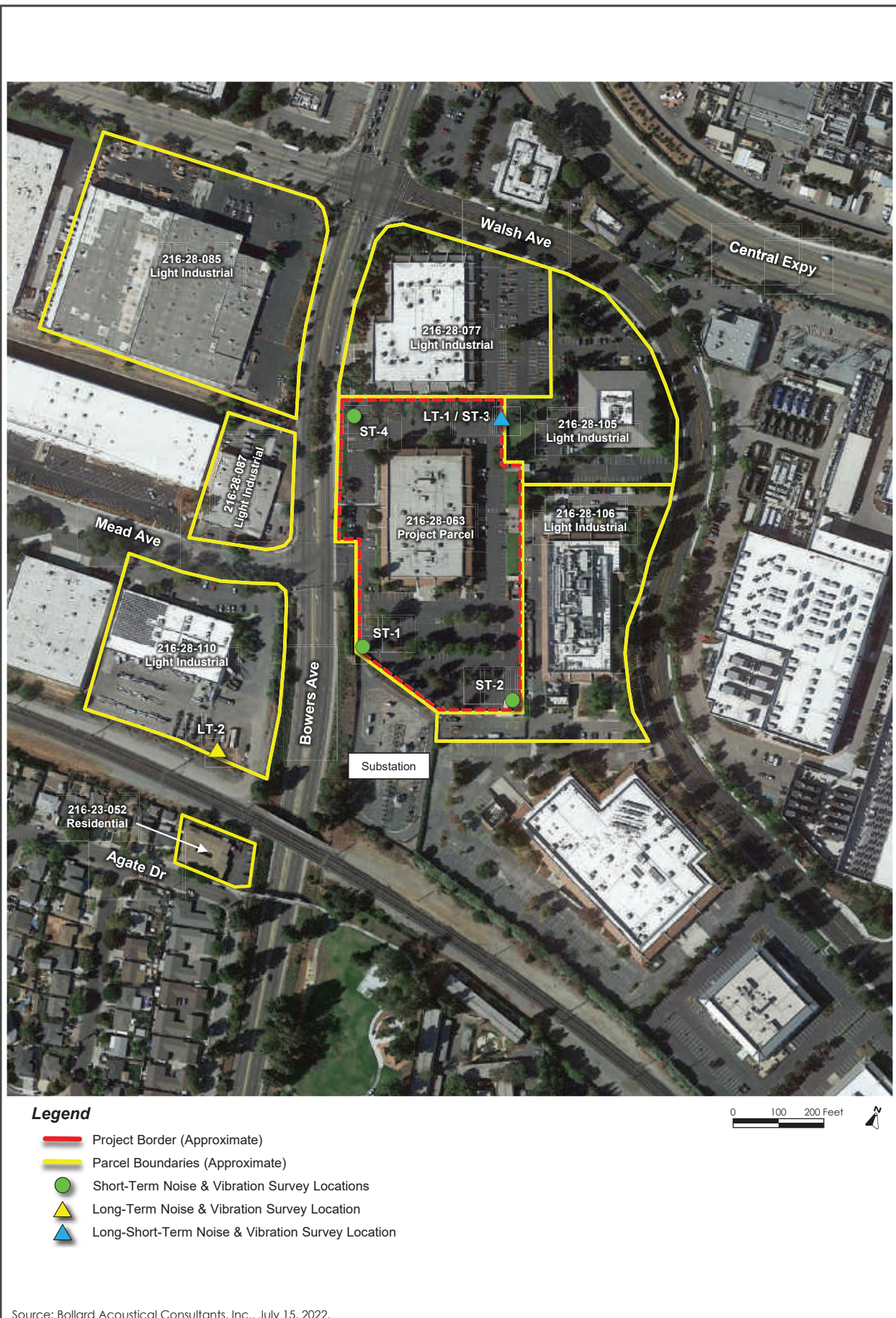
Long-term noise measurement site LT-1 was specifically selected to be representative of the existing ambient noise level environment at the project site. Long term noise measurements obtained at site LT-2 are believed to be acoustically equivalent to the existing ambient noise level environment at the

nearest residential uses to the project. Table 3.13-3 below summarized results of the long-term noise survey.<sup>80</sup>

| <b>Table 3.13-3: Summary of Long-Term Noise Survey Measurement Results</b>                                                                                                                    |             |                 |                                                  |                        |                              |                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------|--------------------------------------------------|------------------------|------------------------------|------------------------|
|                                                                                                                                                                                               |             |                 | <b>Average Measured Hourly Noise Levels (dB)</b> |                        |                              |                        |
|                                                                                                                                                                                               |             |                 | <b>Daytime<sup>2</sup></b>                       |                        | <b>Nighttime<sup>3</sup></b> |                        |
| <b>Site Description<sup>1</sup></b>                                                                                                                                                           | <b>Date</b> | <b>DNL (dB)</b> | <b>L<sub>eq</sub></b>                            | <b>L<sub>max</sub></b> | <b>L<sub>eq</sub></b>        | <b>L<sub>max</sub></b> |
| LT-1: Northeast end of project parcel                                                                                                                                                         | 6/29/22     | 65              | 57                                               | 68                     | 59                           | 64                     |
|                                                                                                                                                                                               | 6/30/22     | 64              | 61                                               | 72                     | 57                           | 62                     |
| LT-2: South of project off Bowers Avenue                                                                                                                                                      | 6/29/22     | 67              | 61                                               | 83                     | 60                           | 78                     |
|                                                                                                                                                                                               | 6/30/22     | 66              | 60                                               | 83                     | 59                           | 80                     |
| <sup>1</sup> Long-term noise survey locations are identified in Figure 3.13-1<br><sup>2</sup> Daytime hours: 7:00 a.m. to 10:00 p.m.<br><sup>3</sup> Nighttime hours: 10:00 p.m. to 7:00 a.m. |             |                 |                                                  |                        |                              |                        |

As shown in Table 3.13-3, measured ambient noise levels were highest at site LT-2. This is likely attributed to operations on adjacent Caltrain tracks to the south of the measurement site.

<sup>80</sup> Detailed summaries of the noise monitoring results are provided in Appendix C and D of Appendix F.



NOISE AND VIBRATION SURVEY LOCATIONS

FIGURE 3.13-1

### Ambient Conditions - Short-Term Noise Survey

A short-term ambient noise monitoring program was also conducted in the areas in four locations within the project vicinity on June 28<sup>th</sup>, 2022, at the locations shown in Figure 3.13-1 (sites ST-1 through ST-4). The short-term noise measurement sites were specifically selected to be representative of the existing ambient noise level environment at adjacent light industrial uses during daytime hours. The results of the short-term ambient noise level survey are summarized in Table 3.13-4.

| <b>Table 3.13-4: Summary of Short-Term Noise Survey Measurement Results</b> |             |                                   |                                |
|-----------------------------------------------------------------------------|-------------|-----------------------------------|--------------------------------|
|                                                                             |             | <b>Measured Noise Levels (dB)</b> |                                |
| <b>Site Description<sup>1</sup></b>                                         | <b>Time</b> | <b>Average L<sub>eq</sub></b>     | <b>Maximum L<sub>max</sub></b> |
| ST-1: Southwest end of project parcel                                       | 11:00 a.m.  | 59                                | 72                             |
| ST-2: Southeast end of project parcel                                       | 11:19 a.m.  | 53                                | 58                             |
| ST-3: Northeast end of project parcel                                       | 11:41 a.m.  | 56                                | 66                             |
| ST-4: Northwest end of project parcel                                       | 12:02 p.m.  | 58                                | 69                             |
| <sup>1</sup> Short-term noise survey locations are shown in Figure 3.13-1   |             |                                   |                                |

As shown in Table 3.13-4, measured ambient noise levels were highest at site ST-1. The elevated measured levels at site ST-1 were primarily attributed to traffic on Bowers Avenue and existing mechanical equipment from adjacent industrial uses.

#### Adjustments to Municipal Code Noise Standards Based on Measured Ambient Conditions

Section 9.10.040 of the Municipal Code limits noise levels at residential uses to 55 dB during daytime hours (7:00 a.m. to 10:00 p.m.) and 50 dB during nighttime hours (10:00 p.m. to 7:00 a.m.). Section 9.10.040 also establishes noise level limits at light industrial uses to 70 dB (anytime). However, if the measured ambient noise level at any given location differs from those levels indicated above, the allowable noise level standard shall be adjusted in five dB increments as appropriate to encompass or reflect the ambient noise level.

The noise survey locations were specifically selected to be representative of the existing ambient noise level environments at the nearest (adjacent) light industrial uses and closest residential use to the project area. Comparison of the results of the long-term and short-term noise level surveys (summarized in Table 3.13-2 and Table 3.13-3) with the Municipal Code Section 9.10.040 noise level limits shows that the City's criteria is exceeded at one of the measurement sites (site LT-2), representative of the ambient noise level environment at the nearest residential use to the project. Based on the results of the noise surveys and pursuant to the Municipal Code adjustment criteria discussed above, the following exterior noise level standards shown in Table 3.13-5 were applied to the project noise sources and assessed at the nearest industrial and residential uses.

| <b>Table 3.13-5: City of Santa Clara Municipal Code Noise Level Standards Applied to the Project</b>                                                                                                                                                                                                                  |                 |                              |                                                                   |                                                                        |                              |                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------|------------------------------|---------------------------------------------------------------------|
| <b>APN</b>                                                                                                                                                                                                                                                                                                            | <b>Land Use</b> | <b>Noise Survey Location</b> | <b>Measured Noise Level, <math>L_{eq}</math> (dB)<sup>1</sup></b> | <b>Unadjusted Noise Standard, <math>L_{eq}</math> (dB)<sup>2</sup></b> | <b>Adjusted for Ambient?</b> | <b>Applied Noise Standard, <math>L_{eq}</math> (dB)<sup>3</sup></b> |
| 216-28-077                                                                                                                                                                                                                                                                                                            | Industrial      | ST-3                         | 56 Day                                                            | 70 Anytime                                                             | No                           | 70 Anytime                                                          |
| 216-28-105                                                                                                                                                                                                                                                                                                            | Industrial      | ST-3                         | 56 Day                                                            | 70 Anytime                                                             | No                           | 70 Anytime                                                          |
| 216-28-106                                                                                                                                                                                                                                                                                                            | Industrial      | ST-2                         | 53 Day                                                            | 70 Anytime                                                             | No                           | 70 Anytime                                                          |
| 216-28-110                                                                                                                                                                                                                                                                                                            | Industrial      | ST-1                         | 59 Day                                                            | 70 Anytime                                                             | No                           | 70 Anytime                                                          |
| 216-28-087                                                                                                                                                                                                                                                                                                            | Industrial      | ST-4                         | 58 Day                                                            | 70 Anytime                                                             | No                           | 70 Anytime                                                          |
| 216-28-085                                                                                                                                                                                                                                                                                                            | Industrial      | ST-4                         | 58 Day                                                            | 70 Anytime                                                             | No                           | 70 Anytime                                                          |
| 216-23-052                                                                                                                                                                                                                                                                                                            | Residential     | LT-2                         | 60 Day / 60 Night                                                 | 55 Day / 50 Night                                                      | Yes / Yes                    | 60 Day / 60 Night                                                   |
| <sup>1</sup> Average measured daytime hourly $L_{eq}$ at measurement locations during noise surveys<br><sup>2</sup> Unadjusted Municipal noise level standard applicable to residential uses<br><sup>3</sup> Applied noise standards based on ambient noise survey and General Plan ambient noise adjustment criteria |                 |                              |                                                                   |                                                                        |                              |                                                                     |

### **Vibration Levels**

To quantify existing vibration levels at the project site and at nearby land uses, short-term vibration measurements were conducted at five locations (see Figure 3.13-1) on June 28<sup>th</sup>, 2022. The results are summarized in Table 3.13-6.

| <b>Table 3.13-6: Summary of Short-Term Ambient Vibration Survey Results</b> |             |                                                       |
|-----------------------------------------------------------------------------|-------------|-------------------------------------------------------|
| <b>Survey Location</b>                                                      | <b>Time</b> | <b>Measured Maximum Vibration Level, PPV (in/sec)</b> |
| ST-1: Southwest end of project parcel                                       | 11:00 a.m.  | 0.017                                                 |
| ST-2: Southeast end of project parcel                                       | 11:19 a.m.  | <0.001                                                |
| ST-3: Northeast end of project parcel                                       | 11:41 a.m.  | 0.002                                                 |
| ST-4: Northwest end of project parcel                                       | 12:02 p.m.  | 0.020                                                 |
| LT-2: South of project off Bowers Avenue                                    | 12:58 p.m.  | 0.029                                                 |
| PPV = Peak Particle Velocity (inches/second)                                |             |                                                       |

As shown in Table 3.13-6, measured maximum vibration levels within the project area ranged from less than 0.001 to 0.029 PPV in/sec (highest measured levels at site ST-4 and LT-2). The elevated measured maximum vibration levels at site ST-4 and LT-2 were attributed to nearby heavy truck movements (ST-4) and Caltrain passbys (LT-2).

### **3.13.2 Impact Discussion**

For the purpose of determining the significance of the project's impact on noise and vibration, would the project result in:

- 1) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

- 2) Generation of excessive groundborne vibration or groundborne noise levels?
- 3) For a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

### ***Project Impacts***

|          |                                                                                                                                                                                                                                                                                                                                            |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.13.2.1 | <b>Impact NOI-1:</b> The project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. <b>(Less than Significant Impact with Mitigation)</b> |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### **Construction**

During project construction, heavy equipment would be used for grading, excavation, paving, and building construction/structure demolition, which would increase ambient noise levels in the immediate project vicinity when in use. Noise levels would vary depending on the type of equipment used, how it is operated, and how well it is maintained. Noise exposure at any single point outside the project work area would also vary depending upon the proximity of equipment activities to that point.

The adjacent parcels to the project site are industrially zoned, which is a land use that is typically not considered noise-sensitive, but rather noise-generating. The nearest sensitive receptor is a residential property located approximately 500 feet from the project area (APN: 216-23-052), as shown in Figure 3.13-1.

Table 3.13-7 below summarizes the range of maximum noise levels for equipment commonly used in general construction projects at full-power operation at a distance of 50 feet. Not all of the construction activities included in the table would be completed for this project. Table 3.13-7 also includes  $L_{\max}$  equipment noise levels at the nearest residential use to the project site (500 feet away), which assumes a standard spherical spreading loss of six dB per doubling of distance.

| <b>Table 3.13-7: Reference and Projected Noise Levels for Typical Construction Equipment</b> |                                                                     |                                                                    |
|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------|
| <b>Equipment Description</b>                                                                 | <b>Reference Noise Level at 50 Feet, <math>L_{\max}</math> (dB)</b> | <b>Project Noise Level at 500 Feet, <math>L_{\max}</math> (dB)</b> |
| Air compressor                                                                               | 80                                                                  | 60                                                                 |
| Backhoe                                                                                      | 80                                                                  | 60                                                                 |
| Ballast equalizer                                                                            | 82                                                                  | 62                                                                 |
| Ballast tamper                                                                               | 83                                                                  | 63                                                                 |
| Compactor                                                                                    | 82                                                                  | 62                                                                 |
| Concrete mixer                                                                               | 85                                                                  | 65                                                                 |
| Concrete pump                                                                                | 82                                                                  | 62                                                                 |
| Concrete vibrator                                                                            | 76                                                                  | 56                                                                 |
| Crane, mobile                                                                                | 83                                                                  | 63                                                                 |



| <b>Table 3.13-7: Reference and Projected Noise Levels for Typical Construction Equipment</b>     |                                                                    |                                                                   |
|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------------------|
| <b>Equipment Description</b>                                                                     | <b>Reference Noise Level at 50 Feet, <math>L_{max}</math> (dB)</b> | <b>Project Noise Level at 500 Feet, <math>L_{max}</math> (dB)</b> |
| Dozer                                                                                            | 85                                                                 | 65                                                                |
| Excavator                                                                                        | 85                                                                 | 65                                                                |
| Generator                                                                                        | 82                                                                 | 62                                                                |
| Grader                                                                                           | 85                                                                 | 65                                                                |
| Impact wrench                                                                                    | 85                                                                 | 65                                                                |
| Loader                                                                                           | 80                                                                 | 60                                                                |
| Paver                                                                                            | 85                                                                 | 65                                                                |
| Pneumatic tool                                                                                   | 85                                                                 | 65                                                                |
| Pump                                                                                             | 77                                                                 | 57                                                                |
| Saw                                                                                              | 76                                                                 | 56                                                                |
| Scarifier                                                                                        | 83                                                                 | 63                                                                |
| Scraper                                                                                          | 85                                                                 | 65                                                                |
| Shovel                                                                                           | 82                                                                 | 62                                                                |
| Spike driver                                                                                     | 77                                                                 | 57                                                                |
| Tie cutter                                                                                       | 84                                                                 | 64                                                                |
| Tie handler                                                                                      | 80                                                                 | 60                                                                |
| Tie inserter                                                                                     | 85                                                                 | 65                                                                |
| Truck                                                                                            | 84                                                                 | 64                                                                |
| Source: Federal Transit Administration. Noise and Vibration Impact Assessment Manual, Table 7-1. |                                                                    |                                                                   |

Section 9.10.070 of the City of Santa Clara Municipal Code states that construction activities, provided they occur within allowable hours, are exempt from Municipal Code noise level limits. Municipal Code Section 9.10.203 states that construction activities are not permitted within 300 feet of residentially zoned property except within the hours of 7:00 a.m. and 6:00 p.m. on weekdays and 9:00 a.m. and 6:00 p.m. on Saturdays. No construction activities are permitted on Sundays or holidays. All on-site noise-generating project construction equipment and activities would occur pursuant to Municipal Code Section 9.10.070 and 9.10.203 and would thereby be exempt from Municipal Code noise level criteria.

As shown in Table 3.13-7, reference maximum noise levels for typical construction equipment range from 76 to 85 dB  $L_{max}$  at a distance of 50 feet. When projected to the nearest residential use located approximately 500 feet away, maximum noise levels from on-site construction equipment are projected to range from 56 to 65 dB  $L_{max}$ . Hourly average noise levels due to construction activities during busy construction periods typically range from approximately 75 to 88 dB  $L_{eq}$  at 50 feet. When projected to a distance of 500 feet (consistent with the distance to the nearest residential use), hourly average noise levels are projected to range from 55 to 68 dB  $L_{eq}$ . The worst-case projected construction equipment noise level of 68 dB  $L_{eq}$  at the nearest noise-sensitive use would be well below the applied FTA noise impact criterion of 80 dB  $L_{eq}$  during daytime hours. Further, it is expected that screening of the project area provided by existing intervening topography and structures would further reduce construction noise levels at those nearest residential uses.

Construction activities would also occur in the recycled water line extension alignment, which is located adjacent to commercial and industrial uses. Intermittent noise would be caused by periodic,

short-term equipment operation. For example, equipment such as excavators and backhoes would operate intermittently during the construction period along various segments of the line. Construction of the offsite infrastructure improvements is expected to last roughly 90 days.

Project construction noise impacts at the nearest noise-sensitive, residential land uses are not expected to be significant. Nonetheless, to reduce the potential for annoyance at nearby land uses, the project will include the following applicant proposed mitigation measures:

**Impact NOI-1:** Construction noise could impact sensitive land uses.

**Applicant Proposed Project Design Measures:** The project proponent shall implement the following measure to reduce impacts from construction on noise-sensitive land uses to a less than significant level:

**PD NOI-1:** The project would implement the following applicant proposed mitigation measures to reduce impacts from construction to noise-sensitive land uses.

- All on-site noise generating construction activities shall occur pursuant to Section 9.10.070 and 9.10.203 of the City of Santa Clara Municipal Code.
- All noise-producing project equipment and vehicles using internal-combustion engines shall be equipped with manufacturers-recommended mufflers and be maintained in good working condition.
- All mobile or fixed noise-producing equipment used on the project site that are regulated for noise output by a federal, state, or local agency shall comply with such regulations while in the course of project activity.
- Electrically powered equipment shall be used instead of pneumatic or internal combustion powered equipment (where feasible).
- Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive receptors, where feasible.
- Project area and site access road speed limits shall be established and enforced during the construction period.

Conformance with aforementioned regulatory requirements and mitigation incorporated into the project design would result in a less than significant impacts from construction noise. **(Less than Significant Impact with Mitigation)**

## **Operation**

The project would include two main sources of operational noise generation: rooftop mechanical equipment (air-cooled chillers) and ground level emergency generators. The following analysis evaluates the potential noise impacts associated with the operation of each noise source.

### **Rooftop Air-Cooled Chiller Equipment Noise Source and Reference Sound Level**

The project proposes the installation of approximately 42 air-cooled chillers on the rooftop of the data center building. The reference sound power levels for the units are 100 dB (unit condenser fan) and 87 dB (unit compressor). The locations of the proposed chilling units are depicted in Figure 2.12.



### Emergency Generator Noise Source and Reference Sound Level

The project includes the installation of approximately 32 emergency generators<sup>81</sup> within a ground level outdoor equipment yard on the east side of the proposed data center building. The 32 proposed generators will be stacked as sets of two within the outdoor equipment yard. The reference sound level for the proposed generators with enclosures is 80 dB at a distance of 23 feet (1.8 dB sound power level). The locations of the proposed generators and equipment yard are shown in Figure 3.2-4 Site Plan.

The generators would only operate during emergencies, such as power outages, or for regular testing and maintenance. An emergency generator testing and maintenance schedule would include operation of the equipment during the following daytime hours summarized in Table 3.13-8.

| <b>Table 3.13-8: Emergency Generator Testing Schedule</b>                                                                    |                                |                                               |                                      |                      |
|------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-----------------------------------------------|--------------------------------------|----------------------|
| <b>Scenario</b>                                                                                                              | <b>Typical Test Time (min)</b> | <b>Number of Engines Running Concurrently</b> | <b>Comments</b>                      | <b>Load</b>          |
| Monthly Readiness Test                                                                                                       | 15                             | 1                                             | Maximum of 10 engines tested per day | 1%                   |
| Quarterly Test                                                                                                               | 30                             | 1                                             | Maximum of 10 engines tested per day | 1%                   |
| Annual Test                                                                                                                  | 60                             | 1                                             | Maximum of 8 engines tested per day  | 25, 50, 75, and 100% |
| Note: The typical load range for tests is one to 70%. Engines are not run concurrently for any tests.<br>Source GI Partners. |                                |                                               |                                      |                      |

### Evaluation of Noise Compliance

As reflected in Table 3.13-8, project rooftop chilling equipment noise level exposure is predicted to comply with the applied City of Santa Clara Municipal Code noise level standards at the nearest industrial and residential uses. As a result, no further consideration of rooftop chilling equipment noise mitigation measures would be warranted for the project relative to the City's noise level criteria.

| <b>Table 3.13-8: Predicted Air-Cooled Chiller Equipment Noise Exposure at Nearby Land Uses</b> |                  |                                                               |                                |                                                          |
|------------------------------------------------------------------------------------------------|------------------|---------------------------------------------------------------|--------------------------------|----------------------------------------------------------|
|                                                                                                |                  | <b>Predicted Equipment Noise Levels, Leq (dB)<sup>2</sup></b> |                                |                                                          |
| <b>Receiver<sup>1</sup></b>                                                                    | <b>Land Use</b>  | <b>No Screen<sup>3</sup></b>                                  | <b>With Screen<sup>4</sup></b> | <b>Applied City Noise Standard, Leq (dB)<sup>5</sup></b> |
| 1                                                                                              | Light Industrial | 62                                                            | 50                             | 70 Anytime                                               |
| 2                                                                                              | Light Industrial | 73                                                            | 62                             | 70 Anytime                                               |
| 3                                                                                              | Light Industrial | 73                                                            | 63                             | 70 Anytime                                               |

<sup>81</sup> The model would be 3,000 kW Cummins emergency generators.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |    |    |            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----|----|------------|
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Light Industrial | 42 | 37 | 70 Anytime |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Light Industrial | 38 | 30 | 70 Anytime |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Light Industrial | 37 | 29 | 70 Anytime |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Residential      | 38 | 30 | 60 Day     |
| <sup>1</sup> Receive locations are shown in Figure 5 of Appendix F<br><sup>2</sup> Predicted noise levels reflect all proposed cooling units (42) in operation concurrently<br><sup>3</sup> Predicted equipment noise levels without attenuation from 11-foot rooftop noise barrier<br><sup>4</sup> Predicted equipment noise levels with attenuation from 11-foot rooftop noise barrier<br><sup>5</sup> Applied noise standards based on results from BAC noise surveys and City adjustment criteria |                  |    |    |            |

Table 3.13-9 summarizes noise exposure associated with the closest generator to each receiver in operation at full-load power for the duration of an hour (for testing and maintenance).

| Table 3.13-9: Predicted Generator Noise Exposure at Nearby Land Uses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  |                                                         |                        |                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------------------------------|------------------------|----------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  | Predicted Equipment Noise Levels, Leq (dB) <sup>2</sup> |                        |                                                    |
| Receiver <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Land Use         | No Wall <sup>3</sup>                                    | With Wall <sup>4</sup> | Applied City Noise Standard, Leq (dB) <sup>5</sup> |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Light Industrial | 62                                                      | 50                     | 70 Anytime                                         |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Light Industrial | 73                                                      | 62                     | 70 Anytime                                         |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Light Industrial | 73                                                      | 63                     | 70 Anytime                                         |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Light Industrial | 42                                                      | 37                     | 70 Anytime                                         |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Light Industrial | 38                                                      | 30                     | 70 Anytime                                         |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Light Industrial | 37                                                      | 29                     | 70 Anytime                                         |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Residential      | 38                                                      | 30                     | 60 Day                                             |
| <sup>1</sup> Receive locations are shown in Figure 6 of Appendix F<br><sup>2</sup> Predicted noise levels reflect closest generator to a receiver in operation at full-load power for a one-hour period<br><sup>3</sup> Predicted generator noise levels without attenuation from eight-foot equipment yard noise barrier<br><sup>4</sup> Predicted generator noise levels with attenuation from eight-foot equipment yard noise barrier<br><sup>5</sup> Applied noise standards based on results from BAC noise surveys and City adjustment criteria |                  |                                                         |                        |                                                    |

The predicted generator noise compliance includes consideration of attenuation that would be provided by the construction of the proposed eight-foot precast concrete noise barrier around the perimeter of the outdoor generator yard. As shown in Table 3.13-9, project emergency generator noise level exposure is predicted to satisfy the applied City of Santa Clara Municipal Code noise level criteria at the closest industrial and residential uses. **(Less than Significant Impact)**

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**Impact NOI-2:** The project would not generate excessive groundborne vibration or groundborne noise levels. **(Less than Significant Impact)**

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During project construction, heavy equipment would be used for grading, excavation, paving, and building construction/demolition, which would generate localized vibration in the immediate vicinity of the construction. As mentioned in Section 3.13.1, the City of Santa Clara Municipal Code Section 9.10.050 prohibits vibration from a fixed source from exceeding vibration levels above the perception threshold of an individual. The Caltrans vibration criterion of 0.08 PPV (in/sec) is utilized as the “perception threshold” for an individual on a nearby sensitive property for this analysis and the

Caltrans vibration criterion of 0.20 PPV (in/sec) is utilized as the performance standard in the analysis of structural damage at nearby structures.

The nearest sensitive receptor is a residential property located approximately 500 feet from the project area (APN: 216-23-052), as shown in Figure 3.13-1. The nearest existing structure to where construction activities would occur on the project site is located approximately 75 feet east of the project site on an industrially zoned property (2630 Walsh Avenue, APN: 216-28-106).

Table 3.13-9 summarizes the range of vibration levels for equipment commonly used in general construction projects at a distance of 25 feet and includes projected equipment vibration levels at the nearest residential property and industrial structure to the project area.

| <b>Table 3.13-9: Reference and Projected Vibration Source Amplitudes for Construction Equipment</b>                                                                |                                                      |                               |                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------|----------------|
| <b>Equipment</b>                                                                                                                                                   | <b>Reference PPV at 25 Feet (in/sec)<sup>1</sup></b> | <b>Projected PPV (in/sec)</b> |                |
|                                                                                                                                                                    |                                                      | <b>500 Feet</b>               | <b>75 Feet</b> |
| Vibratory roller                                                                                                                                                   | 0.210                                                | 0.002                         | 0.040          |
| Large bulldozer                                                                                                                                                    | 0.089                                                | 0.001                         | 0.017          |
| Caisson drilling                                                                                                                                                   | 0.089                                                | 0.001                         | 0.017          |
| Loaded trucks                                                                                                                                                      | 0.076                                                | <0.001                        | 0.015          |
| Jackhammer                                                                                                                                                         | 0.035                                                | <0.001                        | 0.007          |
| Small bulldozer                                                                                                                                                    | 0.003                                                | <0.001                        | <0.001         |
| <sup>1</sup> PPV = Peak Particle Velocity<br>Source: Federal Transit Administration. Noise and Vibration Impact Assessment Manual, Table 7-4 and BAC calculations. |                                                      |                               |                |

As shown in Table 3.13-9, vibration levels generated from project construction activities would be well below the FTA vibration impact criterion of 0.08 and 0.20 PPV (in/sec) at the nearest sensitive (residential) property and industrial structure, respectively. Vibration associated with on-site project construction and demolition activities would not generate excessive groundborne vibration or groundborne noise levels.

Construction of the recycled water line extension would generate less vibration than construction of the data center facility. Construction activities within the recycled water line extension alignment would occur in the street right of way at a distance greater than 25 feet from nearby buildings and would not generate substantial vibration at nearby structures. **(Less than Significant Impact)**

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**Impact NOI-3:** The project would not be located within the vicinity of a private airstrip or an airport land use, or where such a plan has not been adopted, within two miles of a public airport or public use airport. The project would not expose people residing or working in the project area to excessive noise levels. **(Less than Significant Impact)**

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The Norman Y. Mineta San José International Airport is located approximately 1.8 miles southeast of the site. The project would be located outside of the 65 CNEL Aircraft Noise Contour and would not be exposed to excessive noise. Therefore, the project's proximity to the airport would not result

in the exposure of people residing or working in the project area to excessive noise levels. **(Less than Significant Impact)**

*Cumulative Impacts*

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|                      |                                                                                                                                                                                                           |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Impact NOI-C:</b> | The project would not result in a cumulatively considerable contribution to a cumulatively significant <b>noise</b> impact. <b>(Less than Significant Cumulative Impact with Mitigation Incorporated)</b> |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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3.13.2.2

The geographic area for cumulative construction noise impacts is the immediate project vicinity. The nearest approved project is located at 3375 Scott Boulevard (3375 Scott Boulevard Office Project), 3,867 feet northwest of the project site. The proposed development project would include mitigation measures and comply with conditions of approval to reduce construction and operational noise and construction vibration impacts to a less than significant level. There are no projects currently proposed or pending construction in the immediate area which would contribute to construction noise or vibration impacts created by the proposed development project. For any future project, operational noise would be regulated by the City Code and would not be cumulative. Therefore, the proposed development project would not have a cumulatively considerable impact on construction or operational noise in the project area and would have a less than significant cumulative impact with the incorporation of the mitigation above. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

### **3.14 POPULATION AND HOUSING**

#### **3.14.1 Environmental Setting**

##### ***Regulatory Framework***

##### **State**

##### **Housing-Element Law**

3.14.1.1 State requirements mandating that housing be included as an element of each jurisdiction's general plan is known as housing-element law. The Regional Housing Need Allocation (RHNA) is the state-mandated process to identify the total number of housing units (by affordability level) that each jurisdiction must accommodate in its housing element. California housing-element law requires cities to: 1) zone adequate lands to accommodate its RHNA; 2) produce an inventory of sites that can accommodate its share of the RHNA; 3) identify governmental and non-governmental constraints to residential development; 4) develop strategies and a work plan to mitigate or eliminate those constraints; and 5) adopt a housing element and update it on a regular basis.<sup>82</sup> The City of Santa Clara Housing Element and related land use policies were last updated in December of 2014.

##### **Regional and Local**

##### **Plan Bay Area 2040**

Plan Bay Area 2040 is a long-range transportation, land-use, and housing plan intended support a growing economy, provide more housing and transportation choices, and reduce transportation-related pollution and GHG emissions in the Bay Area. Plan Bay Area 2040 promotes compact, mixed-use residential and commercial neighborhoods near transit, particularly within identified Priority Development Areas (PDAs).<sup>83</sup>

ABAG allocates regional housing needs to each city and county within the nine-county San Francisco Bay Area, based on statewide goals. ABAG also develops forecasts for population, households, and economic activity in the Bay Area. ABAG, MTC, and local jurisdiction planning staff created the Regional Forecast of Jobs, Population, and Housing, which is an integrated land use and transportation plan through the year 2040 (upon which Plan Bay Area 2040 is based).

##### ***Existing Conditions***

According to the California Department of Finance, the City had a population of approximately 130,746 residents in 127,550 households as of January 2021.<sup>84</sup> Of these residents, approximately 51 percent are employed residents.<sup>85</sup> There are approximately 143,000 jobs in the City (estimated by ABAG for 2020). In 2035, it is estimated that the City will have approximately 154,825 residents,

<sup>82</sup> California Department of Housing and Community Development. "Regional Housing Needs Allocation and Housing Elements" Accessed March 10, 2022. <http://hcd.ca.gov/community-development/housing-element/index.shtml>.

<sup>83</sup> Association of Bay Area Governments and Metropolitan Transportation Commission. "Project Mapper." Accessed March 10, 2022. <http://projectmapper.planbayarea.org/>.

<sup>84</sup> California Department of Finance. "E-5 City/County Population and Housing Estimates." May 2021. Accessed December 13, 2021. <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/>.

<sup>85</sup> Association of Bay Area Governments. *Plan Bay Area 2040: Projections 2020*. December 2013.

54,830 households, 154,300 jobs and 72,080 employed residents.<sup>86</sup>

The jobs/housing relationship is quantified by the jobs/employed resident ratio. When the ratio reaches 1.0, a balance is struck between the supply of local housing and jobs. The jobs/housing resident ratio is determined by dividing the number of local jobs by the number of employed residents that can be housed in local housing.

The City of Santa Clara had an estimated 2.50 jobs for every employed resident in 2010.<sup>87</sup> The General Plan focuses on increased housing and the placement of housing near employment. As a result, the jobs to housing ratio is projected to slightly decrease to 2.48 by 2040.<sup>88</sup> Some employees who work within the City are, and still would be, required to seek housing outside the community with full implementation of the General Plan.

The project site is currently developed with an approximately 55,000 square foot two-story office building and associated paved surface parking. Existing uses on the site are commercial and light industrial in nature and include a credit union and a computer hardware manufacturer. There are no residences on-site.

### **3.14.2      Impact Discussion**

For the purpose of determining the significance of the project's impact on population and housing, would the project:

- 4) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
- 5) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

#### **3.14.2.1**

#### ***Project Impacts***

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|                      |                                                                                                                                                                                                                                                                                 |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Impact POP-1:</b> | The project would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).<br><b>(Less than Significant Impact)</b> |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

---

The project would demolish the existing office/light industrial building on the site to construct a four-story, 244,068 square foot data center building, utility substation, generator equipment yard, surface parking, landscaping, and utility pipeline connections. The project would be a low employment-generating use, supporting a similar amount or fewer jobs than the existing uses on the site, therefore approval of the project would not substantially increase jobs in the City. The proposed project would not induce substantial population growth in the City or substantially alter the City's job/housing ratio

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<sup>86</sup> Ibid.

City of Santa Clara. 2010-2035 General Plan. December 2014.

<sup>87</sup> City of Santa Clara 2010-2035 General Plan. December 2014. Appendix 8.12 (Housing Element). Page 8.12-25.

<sup>88</sup> City of Santa Clara 2010-2035 General Plan Final Environmental Impact Report. 2011.

and would, therefore, result in a less than significant population and housing impacts. **(Less than Significant Impact)**

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**Impact POP-2:** The project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. **(No Impact)**

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The existing project site does not include residents or housing units and, therefore, the project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. **(No Impact)**

### *Cumulative Impacts*

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**Impact POP-C:** The project would not result in a cumulatively considerable contribution to a cumulatively significant population and housing impact. **(Less than Significant Cumulatively Considerable Contribution to a Significant Cumulative Impact)**

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The geographic area for cumulative population and housing impacts is the City of Santa Clara. The cumulative job-producing projects in the City would be inconsistent with applicable land use policies aimed at improving the City's jobs/housing balance and related assumptions in the existing General Plan. Worsening the City's jobs-housing imbalance results in secondary impacts of traffic, air quality and GHG emissions. The project would be a low employment-generating use, supporting a similar amount or fewer jobs than the existing buildings on the site, therefore approval of the project would be a minor increment of the overall jobs represented by the cumulative projects. For this reason, the jobs added by the project would not make a cumulatively considerable contribution to a worsening of the jobs/housing imbalance. **(Less than Cumulatively Considerable Contribution to a Significant Cumulative Impact)**

### **3.15 PUBLIC SERVICES**

#### **3.15.1 Environmental Setting**

##### ***Regulatory Framework***

##### **State**

##### **Government Code Section 66477**

**3.15.1.1** The Quimby Act (included within Government Code Section 66477) requires local governments to set aside parkland and open space for recreational purposes. It provides provisions for the dedication of parkland and/or payment of fees in lieu of parkland dedication to help mitigate the impacts from new residential developments. The Quimby Act authorizes local governments to establish ordinances requiring developers of new residential subdivisions to dedicate parks, pay a fee in lieu of parkland dedication, or perform a combination of the two.

##### **Government Code Section 65995 through 65998**

California Government Code Section 65996 specifies that an acceptable method of offsetting a project's effect on the adequacy of school facilities is the payment of a school impact fee prior to the issuance of a building permit. Government Code Sections 65995 through 65998 set forth provisions for the payment of school impact fees by new development by "mitigating impacts on school facilities that occur (as a result of the planning, use, or development of real property" (Section 65996[a]). The legislation states that the payment of school impact fees "are hereby deemed to provide full and complete school facilities mitigation" under CEQA (Section 65996[b]).

Developers are required to pay a school impact fee to the school district to offset the increased demands on school facilities caused by the proposed residential development project. The school district is responsible for implementing the specific methods for mitigating school impacts under the Government Code.

##### **Regional and Local**

##### **City of Santa Clara 2010 – 2035 General Plan**

The City of Santa Clara 2010-2035 General Plan includes policies and programs to provide public services throughout the City. Applicable General Plan policies include, but are not limited to, the following listed below.

| <b>Policies</b> | <b>Description</b>                                                                                        |
|-----------------|-----------------------------------------------------------------------------------------------------------|
| 5.9.3-P1        | Encourage design techniques that promote public and property safety in new development and public spaces. |
| 5.9.3-P3        | Maintain a City-wide average three-minute response time for fire emergency service calls.                 |
| 5.9.3-P4        | Maintain a City-wide average three-minute response time for fire emergency service calls.                 |



## Countywide Trails Master Plan

The Santa Clara County Trails Master Plan Update is a regional trails plan approved by the Santa Clara County Board of Supervisors. It provides a framework for implementing the County's vision of providing a contiguous trail network that connects cities to one another, cities to the county's regional open space resources, County parks to other County parks, and the northern and southern urbanized regions of the County. The plan identifies regional trail routes, sub-regional trail routes, connector trail routes, and historic trails.

### ***Existing Conditions***

#### **Fire Protection**

3.15. Fire protection services for the project site are provided by the City of Santa Clara Fire Department (SCFD). The SCFD consists of ten stations (Station 10 is temporarily closed while it is relocated) consisting of eight engines, two trucks, one rescue/light unit, two ambulances, one hazardous materials unit and one command vehicle. The closest fire stations to the project site are Station 9, located at 3011 Corvin Drive, approximately one mile west of the project site and Station 2, located at 1900 Walsh Avenue, approximately 1.5 miles east of the project site.

The Fire Department responds with highly trained and equipped personnel to emergency scenes, maintaining a City-wide response time of less than 5:30 minutes to 90 percent of all high-level emergency calls. Response time is measured from time of dispatch to the time of arrival at the call.<sup>89</sup>

#### **Police Protection**

Police protection services are provided by the City of Santa Clara Police Department (SCPD). The SCPD consists of 239 full-time employees and a varying number of part-time or per diem employees, community volunteers, Police Reserves and Chaplains. Police headquarters are located at 601 El Camino Real, approximately 3.3 miles southeast of the project site.<sup>90</sup>

The General Plan identifies a public service goal to maintain the SCPD response time average of three minutes for all areas of the City.<sup>91</sup>

#### **Schools**

The project site is located within the Santa Clara Unified School District (SCUSD). The nearest public schools to the project site are Bracher Elementary School (approximately 0.26 miles southeast of the project site), Cabrillo Middle School (approximately 1.1 miles southeast of the project site), and Adrian Wilcox High School (approximately one mile southwest of the project site).

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<sup>89</sup> City of Santa Clara. "Emergency Services." Accessed March 10, 2022.

<https://www.santaclaraca.gov/services/emergency-services>.

<sup>90</sup> City of Santa Clara Police Department. "About Us." Accessed on March 10, 2022.

<https://www.santaclaraca.gov/our-city/departments-g-z/police-department/about-us>

<sup>91</sup> City of Santa Clara. *City of Santa Clara 2010-2035 General Plan*. Section 5.9.3. November 2010.

## **Parks**

The Santa Clara Parks and Recreation Department (Department) provides parks and recreational services in the City. The department is responsible for maintaining and programming the various parks and recreation facilities and works cooperatively with public agencies in coordinating all recreational activities within the City. Overall, as of May 2021, the Department maintains and operates Central Park, 30 neighborhood parks, 13 mini parks, public open space, recreational facilities, recreational trails, and joint use facilities throughout the City. Community parks are over fifteen acres, neighborhood parks are one to fifteen acres and mini parks are typically less than one acre in size.

The nearest public park to the project site is Bracher Park (approximately 0.2 mile southeast of the project site). San Thomas Aquino Creek Trail also provides recreational opportunities in the project area and is located approximately 0.7 mile east of the project site.

## **Libraries**

Library services are provided by the Santa Clara City Library (SCCL). The City of Santa Clara is served by the Central Park Library (approximately 2.5 miles south of the project site), Mission Branch Library (approximately 3.0 miles southeast of the project site), and Northside Branch Library (approximately 4.0 miles southwest of the site).

### **3.15.2      Impact Discussion**

For the purpose of determining the significance of the project's impact on public services, would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

- 1) Fire protection?
- 2) Police protection?
- 3) Schools?
- 4) Parks?
- 5) Other public facilities?

## *Project Impacts*

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|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.15.2.1 | <b>Impact PS-1:</b> The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services. <b>(Less than Significant Impact)</b> |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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The project site is currently served by the SCFD. The proposed project may result in an incremental increase in the need for fire services associated with increased building area (though no increased employment) but would not require the construction of new facilities or stations.

The project would be constructed in conformance with current building and fire codes, and the SCFD would review project plans to ensure appropriate safety features are incorporated to reduce fire hazards. The potential incremental increase in fire protection services would not require new or expanded fire protection facilities (the construction of which could cause significant environmental impacts) in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services. **(Less than Significant Impact)**

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|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Impact PS-2:</b> | The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services. <b>(Less than Significant Impact)</b> |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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The project site is currently served by the SCPD. The project may result in an incremental increase in the need for police services associated with increased building area (though not increased employment) but would not require the construction of new facilities or stations.

The SCPD would review the final site design, including proposed landscaping, access, and lighting, to ensure that the project provides adequate safety and security measures. The potential incremental increase in police protection services would not require new or expanded police protection facilities (the construction of which could cause significant environmental impacts) in order to maintain acceptable service ratios, response times or other performance objectives for police protection services. **(Less than Significant Impact)**

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**Impact PS-3:** The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools. **(No Impact)**

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The proposed project would not generate substantial population growth in the project area or result in the use of public facilities in the area by new residents. The project proposes a data center facility, not a residential use, and would therefore not generate students. The project would not require new or expanded school facilities, the construction of which could cause environmental impacts. **(No Impact)**

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**Impact PS-4:** The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for parks. **(Less than Significant Impact)**

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The proposed project would not generate substantial population growth in the project area or result in the use of public facilities in the area by new residents. Some employees at the project site may visit local parks; however, this would not be an increase compared to current site employment levels and this use would not create the need for any new facilities or adversely impact the physical condition of existing facilities. **(Less than Significant Impact)**

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**Impact PS-5:** The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for other public facilities. **(No Impact)**

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The proposed project would not generate substantial population growth in the project area or result in the use of public facilities in the area by new residents. Some employees at the project site may visit library facilities; however, this would not be an increase compared to current site employment levels and this would not create the need for any new facilities or adversely impact the physical condition of existing facilities. **(No Impact)**

### *Cumulative Impacts*

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**Impact PS-C:** The project would not result in a cumulatively considerable contribution to a cumulatively significant public services impact. **(Less than Significant Cumulative Impact)**

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#### 3.15.2.2

The geographic area for cumulative public services impacts is the City of Santa Clara. All cumulative projects would be built in conformance with current codes and public safety requirements in the General Plan. The project would not develop residences, and therefore, would not result in a cumulatively considerable contribution to a cumulative park and recreational facility impacts. For this reason, the cumulative projects would result in a less than significant cumulative impact to police, fire, and recreational facilities. **(Less than Significant Cumulative Impact)**

The project does not propose construction of residences, and therefore, would not contribute to cumulative school or library impacts. **(No Cumulative Impact)**

### 3.16 RECREATION

#### 3.16.1 Environmental Setting

##### *Regulatory Framework*

##### **State**

##### Government Code Section 66477

- 3.16.1.1 The Quimby Act (included within Government Code Section 66477) requires local governments to set aside parkland and open space for recreational purposes. It provides provisions for the dedication of parkland and/or payment of fees in lieu of parkland dedication to help mitigate the impacts from new residential developments. The Quimby Act authorizes local governments to establish ordinances requiring developers of new residential subdivisions to dedicate parks, pay a fee in lieu of parkland dedication, or perform a combination of the two.

##### **Local**

##### Santa Clara General Plan

Applicable recreational services General Plan policies, include, but are not limited to, the following listed below.

| Policies     | Description                                                                                                                                                              |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prerequisite |                                                                                                                                                                          |
| 5.1.1-P20    | Prior to 2023, identify the location for new parkland and/or recreational facilities to serve employment centers and pursue funding to develop these facilities by 2035. |

#### 3.16.1.2

##### *Existing Conditions*

The City of Santa Clara Parks & Recreation Department (Department) provides parks and recreational services in the City. The Department is responsible for maintaining and programming the various parks and recreation facilities, and works cooperatively with public agencies in coordinating all recreational activities within the City. Overall, as of May 2021, the Department maintains and operates Central Park, a 45.04-acre community park (45.04 acres improved and Central Park North 34.93 acres unimproved, resulting in 79.97 acres), 30 neighborhood parks (124.517 acres improved and 6.132 acres unimproved resulting in 130.65 acres), 13 mini parks (2.59 acres improved and 3.189 acres unimproved resulting in 5.779 acres), public open space (16.13 acres improved and 40.08 acres unimproved resulting in 56.21 acres), recreational facilities (23.898 acres excluding the Santa Clara Golf and Tennis Club/BMX track), recreational trails (7.59 acres improved and 0.20 acres unimproved resulting in 7.79 acres), and joint use facilities (48.588 acres) throughout the City totaling approximately 268.354 improved acres and 84.531 unimproved acres. Community parks are over fifteen acres, neighborhood parks are one to fifteen acres and mini parks are typically less than one acres in size.

The nearest public park to the project site is Bracher Park (approximately 0.2 mile southeast of the project site). San Thomas Aquino Creek Trail also provides recreational opportunities in the project area and is located approximately 0.7 mile east of the project site.

The Department of Parks and Recreation also maintains a strong recreational program that supports a wide variety of activities. The Community Recreation Center is the hub of the City's recreation programs. The area in Central Park west of Saratoga Creek contains group and individual picnic facilities, playgrounds, restroom facilities, an amphitheater, two lighted tennis courts, basketball courts, and the Veterans Memorial. East of the creek is the world famous George F. Haines International Swim Center, Bob Fatjo Sports Center (which includes the Tony Sanchez Field as well as a second lighted softball field), the Santa Clara Tennis Center, with eight lighted tennis courts and a practice wall, open space, a lake, large group picnic areas, restroom facilities, a lawn bowling green, and an exercise course.

In addition to the parklands and facilities within Central Park, the City currently has a gymnastics center, a bicycle track, dog parks, a youth activity center, a teen center, a senior center, and a skate park. The City's recreational system is augmented by local school facilities, which are available to the general public after normal school hours.

### 3.16.2 Impact Discussion

For the purpose of determining the significance of the project's impact on recreation:

- 1) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
- 2) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

#### 3.16.2.1

#### *Project Impacts*

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|                      |                                                                                                                                                                                                                                                       |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Impact REC-1:</b> | The project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. <b>(Less than Significant Impact)</b> |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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The proposed project would not increase employment on the site above current levels. Some employees may use nearby parks and recreational facilities; however, this would not have an impact on these facilities such that adverse physical effects would result. **(Less than Significant Impact)**

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**Impact REC-2:** The project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. **(Less than Significant Impact)**

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The proposed project would not include recreational facilities. Some employees may use nearby parks and recreational facilities; however, this would not be an increase compared to current site employment levels and would not require the construction or expansion of recreational facilities. **(Less than Significant Impact)**

### *Cumulative Impacts*

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**Impact REC-C:** The project would not result in a cumulatively considerable contribution to a cumulatively significant recreation impact. **(Less than Significant Cumulative Impact)**

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The geographic area for cumulative park/recreational facility impacts is the City of Santa Clara. The proposed project would be an industrial development and would not include new residences. While employees of the project may use nearby parks and trails during lunch breaks, this would not be an increase compared to current site employment levels and the project would not result in permanent new residents that would substantially increase park use such that physical deterioration would occur. The project would not substantially contribute to the cumulative impacts to parks in the area. For these reasons, cumulative impacts to recreational facilities would be less than significant. **(Less Than Significant Cumulative Impact)**



### **3.17 TRANSPORTATION**

The following discussion is based, in part, on a Transportation Analysis prepared for the project by Hexagon Transportation Consultants, Inc., dated July 2022. A copy of this report is included in Appendix G of this SPPE Application.

#### **3.17.1 Environmental Setting**

##### ***Regulatory Framework***

##### **State**

#### **3.17.1 Regional Transportation Plan**

MTC is the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area, including Santa Clara County. MTC is charged with regularly updating the Regional Transportation Plan, a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities in the region. MTC and ABAG adopted Plan Bay Area 2040 in July 2017, which includes a Regional Transportation Plan to guide regional transportation investment for revenues from federal, state, regional and local sources through 2040.

##### **Senate Bill 743 (2013)**

SB 743 (2013) establishes criteria for determining the significance of transportation impacts using a vehicle-miles traveled (VMT) metric intended to promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses. Specifically, SB 743 requires analysis of VMT in determining the significance of transportation impacts. Local jurisdictions were required by Governor's Office of Planning and Research (OPR) to implement a VMT policy by July 1, 2020. As discussed below, the City adopted such a policy on June 23, 2020.

SB 743 did not authorize OPR to set specific VMT impact thresholds, but it did direct OPR to develop guidelines for jurisdictions to utilize. CEQA Guidelines Section 15064.3(b)(1) describes factors that might indicate whether a development project's VMT may be significant. Notably, projects located within 0.50 mile of transit should be considered to have a less than significant transportation impact based on OPR guidance. As described in further detail below, the City adopted this as one of the elements of a "transit supportive project."

In addition, CEQA Guidelines Section 15064.3(b)(2) provides that projects that reduce VMT, such as pedestrian, bicycle, and transit projects, would have a less than significant CEQA impact. This section further provides that lead agencies have discretion to evaluate roadway capacity projects (including highways), provided that any such analysis is consistent with the requirements of CEQA. Recognizing that roadway capacity projects may be analyzed at a programmatic level, subdivision (b)(2) states that lead agencies may be able to tier from a programmatic analysis that adequately addresses the effects of roadway capacity projects.

## Regional and Local

### Congestion Management Program

VTA oversees the Congestion Management Program (CMP), which is aimed at reducing regional traffic congestion. The relevant state legislation requires that urbanized counties in California prepare a CMP in order to obtain each county's share of gas tax revenues. State legislation requires that each CMP define traffic LOS standards, transit service standards, a trip reduction and transportation demand management plan, a land use impact analysis program, and a capital improvement element. VTA has review responsibility for proposed development projects that are expected to affect CMP-designated intersections.

### Santa Clara General Plan

All future development allowed by the proposed GPA shall be in conformance with adopted City plans and policies. General Plan policies applicable to transportation/traffic include, but are not limited to, the following listed below.

| Policies                                     | Description                                                                                                                                                                                                                                               |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General Mobility and Transportation Policies |                                                                                                                                                                                                                                                           |
| 5.8.1-P3                                     | Identify opportunities to connect people to supportive services, public amenities, and transit.                                                                                                                                                           |
| Roadway Network Policies                     |                                                                                                                                                                                                                                                           |
| 5.8.2-P2                                     | Discourage widening of existing roadway or intersection rights-of-way without first considering operational improvements, such as traffic signal modifications, turn-pocket extensions, and intelligent transportation systems.                           |
| 5.8.2-P3                                     | Encourage undergrounding of utilities and utility equipment within the public right-of-way and site these facilities to provide opportunities for street trees and adequate sidewalks.                                                                    |
| 5.8.2-P9                                     | Require all new development to provide streets and sidewalks that meet City goals and standards, including new development in employment areas.                                                                                                           |
| 5.8.3-P9                                     | Require new development to incorporate reduced on-site parking and provide enhanced amenities, such as pedestrian links, benches, and lighting, in order to encourage transit use and increase access to transit services.                                |
| 5.8.3-P10                                    | Require new development to participate in public/private partnerships to provide new transit options between Santa Clara residences and businesses.                                                                                                       |
| Bicycle and Pedestrian Network Policies      |                                                                                                                                                                                                                                                           |
| 5.8.4-P6                                     | Require new development to connect individual sites with existing and planned bicycle and pedestrian facilities, as well as with on-site and neighborhood amenities/services, to promote alternate modes of transportation.                               |
| 5.8.4-P7                                     | Require new development to provide sidewalks, street trees and lighting on both sides of all streets in accordance with City standards, including new developments in employment areas.                                                                   |
| 5.8.4-P8                                     | Require new development and public facilities to provide improvements, such as sidewalks, landscaping, and bicycling facilities, to promote pedestrian and bicycle use.                                                                                   |
| 5.8.4-P9                                     | Encourage pedestrian- and bicycle-oriented amenities, such as bicycle racks, benches, signalized mid-block crosswalks, and bus benches or enclosures.                                                                                                     |
| 5.8.4-P10                                    | Encourage safe, secure, and convenient bicycle parking and end-of-trip, or bicycle "stop" facilities, such as showers or bicycle repair near destinations for all users, including commuters, residents, shoppers, students, and other bicycle travelers. |

| <b>Policies</b>                           | <b>Description</b>                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.8.4-P13                                 | Promote pedestrian and bicycle safety through “best practices” or design guidelines for sidewalks, bicycle facilities, landscape strips and other buffers, as well as crosswalk design and placement.                                                                                                                                               |
| Transportation Demand Management Policies |                                                                                                                                                                                                                                                                                                                                                     |
| 5.3.1-P14                                 | Encourage TDM strategies and the provision of bicycle and pedestrian amenities in all new development greater than 25 housing units or more than 10,000 non-residential square feet, and for City employees, in order to decrease use of the single-occupant automobile and reduce vehicle miles traveled, consistent with the Climate Action Plan. |
| 5.8.5-P1                                  | Require new development and City employees to implement TDM programs that can include site-design measures, including preferred carpool and vanpool parking, enhanced pedestrian access, bicycle storage and recreational facilities.                                                                                                               |
| 5.8.5-P5                                  | Encourage TDM programs that provide incentives for the use of alternative travel modes to reduce the use of single-occupant vehicles.                                                                                                                                                                                                               |

### Bay Area Air Quality Management District

On April 20, 2022, the BAAQMD Board of Directors held a public meeting and adopted updated CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans. These thresholds are presented below. GHG impacts from data center operation would be considered to have a less than significant impact if the project is consistent with the updated BAAQMD thresholds.

#### *BAAQMD GHG Thresholds for Land Use Projects (Must Include A or B)*

A. Projects must include, at a minimum, the following project design elements:

##### 1. Buildings

- a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
- b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.

##### 2. Transportation

- a. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor’s Office of Planning and Research’s Technical Advisory on Evaluating Transportation Impacts in CEQA:
  - i. Residential projects: 15 percent below the existing VMT per capita
  - ii. Office projects: 15 percent below the existing VMT per employee
  - iii. Retail projects: no net increase in existing VMT
- b. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

3.17.1.2

### ***Existing Conditions***

#### **Existing Roadway Network**

Regional access to the project site is provided by US 101, as described below.

- *US 101* is an eight-lane freeway with three mixed-flow lanes and one high-occupancy vehicle (HOV) lane in each direction in the vicinity of the site. It extends north through San Francisco and south through Gilroy. Regional access to the project site is provided via its interchange with Bowers Avenue.

Local access to the site is provided by Central Expressway, Bowers Avenue, Kifer Road, and Walsh Avenue.

- *Central Expressway* is a six-lane east-west expressway with four to six lanes. It begins at De La Cruz Boulevard in San José and extends westward to San Antonio Road where it transitions into Alma Street in Mountain View. East of San Tomas Expressway, Central Expressway has HOV lanes. Central Expressway provides access to and from the project site via Bowers Avenue.
- *Bowers Avenue* is a six-lane north-south street, north of Kifer Road, and a four-lane street south of Kifer Road. It transitions from Great America Parkway north of US 101 and extends southerly to El Camino Real, where it transitions to Kiely Boulevard. Bicycle lanes exist along most of Bowers Avenue, except along the project frontage between Central Expressway and Kifer Road. Bowers Avenue provides direct access to the project site via an existing driveway.
- *Kifer Road* is a four-lane east-west street with left-turn pockets provided at intersections and a center turn lane provided between intersections. It runs between Fair Oaks Avenue in Sunnyvale and Bowers Avenue, where it transitions into Walsh Avenue. Bicycle lanes exist west of Uranium Road. Kifer Road provides access to the project site via its intersection with Bowers Avenue.
- *Walsh Avenue* is a west/east four lane roadway and a two-lane roadway from Lafayette Street where its ends at a bulb-out.

### **Existing Pedestrian Facilities**

Pedestrian facilities consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections. Pedestrian facilities in the project area consist of sidewalks and crosswalks. A continuous network of sidewalks is present along all of the surrounding streets. Crosswalks with pedestrian signal heads are located at all of the signalized intersections in the area. Crosswalks are available on the west and south legs of the Bowers Avenue/Mead Avenue intersection.

### **Existing Bicycle Facilities**

Bicycle facilities are comprised of paths (Class I), lanes (Class II), and routes (Class III). Bicycle paths are paved trails that are separate from roadways. The San Tomas Aquino Creek trail/bicycle path extends from Sunnyvale Baylands Park, north of SR 237, to Homestead Road. Between Cabrillo Avenue and Homestead Road, the trail runs on the west side of San Tomas Expressway. The trail can be accessed via the bicycle lanes on Scott Boulevard and Central Expressway.

Class II bicycle lanes, which are preferential use areas within a roadway designated for bicycles, within one mile of the project site are present along the following roadways:

- Kifer Road, west of Uranium Road
- Scott Boulevard/Arques Avenue, between Monroe Street and North Fair Oaks Avenue in Sunnyvale
- Bowers Avenue/Great America Parkway, between Chromite Drive and Yerba Buena Way,
- Lakeside Drive, for the entire street
- Oakmead Parkway, for the entire street
- Calabazas Boulevard, for the entire street

Class III bicycle routes are typically designated with signage or with painted shared lane markings (sharrows) on a road that indicate to motorists that bicyclists may use the full travel lane. Within a one-mile radius of the project site, sharrows are present along the following roadway segments:

- Bowers Avenue, between Chromite Drive and El Camino Real
- Chromite Drive, between Monroe Street and Bowers Avenue

Bicycles are also allowed on Central Expressway, Lawrence Expressway, and San Tomas Expressway.

According to the Santa Clara Bicycle Master Plan Update 2018, Class II bike lanes (striped bike lanes) are planned on Bowers Avenue south of Chromite Drive, and Class IV separated bikeways are planned on Kifer Road.

### **Transit Facilities**

Existing transit services to the project area are provided by a bus stop for the VTA Frequent Route 57 on Bowers Avenue, 450 feet from the project site and the VTA's ACE yellow shuttle stop on Bowers Avenue, 2,000 feet from the project site.

### ***VMT Methodology***

The City of Santa Clara adopted a VMT Transportation Analysis Policy for environmental review on June 30, 2020. The City of Santa Clara's VMT Policy establishes screening criteria for various types of developments such as infill developments, small projects, and/or transit supportive projects near major transit corridors are considered to have a less than significant impact on VMT under CEQA and are not required to prepare further VMT analysis. If projects meet the following screening criteria, they are considered to have a less than significant VMT impact:

- The project is located within ½ mile of a major transit stop, or a transit stop along a high-quality transit corridor
- A minimum 0.75 FAR for office/R&D uses
- The project promotes multimodal transportation
- The project incorporates transit-oriented design elements
- The project does not propose excessive parking

### 3.17.2 **Impact Discussion**

For the purpose of determining the significance of the project's impact on transportation, would the project:

- 1) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle lanes, and pedestrian facilities?
- 2) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?
- 3) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- 4) Result in inadequate emergency access?

#### ***Project Impacts***

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|          |                                                                                                                                                                                                                                               |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.17.2.1 | <b>Impact TRN-1:</b> The project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle lanes, and pedestrian facilities. <b>(Less than Significant Impact)</b> |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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The project is consistent with the policies of the City's General Plan to improve sidewalk connectivity and expand pedestrian and transit opportunities. The project's consistency with these policies is described below.

#### **Impacts to Bicycle, Pedestrian, and Transit Facilities**

##### **Pedestrian Facilities**

Consistent with General Plan Policies 5.8.4-P7 and 5.8.4-P8, the project would construct new nine-foot-wide sidewalks along the project frontage on Bowers Avenue and improve the curb ramp at the southeast corner of the Bowers Avenue/Mead Avenue intersection to meet ADA standards. The sidewalks and ADA curb ramp would facilitate pedestrian movements between the project site and surrounding points of interest, such as bus stops.

Within the site, a pedestrian walkway would be provided between the sidewalks on Bowers Avenue, the surface parking lot, and the proposed building entrances. Sidewalks would also be provided around the building and substation. Therefore, pedestrian access to all proposed facilities within the project site would be provided.

With the existing and proposed pedestrian facilities within and in the vicinity of the project site, pedestrian access to and from the project site would be adequate. For these reasons, implementation of the proposed project would not conflict with any policy or plans, including the General Plan policies listed above, regarding pedestrian facilities. **(Less than Significant Impact)**

##### **Bicycle Facilities**

According to the Bicycle Master Plan Update 2018, the proportion of Santa Clara residents that bicycle to work is about two percent, which equates to one new bicycle trip during the AM and PM

peak hours for the project. The project would provide secure bicycle storage in a bike room in the northwest edge of the building near the building entrance. The bike room would be accessed using the pedestrian walkway from Bowers Avenue. The project would also provide bike racks next to the building entrance facing Bowers Avenue. The project would also provide bike racks next to the building entrance facing Bowers Avenue. The project would generate some bicycle trips, which could utilize the existing bike lanes on surrounding street to get to nearby destinations.

The project's incremental increase in demand would be adequately served by existing bicycle facilities in the immediate vicinity of the project site. Therefore, the potential increase in bicycle trips by the area (shown in the City's Bicycle Master Plan Update 2018) would not require new off-site bicycle facilities. **(Less than Significant Impact)**

#### Transit Services

Due to the proximity of Route 57 to the project site, it is assumed that some employees of the project would utilize the existing transit services. Assuming a commute hour transit mode share of two percent, as recommended by VTA guidelines, the project would generate one new transit rider during the peak hours. Therefore, it is anticipated that the new ridership could be accommodated by the existing transit services.

The proposed project would not interfere with the construction of planned transit facilities, nor would the project exceed the capacity of the existing system. The project would not conflict with a program plan or policy addressing transit. **(Less than Significant Impact)**

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|                      |                                                                                                                                                                             |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Impact TRN-2:</b> | The project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). <b>(Less than Significant Impact with Mitigation Incorporated)</b> |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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As discussed in Section 3.17.1, Environmental Setting, the City's VMT Transportation Analysis Policy sets forth screening criteria that allows various types of developments, such as infill developments, small projects, and/or transit supportive projects near major transit corridors, to be considered as having a less than significant impact on VMT. The project does not qualify as one of these projects and, therefore, a full VMT evaluation was completed for the project.

#### **VMT Evaluation Methodology**

VMT is the total miles of travel by personal motorized vehicles a project is expected to generate in a day. Typically, development projects that are farther from other, complementary land uses (such as a business park far from housing) and in areas without transit or active transportation infrastructure (bike lanes, sidewalks, etc.) generate more driving than development near complementary land uses with more robust transportation options. Therefore, developments located in a central business district or planned growth area with high density and diversity of complementary land uses and frequent transit services are expected to internalize trips and generate shorter and fewer vehicle trips than developments located in a suburban area with low density of residential developments and no transit service in the project vicinity. When assessing an office or industrial project, the project's VMT is divided by the number of employees and evaluated on VMT per employee.

The Santa Clara Valley Transportation Authority (VTA) has developed a countywide VMT evaluation tool to streamline analysis. Based on the location of a project, the VMT evaluation tool identifies the existing average VMT per employee for the project area. Based on the project location, type of development, project description, and proposed trip reduction measures, the VMT evaluation tool calculates the project VMT. The VMT evaluation tool does not explicitly include data centers, therefore for the purpose of this analysis, the proposed data center space was converted to an equivalent amount of industrial square footage and evaluated as an industrial development.

A project's VMT impact is determined by comparing the project VMT to the appropriate thresholds of significance based on the type of development. In Santa Clara, the VMT thresholds of significance are established based on the existing countywide average VMT levels for residential and employment uses. For industrial use, the threshold of significance is the countywide average VMT per employee minus 15 percent, which calculates to 14.14 daily miles per employee.

### **Project-Level VMT Analysis**

Based on the results of the VMT Evaluation tool, the project VMT would be 15.7 VMT per employee, which is lower than the existing area VMT for industrial uses in the project vicinity. This is because the project would provide secured on-site bicycle parking, which would encourage employees to commute using bicycles and reduce VMT. However, the VMT would exceed the threshold of 14.14 VMT per employee. Therefore, the project would result in a significant VMT impact. The following measure is included in the project as an Applicant Proposed Project Design Measure to reduce VMT to an acceptable level.

**Impact TRN-1:** The project's VMT would exceed the threshold of 14.14 VMT per employee.

**Applicant Proposed Design Measures:** The project proponent shall implement the following applicant proposed design measures to reduce impacts from VMT to a less than significant level:

**PD TRN-1.1:** The project shall develop and implement a TDM plan sufficient to demonstrate that VMT associated with the project is reduced to a level less than or equal to 14.14 miles per employee. The following measures represent a feasible method for achieving the required VMT reduction:

- Commute Trip Reduction Marketing and Education. The project applicant shall educate and encourage employees to use transit, shared rides, and active modes of transportation.
- Alternative Transportation Benefits. The project applicant shall provide general commute benefits to employees, which would include financial subsidies or pre-tax deductions for transit, carpooling, and vanpooling activities.
- Ride-Sharing Program. The project applicant shall encourage employees to carpool with other employees and/through providing ride matching services to help employees find other commuters traveling in the same direction.



The TDM program shall be submitted and approved by the Director of Community Development and shall be monitored annually to gauge its effectiveness in meeting the required VMT reduction. The TDM program shall establish an appropriate estimate of initial vehicle trips generated by the occupant of the proposed project and shall conduct driveway traffic counts annually to measure peak-hour entering and exiting vehicle volumes. The volumes will be compared to trip thresholds established in the TDM program to determine whether the required reduction in vehicle trips is being met. In addition to monitoring driveway volumes, a survey will be developed as part of the TDM program to determine actual mode splits for employees. The survey will also gather information on usage of individual TDM program components. The results of the annual vehicle counts and survey will be reported in writing to the Director of Community Development.

If TDM program monitoring results show that the trip reduction targets are not being met, the TDM program shall be updated to identify replacement and/or additional feasible TDM measures to be implemented. The updated TDM program shall be subject to the same approvals and monitoring requirements listed above.

If monitoring and reporting demonstrates that the project is non-compliant (i.e., did not fulfill the requirements of the TDM program, meet the drive-alone reduction targets, etc.), the City as the enforcing agency may impose penalties including fines and/or permit limitations.

Implementation of the measures described above would reduce the project generated VMT from 15.7 per employee to 14.09 per employee (a reduction of about ten percent). Impacts would be less than significant with mitigation. **(Less than Significant Impact with Mitigation Incorporated)**

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|                      |                                                                                                                                                                                                                           |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Impact TRN-3:</b> | The project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). <b>(Less than Significant Impact)</b> |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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## Geometric Design

### Sight Distance

Based on the results of the Transportation Analysis, the sight distance at project driveways would be adequate. No tall vegetation or objects would obscure sign distance at the project driveway and parking is not allowed on Bowers Avenue. Therefore, the project does not substantially increase hazards related to sight distance along Bowers Avenue and adequate sight distance would be provided, which would reduce the likelihood of collisions. **(Less than Significant Impact)**

### On-Site Circulation

According to the City of Santa Clara Municipal Code, Chapter 18.74, the standard parking stall should measure nine-feet wide and 18-feet long. For parking facilities with 90-degree standard

parking stalls, the minimum drive aisle width should be 25 feet. The project would provide 90-degree standard parking stalls (nine-feet wide and 18-feet long) in the parking areas to the north and west sides of the building with a 26-foot two-way drive aisle circulating the site. Therefore, the proposed parking stalls would meet the requirement. The proposed drive aisle width, in combination with the parking dimensions, would provide sufficient room for vehicles to back out of the 90-degree parking stalls.

The project would provide adequate on-site circulation because a two-way drive aisle (which would be accessible via both driveways) would circulate the site and provide access to the parking stalls with no dead-end drive aisle.

For these reasons, there would be no significant impacts related to on-site circulation. **(Less than Significant Impact)**

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**Impact TRN-4:** The project would not result in inadequate emergency access. **(Less than Significant Impact)**

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Vehicle access to the site would be provided via two driveways on Bowers Avenue in the same general areas as the existing driveways: one right-turn only driveway near the northern boundary of the site (northern driveway) and a full-access driveway at the signalized Bowers Avenue/Mead Avenue intersection (main driveway). The project would widen the northern driveway to 34.5 feet and narrow the main driveway to 65 feet wide. The two driveways would be approximately 275 feet apart.

Bowers Avenue and the drive aisle within the site would provide emergency vehicle access to all sides of the project building. The project would provide adequate emergency access to the site via two driveways (mentioned above). Vehicles would enter the site through either driveway, turn into the drive aisle closest to the building, and then circulate the site to exit using either driveway. The final site design would be required to be consistent with regulatory requirements for fire truck access.

3.17 **(Less Than Significant Impact)**

### ***Cumulative Impacts***

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**Impact TRN-C:** The project would not result in a cumulatively considerable contribution to a cumulatively significant transportation impact. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

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The geographic area for cumulative transportation impacts is Citywide. The proposed development project is located near multiple modes of transportation and would have an average VMT below the countywide average VMT per employee after mitigation. The proposed development project, in concert with other projects in the region, would not substantially impact the transit services in the area around the site. Additionally, the proposed development project would not result in significant changes to pedestrian or bicycle facilities and therefore, would not cumulatively impact these facilities throughout the City. Further, the proposed development project would not impact emergency access to the project area and would not cumulatively reduce emergency response in the

City of Santa Clara. Therefore, the proposed development project would have a less than significant cumulative impact because the proposed development project would not result in a cumulatively considerable contribution to transportation impacts in the project area. **(Less than Significant Cumulative Impact)**

### 3.18 TRIBAL CULTURAL RESOURCES

The following discussion is based in part on an NAHC Sacred Lands Search Results, which was submitted with a Request for Confidentiality.

#### 3.18.1 Environmental Setting

##### *Regulatory Framework*

##### **State**

##### Assembly Bill 52

###### 3.18.1.1

AB 52, effective July 2015, established a new category of resources for consideration by public agencies called Tribal Cultural Resources (TCRs). AB 52 requires lead agencies to provide notice of projects to tribes that are traditionally and culturally affiliated with the geographic area if they have requested to be notified. Where a project may have a significant impact on a tribal cultural resource, consultation is required until the parties agree to measures to mitigate or avoid a significant effect on a tribal cultural resource or until it is concluded that mutual agreement cannot be reached.

Under AB 52, TCRs are defined as follows:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are also either:
  - Included or determined to be eligible for inclusion in the California Register of Historic Resources, or
  - Included in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).
- A resource determined by the lead agency to be a TCR.

##### Senate Bill 18

3.18.1.2 The intent of SB 18 is to aid in the protection of traditional tribal cultural places through local land use planning by requiring city governments to consult with California Native American tribes on projects which include adoption or amendment of general plans (defined in Government Code Section 65300 et seq.) and specific plans (defined in Government Code Section 65450 et seq.). SB 18 requires local governments to consult with tribes prior to making certain planning decisions and to provide notice to tribes at certain key points in the planning process.

##### *Existing Conditions*

Native Americans occupied Santa Clara Valley and the greater Bay Area for more than 5,000 years. The exact time period of the Ohlone (originally referred to as Costanoan) migration into the Bay Area is debated by scholars. Dates of the migration range between 3000 B.C. and 500 A.D. Regardless of the actual time frame of their initial occupation of the Bay Area and, in particular, Santa Clara Valley, it is known that the Ohlone had a well-established population of approximately 7,000 to 11,000 people with a territory that ranged from the San Francisco Peninsula and the East Bay, south through the Santa Clara Valley and down to Monterey and San Juan Bautista.

The Ohlone people were hunter/gatherers focused on hunting, fishing, and collecting seasonal plant and animal resources, including tidal and marine resources from San Francisco Bay. The customary way of living, or lifeway, of the Costanoan/Ohlone people disappeared by about 1810 due to disruption by introduced diseases, a declining birth rate, and the impact of the California mission system established by the Spanish in the area beginning in 1777.

The Native American Heritage Commission responded to Sacred Lands File request on August 8, 2022, noting that the results of the request were negative.

### **3.18.2      Impact Discussion**

For the purpose of determining the significance of the project's impact on tribal cultural resources, would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- 1) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?
- 2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

#### **3.18.2.1**

#### ***Project Impacts***

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|                      |                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Impact TCR-1:</b> | The project would not cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k). <b>(Less than Significant Impact with Mitigation)</b> |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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AB 52 requires lead agencies to complete formal consultations with California Native American tribes during the CEQA process to identify tribal cultural resources that may be subject to significant impacts by a project. Where a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document must discuss the impact and whether feasible alternatives or mitigation measures could avoid or substantially lessen the impact. This consultation requirement applies only if the tribes have sent written requests for notification of projects to the lead agency.

No tribal cultural features, including sites, features, places, cultural landscapes or sacred places have been identified based on available information. Although the Tamien Nation Tribe has requested notification under AB 52 from the City of Santa Clara of all projects in the City that include ground-disturbing activities, the Tribe has not indicated that any previously unknown TCRs are located in the City. A record search of the NAHC Sacred Lands File was completed for the site and the results were

negative.<sup>92</sup> While there is the potential for unknown Native American resources or human remains to be present in the project area, impacts would be less than significant with implementation of the City's General Plan policies and Standard Permit Conditions related to discovery of archaeological resources or human remains as well as implementation of mitigation incorporated into the project (described in detail in Section 3.5 Cultural Resources).

It is assumed in this SPPE Application that the CEC, as the Lead Agency, will conduct Tribal Consultation pursuant to the requirements of AB 52 during the EIR preparation process.

Because the record search of the NAHC Sacred Lands File did not identify the presence of TCRs on the site or surrounding area, and because no tribes have previously indicated that TCRs are present on the site, the project would not cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).

It is assumed in this SPPE Application that the CEC, as the Lead Agency, will conduct Tribal Consultation pursuant to the requirements of AB 52 during the EIR preparation process.

**(Less than Significant Impact with Mitigation)**

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**Impact TCR-2:** The project would not cause a substantial adverse change in the significance of a tribal cultural resource that is determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.  
**(Less than Significant Impact with Mitigation)**

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As discussed under Impact TCR-1, there are no known TCRs on-site or in the recycled water line extension alignment, and the project includes measures to reduce potential impacts to less than significant levels should TCRs be unexpectedly discovered during project construction. For this reason, the project would not cause a substantial adverse change in the significance of a TCR that is determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.  
**(Less than Significant Impact with Mitigation)**

### *Cumulative Impacts*

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**Impact TCR-C:** The project would not result in a cumulatively considerable contribution to a cumulatively significant tribal cultural resources impact. **(No Cumulative Impact)**

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The geographic study area for cumulative impacts to tribal cultural resources is the surrounding area (within 1,000 feet of the project site). No tribal cultural features, including sites, features, places, cultural landscapes or sacred place have been identified at the site based on available information. Additionally, although the Tamien Nation Tribe has requested notification under AB 52 from the

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<sup>92</sup> Native American Heritage Commission. Personal Communication with Cody Campagne. February 9, 2022.

City of Santa Clara of all projects in the City that include ground-disturbing activities, the Tribe has not indicated that any previously unknown TCRs are located in the City. It is assumed in this SPPE Application that the CEC, as the Lead Agency, will conduct Tribal Consultation pursuant to the requirements of AB 52 during the EIR preparation process. As a result, the project would not contribute to a cumulative impact to tribal resources. **(No Cumulative Impact)**

### **3.19 UTILITIES AND SERVICE SYSTEMS**

#### **3.19.1 Environmental Setting**

##### ***Regulatory Framework***

##### **State**

##### State Water Code

**3.19.1.1** Pursuant to the State Water Code, water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (approximately 980 million gallons) of water annually must prepare and adopt an urban water management plan (UWMP) and update it every five years. As part of a UWMP, water agencies are required to evaluate and describe their water resource supplies and projected needs over a 20-year planning horizon, water conservation, water service reliability, water recycling, opportunities for water transfers, and contingency plans for drought events. The City of Santa Clara adopted its most recent UWMP in June 2021.

##### Assembly Bill 939

The California Integrated Waste Management Act of 1989, or AB 939, established the Integrated Waste Management Board, required the implementation of integrated waste management plans, and mandated that local jurisdictions divert at least 50 percent of solid waste generated (from 1990 levels), beginning January 1, 2000, and divert at least 75 percent by 2010. Projects that would have an adverse effect on waste diversion goals are required to include waste diversion mitigation measures.

##### Assembly Bill 341

AB 341 sets forth the requirements of the statewide mandatory commercial recycling program. Businesses that generate four or more cubic yards of garbage per week and multi-family dwellings with five or more units in California are required to recycle. AB 341 sets a statewide goal for 75 percent disposal reduction by the year 2020.

##### Senate Bill 1383

SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The bill grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that at least 20 percent of currently disposed edible food is recovered for human consumption by 2025. CalRecycle released an analysis titled “Analysis of the Progress Toward the SB 1383 Organic Waste Reduction Goals” in August of 2020, which recommended maintaining the disposal reduction targets set forth in SB 1383.<sup>93</sup>

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<sup>93</sup> CalRecycle. Analysis of the Progress Toward the SB 1383 Organic Waste Reduction Goals. August 18, 2020. [https://www2.calrecycle.ca.gov/Publications/Details/1693#:~:text=Analysis%20of%20the%20Progress%20Toward,\(DRRR%2D2020%2D1693\)&text=SB%201383%20establishes%20targets%20to,75%20percent%20reduction%20by%202025](https://www2.calrecycle.ca.gov/Publications/Details/1693#:~:text=Analysis%20of%20the%20Progress%20Toward,(DRRR%2D2020%2D1693)&text=SB%201383%20establishes%20targets%20to,75%20percent%20reduction%20by%202025).



## California Green Building Standards Code

In January 2010, the State of California adopted the California Green Building Standards Code, establishing mandatory green building standards for all buildings in California. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resources efficiency, and indoor environmental quality. These standards include the following mandatory set of measures, as well as more rigorous voluntary guidelines, for new construction projects to achieve specific green building performance levels:

- Reducing indoor water use by 20 percent;
- Reducing wastewater by 20 percent;
- Recycling and/or salvaging 50 percent of nonhazardous construction and demolition debris; and
- Providing readily accessible areas for recycling by occupants.

### ***Existing Conditions***

#### **3.19.1.2**

#### **Water Services**

Water is provided to the site by the City of Santa Clara Water Utility. The system consists of more than 335 miles of water mains, 21 active wells, and seven storage tanks with approximately 28.8 million gallons of water capacity.<sup>94</sup> Drinking water is provided by an extensive underground aquifer (accessed by the City's wells) and by two wholesale water importers: Valley Water (imported from the Sacramento-San Joaquin Delta) and the San Francisco Hetch-Hetchy System (imported from the Sierra Nevada). The three sources are used interchangeably or are blended together. A water recharge program administered by Valley Water from local reservoirs and imported Sacramento-San Joaquin Delta water enhances the dependability of the underground aquifer.

The project site is currently developed with a two-story, 55,000 square foot office building and a surface parking lot. Water use for the existing uses on-site total approximately 15,766,740 gallons of water per year, or 43,196.5 gallons per day.<sup>95</sup>

#### **Wastewater Services**

The City of Santa Clara Departments of Public Works and Water and Sewer Utilities are responsible for the wastewater collection system within the City. Wastewater is collected by sewer systems in Santa Clara and is conveyed by pipelines to the Regional Wastewater Facility (RWF) located in San José. The RWF is one of the largest advanced wastewater treatment facilities in California and serves over 1,400,000 people in San José, Santa Clara, Milpitas, Campbell, Cupertino, Los Gatos, Saratoga,

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<sup>94</sup> City of Santa Clara. *2020 Urban Water Management Plan*. June 2021. Page 5.

<sup>95</sup> This calculation is based off of CalEEMod's Appendix D Default Data Tables (Table 9.1), dated May 2021. The existing indoor water use was calculated using the default indoor water use rate for general office of 177,734 gallons per year per 1,000 square feet. The building's square footage of 55,000 square feet was used for the calculations. The calculation was as follows: (55,000 square feet) x (177,734 gallons per year per 1,000 square feet) = 9,775,370 gallons per year. The existing outdoor water use was calculated using the default outdoor water use rate for general office of 108,934 gallons per year per 1,000 square feet. The building's square footage of 55,000 square feet was used for the calculations. The calculation was as follows: (55,000 square feet) x (108,934 gallons per year per 1,000 square feet) = 5,991,370 gallons per year.

and Monte Sereno.<sup>96</sup> The RWF has available capacity to treat up to 167 million gallons per day (mgd). The RWF presently operates at an average dry weather flow of 110 mgd, which is 57 mgd (or 35 percent) under the facility's 167 mgd treatment capacity. Approximately ten percent of the plant's effluent is recycled for non-potable uses and the remainder flows into San Francisco Bay.<sup>97</sup>

The project site currently generates approximately 8,797,833 gallons of wastewater per year, or 24,103.65 gallons per day.<sup>98</sup> Wastewater flow from the project site enters the City's sanitary sewer system via an existing pipeline along Bowers Avenue.

### **Storm Drainage**

The City of Santa Clara owns and maintains the municipal storm drainage system. Three existing storm drain lines are located beneath the project site which flow into one existing storm drain line beneath Bowers Avenue. The storm drain eventually discharges to the San Tomas Aquino Creek, which ultimately flows to the San Francisco Bay. Currently, approximately 40,600 square feet (or 18 percent) of the project site is pervious and the remaining 186,093 square feet (or 82 percent) is impervious.

### **Solid Waste**

Solid waste collection in the City of Santa Clara is provided by Mission Trail Waste System through a contract with the City. Mission Trail Waste System also has a contract to implement the Clean Green portion of the City's recycling plan by collecting yard waste. All other recycling services are provided through Stevens Creek Disposal and Recycling. The City has an arrangement with the owners of the Newby Island Landfill, located in San José, to provide disposal capacity for the City of Santa Clara through 2024. The City of San José approved expansion of Newby Island Landfill in August 2012 and the landfill could continue to provide disposal capacity to Santa Clara beyond 2024. The City also owns property outside its jurisdictional boundaries that could provide for solid waste disposal. The Newby Island Landfill has a remaining capacity of 12.76 million cubic yards.<sup>99</sup>

As discussed in Section 3.19.1.1 Regulatory Framework, SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. In addition to the state targets, the City of Santa Clara has a construction debris diversion ordinance which requires all projects over 5,000 square feet to divert a minimum of 50 percent of construction and demolition debris from landfills. Landscaping/tree maintenance would occur on the project site that would generate yard waste. Minimal soil waste is generated from site maintenance.

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<sup>96</sup> City of San José. "San José-Santa Clara Regional Wastewater Facility." Accessed April 22, 2022. <https://www.sanjoseca.gov/home/showpublisheddocument/32061/637267825445900000>.

<sup>97</sup> Ibid.

<sup>98</sup> This number equates to 90 percent of the estimated water usage in the existing building.

<sup>99</sup> Personal Communication. Rachelle Huber, Newby Island Landfill Environmental Manager. Re: NSIL-remaining capacity and est. closure date. June 2, 2022.

The existing use on-site currently generates approximately 51.15 tons of solid waste per year (280 pounds of solid waste per day).<sup>100</sup>

### 3.19.2 Impact Discussion

For the purpose of determining the significance of the project's impact on utilities and service systems, would the project:

- 1) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?
- 2) Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?
- 3) Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- 4) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?
- 5) Be noncompliant with federal, state, or local management and reduction statutes and regulations related to solid waste?

#### 3.19.2.1 *Project Impacts*

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|                      |                                                                                                                                                                                                                                                                                                                                              |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Impact UTL-1:</b> | The project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. <b>(Less than Significant Impact)</b> |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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#### **Water System**

The project would connect to the City's existing water main in Bayshore Avenue via new service connections. The project would extend the recycled water line located at the intersection of Walsh Avenue and Northwestern Parkway by approximately 2,600 feet in order to provide recycled water to the site. The project would use recycled water as a primary source of cooling and landscaping, while relying on the domestic water line in Bowers Avenue to serve as the primary source of potable water and fire supply to the project. The design criteria used for the extension of the recycled water line would be based on established industry operation standards and would comply with all City policies. Construction of the recycled water pipeline extension is included in the analysis of construction impacts in this SPPE Application and would not cause significant environmental effects.

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<sup>100</sup> The solid waste generation is based on CalEEMod's default solid waste generation rate for general office land uses of .93 tons per year per 1,000 square feet. CalEEMod Appendix D: Default Data Tables. Table 10.1: Solid Waste Disposal Rates. September 2016.

Water demand from the BDC would only occur when outside air temperatures reach 89° (the temperature of the BDC's machinery). Under these circumstances, water would be used to augment the BDC's adiabatic cooling system using evaporation pads on the rooftop called air-cooled chillers. The data center would be designed to use up to 0.5 AFY of recycled water provided by the City of Santa Clara and would use potable water as a back-up source to the recycled water system in the interim period via a potable water connection in Bowers Avenue.

Total potable water use at full buildout of the BDC is estimated to be approximately 2 AFY. Landscaping for the site is estimated to use up to 1 AFY. Historical use at the site is approximately 3.2 AFY.

The project, therefore, would not result in a net increase in water demand compared to existing conditions, rather over water demand drops by 0.2 AFY, and recycled water would be used to further reduce the amount of potable water used at the site compared to existing conditions. As part of the City of Santa Clara's Project Clearance Committee process, a development impact analysis is required to analyze the project's impact on the potable water system using the City's hydraulic modeling program for a fee paid by the project applicant. Completion of the development impact study by the City will ensure that the new and existing water system infrastructure serving the site would be adequate to meet the demands of the project.

### **Sanitary Sewer System/Wastewater Treatment Facilities**

It is estimated that the project would generate approximately 50,797,068.8 gallons of sewage per year (0.139 mgd),<sup>101</sup> which is an increase of 41,999,235.8 gallons per year compared to the existing site's generation of approximately 8,797,833 gallons per year. The project would connect to the existing sanitary sewer main Bowers Avenue. The RWF has available capacity to treat up to 167 million gallons per day (mgd). Based on 2020 data, the City's peak week flow is 15.5 mgd while the treatment capacity allocated to the City is 25.17 mgd.<sup>102</sup> Therefore, there is sufficient capacity at the treatment plant to accept project flows.

As part of the City of Santa Clara's Project Clearance Committee process, the project's impact to the sanitary sewer system will be evaluated using the City's Sanitary Sewer Hydraulic Model for the trunk sanitary sewer system. If there is not enough capacity in the existing modeled trunk sanitary sewer system, the applicant will be required to upgrade the sanitary sewer system as determined by the City. Completion of the modeling by the City and implementation of any required upgrades by the applicant will ensure that the new and existing sanitary sewer system infrastructure serving the site would be adequate to meet the demands of the project. The City would conduct appropriate environmental review if any upgrades are needed to existing facilities, based on the specific details of the design and location of the facilities needing upgrades.

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<sup>101</sup> This number equates to 90 percent of the estimated water usage in the proposed building.

<sup>102</sup> City of San Jose, Environmental Services Department. San Jose - Santa Clara Regional Wastewater Facility Tributary Agencies' Estimated Available Plant Capacity – 2020. December 2020.  
<https://www.sanjoseca.gov/Home/ShowDocument?id=68283>

## Stormwater Drainage Facilities

As discussed in Section 3.10 Hydrology and Water Quality, the project would result in a net increase of impervious surface at the project site (four percent increase). However, the project would include stormwater quality best management practices (BMPs), such as directing site runoff into bioretention areas with infiltration rates of at least five inches per hour for treatment and detention before being conveyed off-site to existing stormdrains in Bowers Avenue (see Figure 3.19-1 and Figure 3.19-2). Although the project would increase the amount of impervious surfaces on the site, the proposed detention system would limit runoff from the proposed project to the equivalent of existing conditions under the typical design storm used to evaluate the performance of the storm drain system.

## Electric Power

The proposed substation station will be located adjacent to the existing SVP Uranium Substation. It will be looped into the existing Uranium Substation 60kV transmission feeder. The loop be configured with three radial taps to the BDC substation. Reliability is maintained such that, if there is a fault along any section of the loop, electric service is still supplied from the receiving station at the other of the 60kV loop.

The new conductor that interconnects the new substation to the Bulk Electric System (BES) will be an ACCR type, size 715 double bundle with a carrying capacity of 310 MVA. SVP's general practice is to use tubular steel transmission poles for the two dead end structures. There may be up to three new transmission poles anticipated to be performed as tie-in. All three would be located on the project site.

To allow the BDC to begin operations as soon as possible, the project will include an interim power solution prior to full energizing of the new SVP Substation. Interim power will initially be in the form of two 4.5 kVA underground circuits (with option of a third) encased in conduits within a concrete duct bank that will originate at the Uranium Substation. These circuits will be intercepted near the property and brought into a new manhole to be located on the subject property. The interim power lines will utilize Silicon Valley Power typical conductors and construction methods.

## Natural Gas

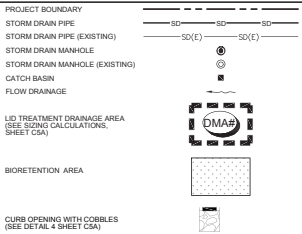
The project would not utilize natural gas.

The project would not require or result in the relocation or construction of new or expanded potable water, wastewater treatment or stormwater drainage, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. The project would require the expansion of a recycled water pipeline, however, the expansion would not cause significant environmental effects. **(Less than Significant Impact)**

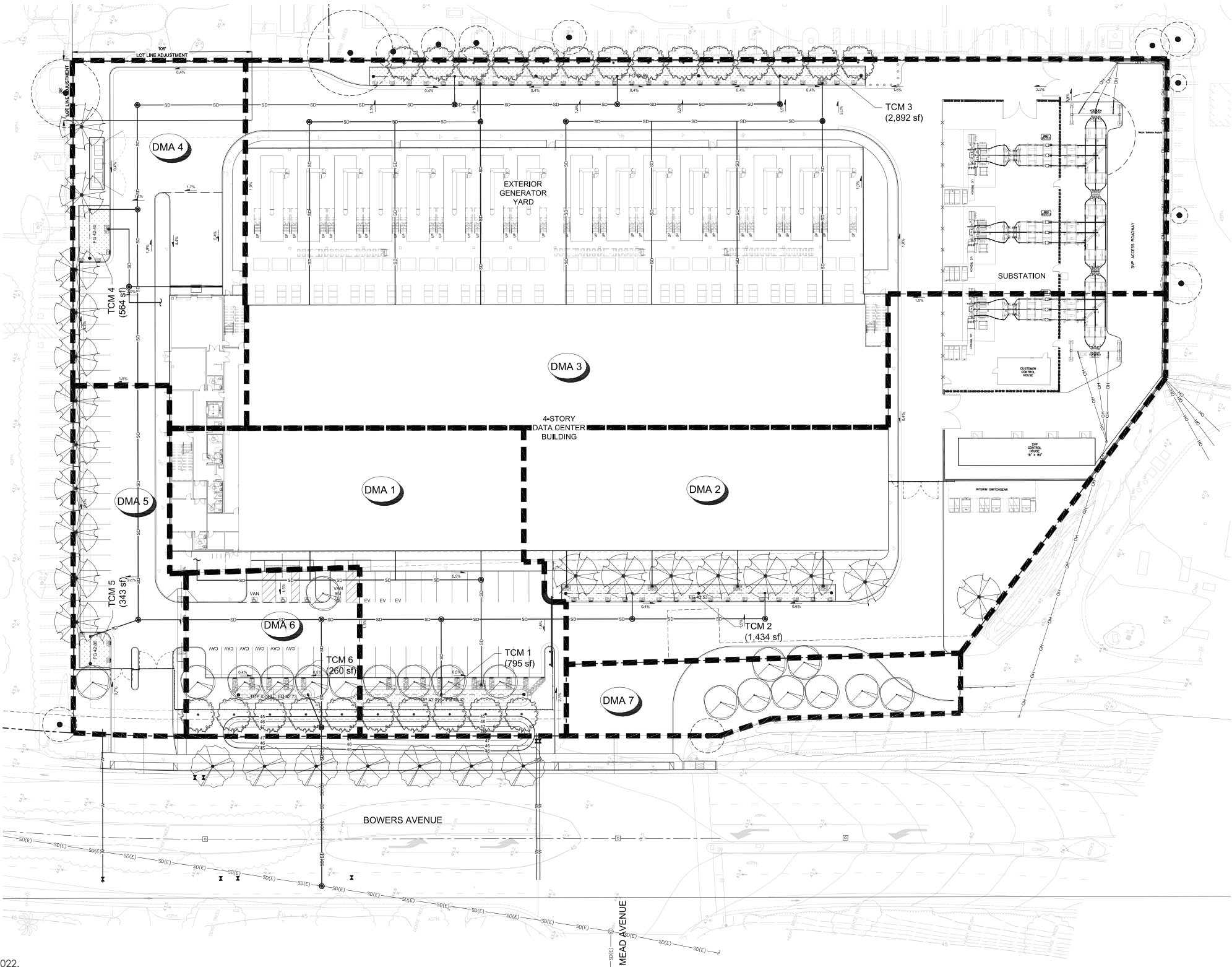
| TREATMENT CONTROL MEASURE SUMMARY TABLE |       |          |                                   |                |                      |                      |                        |                              |                                             |                                   |                                   |                            |                           |
|-----------------------------------------|-------|----------|-----------------------------------|----------------|----------------------|----------------------|------------------------|------------------------------|---------------------------------------------|-----------------------------------|-----------------------------------|----------------------------|---------------------------|
| DMA #                                   | TCM # | Location | Treatment Type                    | LID or Non-LID | Sizing Method        | Drainage Area (s.f.) | Impervious Area (s.f.) | Pervious Area (Other) (s.f.) | % Onsite Area Treated by LID or Non-LID TCM | Bioretention Area Required (s.f.) | Bioretention Area Provided (s.f.) | Overflow Riser Height (in) | Comments                  |
| 1                                       | 1     | Onsite   | Bioretention lined* w/ underdrain | LID            | 3. Flow-Volume Combo | 28,736               | 24,815                 | 3,921                        | 12.68%                                      | 795                               | 795                               | 6                          | See Detail 1 on Sheet CSA |
| 2                                       | 2     | Onsite   | Bioretention lined* w/ underdrain | LID            | 3. Flow-Volume Combo | 52,261               | 43,373                 | 8,888                        | 23.05%                                      | 1,434                             | 1,434                             | 6                          | See Detail 2 on Sheet CSA |
| 3                                       | 3     | Onsite   | Bioretention lined* w/ underdrain | LID            | 3. Flow-Volume Combo | 103,056              | 98,012                 | 5,044                        | 45.46%                                      | 2,892                             | 2,892                             | 6                          | See Detail 2 on Sheet CSA |
| 4                                       | 4     | Onsite   | Bioretention lined* w/ underdrain | LID            | 3. Flow-Volume Combo | 20,350               | 17,636                 | 2,714                        | 8.98%                                       | 564                               | 564                               | 6                          | See Detail 2 on Sheet CSA |
| 5                                       | 5     | Onsite   | Bioretention lined* w/ underdrain | LID            | 3. Flow-Volume Combo | 12,433               | 10,545                 | 1,888                        | 5.48%                                       | 343                               | 343                               | 6                          | See Detail 2 on Sheet CSA |
| 6                                       | 6     | Onsite   | Bioretention lined* w/ underdrain | LID            | 3. Flow-Volume Combo | 9,857                | 6,102                  | 3,755                        | 4.35%                                       | 260                               | 260                               | 6                          | See Detail 1 on Sheet CSA |
| 7                                       | -     | Offsite  | Maintenance                       | N/A            | N/A                  | 8,925                | 4,004                  | 4,921                        | -                                           | -                                 | -                                 | -                          | -                         |
| Totals:                                 |       |          |                                   |                |                      | 226,693              | 200,483                | 26,210                       | 100.00%                                     |                                   |                                   |                            |                           |

Footnotes:  
 \* "Lined" refers to an impermeable liner placed on the bottom of a Bioretention basin or a concrete Flow-Through Planter, such that no infiltration into native soil occurs.

LEGEND

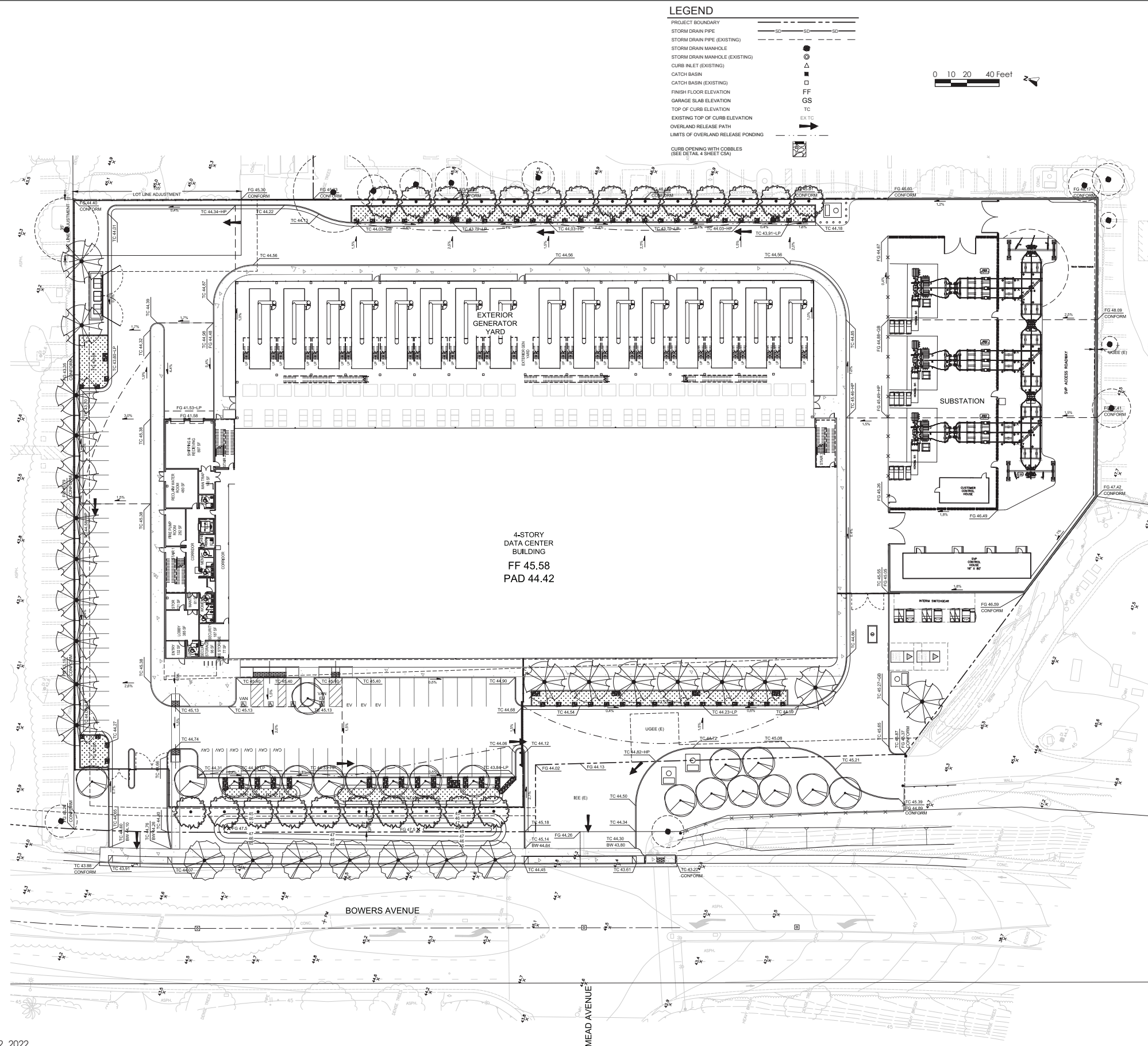


0 10 20 40 Feet



Source: Sheehan Nagle Hartray Architects, August 12, 2022.





Source: Sheehan Nagle Hartray Architects, August 12, 2022.

GRADING AND DRAINAGE PLAN

FIGURE 3.19-2

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**Impact UTL-2:** The project would not have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. **(Less than Significant Impact)**

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As discussed under Impact UTL-1, the project would result in a net decrease in water demand compared to existing conditions and will extend a recycled water pipeline to serve the majority of the site's water needs, thereby reducing the site's reliance on potable water compared to baseline conditions.

The projected water demand associated with the proposed project is consistent with the growth projections and future water demand assumed in the preparation and analysis of the City's 2020 Urban Water Management Plan (UWMP).<sup>103</sup> The City's 2020 UWMP concluded that sufficient water supplies are available to meet the project demand. As such, there is a sufficient water supply to serve the project site under normal water year (non-drought) conditions.

In addition to normal water years, the UWMP assessed the ability of Santa Clara to meet forecasted water demands (including the proposed project) during multiple dry weather (drought) years. The City concluded that with projected supply totals and implementation of conservation measures consistent with its Water Shortage Contingency Plan, the retailer would be able to meet the projected demand during multiple dry water years. On July 13, 2021, City Council ratified the City Manager's declaration of a Local Emergency for Extreme Drought Conditions and implemented a Water Shortage Contingency Plan Stage 2, which requires up to a 20 percent reduction in water usage. As a result, the project may be subject to water supply and capacity fees, additional water efficiency standards, establishment of annual water budgets, and may be required to utilize to the maximum extent possible, alternative water supplies.

Implementation of the project would not have a significant impact on existing or future water supplies. **(Less than Significant Impact)**

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**Impact UTL-3:** The project would not result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. **(Less than Significant Impact)**

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The proposed project would connect to existing sewer line on Bowers Avenue, which ultimately flows to the RWF. The RWF has available capacity to treat up to 167 million gallons per day (mgd). Based on 2020 data, the City's peak week flow is 15.5 mgd while the treatment capacity allocated to Santa Clara is 25.17 mgd.<sup>104</sup> The project would generate approximately 50,797,068.8 gallons of sewage per year (0.139 mgd),<sup>105</sup> which is an increase of 41,999,235.8 gallons per year compared to the existing site's generation of approximately 8,797,833 gallons per year. The proposed project

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<sup>103</sup> City of Santa Clara. "2020 Urban Water Management Plan." June 22, 2021.

<sup>104</sup> City of San Jose, Environmental Services Department. San Jose - Santa Clara Regional Wastewater Facility Tributary Agencies' Estimated Available Plant Capacity – 2020. December 2020.  
<https://www.sanjoseca.gov/Home/ShowDocument?id=68283>

<sup>105</sup> This number equates to 90 percent of the estimated water usage in the proposed building.



would not increase the need for wastewater treatment beyond the capacity of the RWF. The RWF has the ability to treat wastewater generated by the proposed project and, as a result, the project would not have a significant impact on the capacity of the RWF. **(Less Than Significant Impact)**

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**Impact UTL-4:** The project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. **(Less than Significant Impact)**

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The project would generate a total of 302.65 tons per year (1,658.36 pounds of solid waste per day).<sup>106</sup> This is a 251.5 tons per year (1,378.36 pounds per day) increase in solid waste compared to the existing solid waste generation on-site. The estimated solid waste generation rate for the proposed project is likely an overestimation of the project's solid waste generation, as data centers typically do not generate as much waste as typical light and heavy industrial projects due to the low number of employees and the nature of data center operation.

The proposed project would comply with the City's construction debris diversion ordinance and state waste diversion requirements. As discussed in Section 3.19.1.2 Existing Conditions, the Newby Island Landfill, located in San José, has an agreement with the City to provide disposal capacity. Because the project can be served by a landfill with capacity and would not result in a significant increase in solid waste or recyclable materials, the project's impacts related to solid waste and landfill capacity would be less than significant. **(Less than Significant Impact)**

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**Impact UTL-5:** The project would not be noncompliant with federal, state, or local management and reduction statutes and regulations related to solid waste. **(Less than Significant Impact)**

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The proposed project would not negatively impact the provision of solid waste services and would comply with AB 341, which requires all businesses in California that generate four or more cubic yards of garbage per week (approximately 6,740 pounds per week) to recycle. The construction and operation of the project would comply with federal, state, and local regulations related to diversion of materials from disposal and appropriate disposal of solid waste. **(Less than Significant Impact)**

### *Cumulative Impacts*

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**Impact UTL-C:** The project would not result in a cumulatively considerable contribution to a cumulatively significant utilities and service systems impact. **(Less than Cumulatively Considerable Contribution to a Significant Cumulative Impact)**

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<sup>106</sup> The solid waste generation is based on CalEEMod's default solid waste generation rate for general heavy industry uses of 1.24 tons per year per 1,000 square feet. CalEEMod Appendix D: Default Data Tables. Table 10.1: Solid Waste Disposal Rates. September 2016.

## Water Supply and System

The geographic area for cumulative water supply and system impacts is the service area of the City of Santa Clara water system. The cumulative projects (including the proposed project) are accounted for in population and employment assumptions of the UWMP, which evaluates growth in water demand based on planned growth through the year 2040. For this reason, there is adequate water supply (with the implementation of the City's Water Shortage Contingency Plan if needed) for the cumulative projects. The project, therefore, would not result in a considerable contribution to a significant cumulative water supply impact. **(Less than Significant Cumulative Impact)**

## Sanitary Sewer System/Wastewater Treatment

The geographic area for cumulative sanitary sewer system and wastewater treatment is the City's sanitary sewer system service area. Build-out of the General Plan would result in an increase in sewage generated within the City. As discussed in the certified General Plan EIR, the average dry weather flows projected from the full build-out of the General Plan were projected to be within the City's allocated treatment capacity at RWF, which at the time of the certification of the General Plan EIR was 20.1 mgd<sup>107</sup> and below the City's 2020 flow allocation of approximately 25.17 mgd.

Since the certification date of the General Plan EIR, however, the City has approved development applications that have included General Plan amendments, each of which have incrementally increased the potential sewage generation at full build-out. Consequently, it is conceivable that at some point prior to 2035, the City could exceed its current capacity allocation, and the proposed project is anticipated to generate an additional 0.139 mgd. The RWF has excess flow capacity of approximately 59.7 mgd and the City has a process to obtain additional capacity rights at the RWF should the need arise.<sup>108</sup>

Based on the above discussion, there is sufficient treatment capacity at the RWF to serve the build-out of the General Plan and the cumulative projects (including the proposed project). The cumulative projects (including the proposed project) would not result in a significant cumulative impact on wastewater treatment capacity. **(Less than Significant Cumulative Impact)**

## Storm Drainage System

The geographic area for cumulative storm drain impacts includes the project site and surrounding area, specifically areas upstream and downstream of the project site that also drain to the San Tomas Aquino Creek. Build out of the cumulative projects would almost always involve redevelopment of existing developed sites that contain impervious surfaces, and these projects would be required to comply with applicable regulations regarding stormwater runoff and infrastructure. For these reasons, the cumulative projects would not result in a significant cumulative impact to the storm drain system. As described above, the project would include stormwater quality best management practices (BMPs), such as directing site runoff into bioretention areas with infiltration rates of at least five

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<sup>107</sup> City of Santa Clara. *2010-2035 General Plan Integrated Final Environmental Impact Report*. SCH# 2008092005. January 2011. Page 228.

<sup>108</sup> The total flow capacity at the RWF is 167 mgd, and the joint owners (Santa Clara and San José) have agreements with several tributary agencies, which have capacity rights of approximately 35 mgd. Pursuant to Section V.B.3 of the 1983 agreements with the tributary agencies, Santa Clara can purchase additional capacity from those tributary agencies.

inches per hour for treatment and detention before being conveyed off-site to existing stormdrains in Bowers Avenue. The project, therefore, would not result in a considerable contribution to a significant cumulative storm drain system impact. **(Less than Significant Cumulative Impact)**

### **Electricity, Natural Gas, and Telecommunication Services**

Energy is a cumulative resource. The geographic area for cumulative electricity, natural gas, and telecommunication services is the State of California. If a project is determined to have a significant energy impact, it is concluded that the impact is a cumulative impact. As discussed under Impact EN-3 in Section 3.6, the project would not result in a significant energy impact. In addition, the cumulative projects located in Santa Clara are within urban areas already served by existing electricity, and telecommunication infrastructure. The project would not utilize natural gas. The project, therefore, would not result in a considerable contribution to a significant cumulative impact to electricity, natural gas, and telecommunication infrastructure. **(Less than Significant Cumulative Impact)**

### **Solid Waste**

As described above, the project would result in a net increase of 302.65 tons of solid waste per year. The General Plan EIR determined that the total increase in solid waste (residential + nonresidential) associated with net new General Plan growth in 2035 would be approximately 37,000-42,000 tons per year. The project would represent a small fraction of the overall solid waste generation in the City. The proposed project, by itself, would not have a considerable contribution towards a significant cumulative solid waste impact. **(Less than Cumulatively Considerable Contribution to a Significant Cumulative Impact)**

## 3.20 WILDFIRE

### 3.20.1 Environmental Setting

#### *Regulatory Framework*

##### **State**

##### Fire Hazard Severity Zones

3.20.1.1 CAL FIRE is required by law to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. Referred to as Fire Hazard Severity Zones (FHSZs), these maps influence how people construct buildings and protect property to reduce risk associated with wildland fires. FHSZs are divided into areas where the state has financial responsibility for wildland fire protection, known as state responsibility areas (SRAs), and areas where local governments have financial responsibility for wildland fire protection, known as local responsibility areas (LRAs). Homeowners living in an SRA are responsible for ensuring that their property is in compliance with California's building and fire codes. Only lands zoned for very high fire hazard are identified within LRAs.

##### California Public Resources Code Section 4442 through 4431

The California Public Resources Code includes fire safety regulations that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction equipment that uses an internal combustion engine; specify requirements for the safe use of gasoline-powered tools on forest-covered land, brush-covered land, or grass-covered land; and specify fire suppression equipment that must be provided onsite for various types of work in fire-prone areas. These regulations include the following:

- Earthmoving and portable equipment with internal combustion engines would be equipped with a spark arrestor to reduce the potential for igniting a wildland fire (Public Resources Code Section 4442);
- Appropriate fire suppression equipment would be maintained during the highest fire danger period, from April 1 to December 1 (Public Resources Code Section 4428);
- On days when a burning permit is required, flammable materials would be removed to a distance of 10 feet from any equipment that could produce a spark, fire, or flame, and the construction contractor would maintain appropriate fire suppression equipment (Public Resources Code Section 4427); and
- On days when a burning permit is required, portable tools powered by gasoline-fueled internal combustion engines would not be used within 25 feet of any flammable materials (Public Resources Code Section 4431).

##### Fire Management Plans

CAL FIRE has developed an individual Unit Fire Management Plan for each of its 21 units and six contract counties. CAL FIRE has developed a strategic fire management plan for the Santa Clara Unit, which covers the project area and addresses citizen and firefighter safety, watersheds and water, timber, wildlife and habitat (including rare and endangered species), unique areas (scenic, cultural,

and historic), recreation, range, structures, and air quality. The plan includes stakeholder contributions and priorities and identifies strategic areas for pre-fire planning and fuel treatment as defined by the people who live and work with the local fire issues.

### ***Existing Conditions***

The project site is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones.<sup>109</sup>

#### **3.20.2 Impact Discussion**

For the purpose of determining the significance of the project's impact on wildfire, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

- 1) Substantially impair an adopted emergency response plan or emergency evacuation plan?
- 2) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?
- 3) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?
- 4) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

#### **3.20.2.1**

### ***Project Impacts***

The project site is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones; therefore, the project would not result in wildfire impacts. **(No Impact)**

#### **3.20.2.2**

### ***Cumulative Impacts***

The project site is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones; therefore, the project would not result in cumulative wildfire impacts. **(No Cumulative Impact)**

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<sup>109</sup> State of California Department of Forestry and Fire Protection. Santa Clara County Fire Hazard Severity Zones in SRA. Adopted November 7, 2007.

### 3.21 ENVIRONMENTAL JUSTICE

#### 3.21.1 Environmental Setting

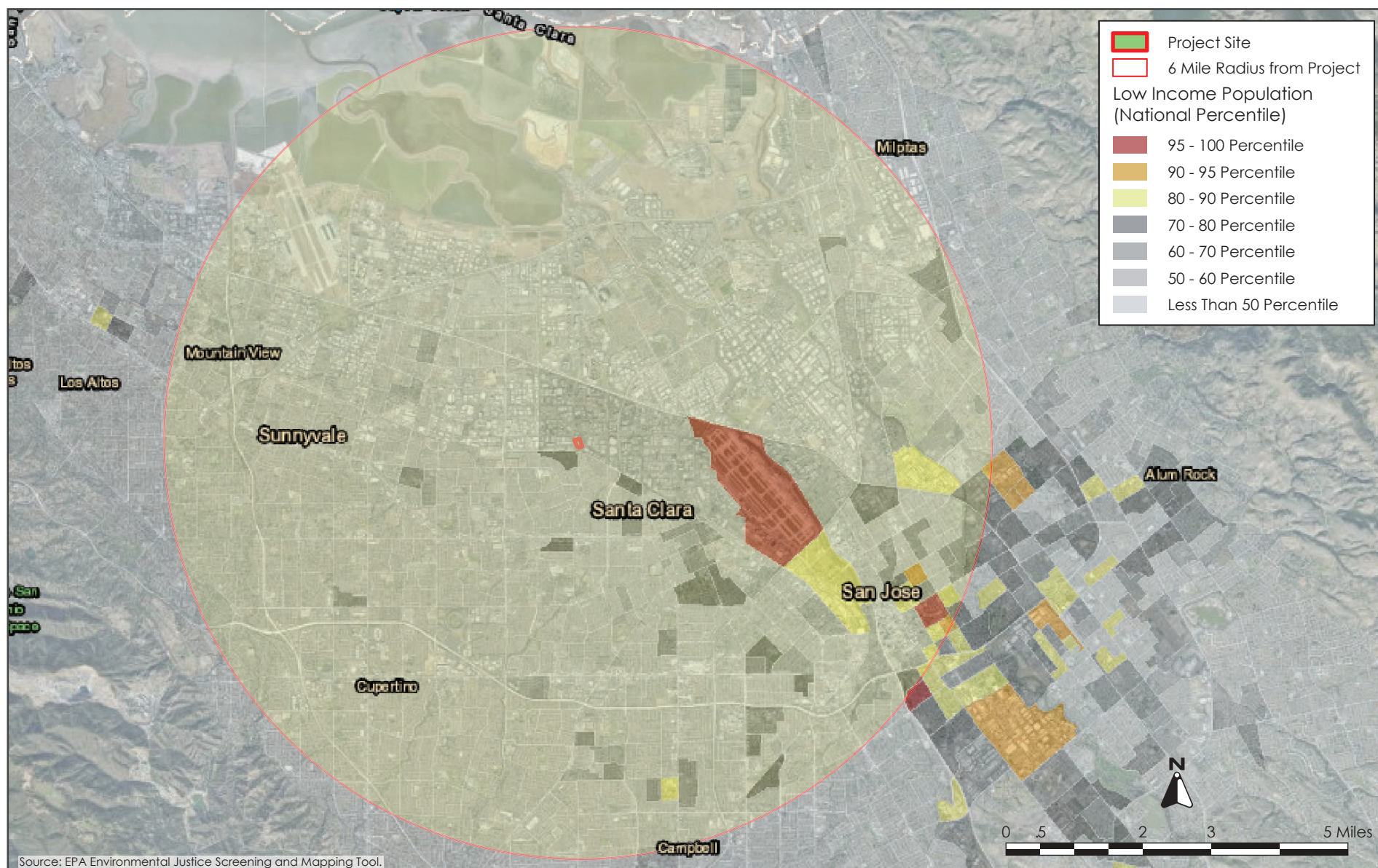
Based on California Department of Education data shown in Table 3.21-1 and depicted in Figure 3.21-1, the percentage of those living in the school districts of Campbell Union, San José Unified, and Luther Burbank (in a six-mile radius of the project site) and enrolled in the free or reduced-price meal program is larger than those in the reference geography. Therefore, the population in these districts represent an environmental justice (EJ) population based on a low-income population as defined in *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*.

| Table 3.21-1: Low Income Data within the Project Area                                                                                                                                                         |                           |                             |       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------|-------|
| School Districts in Six Mile Radius                                                                                                                                                                           | Enrollment Used for Meals | Free or Reduced Price Meals |       |
| Berryessa Union Elementary                                                                                                                                                                                    | 6,258                     | 1,751                       | 28.0% |
| Campbell Union                                                                                                                                                                                                | 6,230                     | 2,445                       | 39.2% |
| Cupertino Union                                                                                                                                                                                               | 14,084                    | 1,808                       | 12.8% |
| Luther Burbank                                                                                                                                                                                                | 437                       | 364                         | 83.3% |
| Milpitas Unified                                                                                                                                                                                              | 10,072                    | 2,883                       | 28.6% |
| Moreland                                                                                                                                                                                                      | 4,043                     | 1,244                       | 30.8% |
| San Jose Unified                                                                                                                                                                                              | 26,901                    | 10,087                      | 37.5% |
| Santa Clara Unified                                                                                                                                                                                           | 14,028                    | 3,645                       | 26.0% |
| Sunnyvale                                                                                                                                                                                                     | 5,480                     | 1,325                       | 24.2% |
| Reference Geography                                                                                                                                                                                           |                           |                             |       |
| Santa Clara County                                                                                                                                                                                            | 241,326                   | 79,000                      | 32.7% |
| Source: California Department of Education, DataQuest, Free or Reduced Price Meals, District level data for the year 2021-2022, <a href="http://dq.cde.ca.gov/dataquest/">http://dq.cde.ca.gov/dataquest/</a> |                           |                             |       |

Figure 3.21-2 shows the minority population percentages of neighborhoods within a six-mile radius of BDC and BBGF (together, project) with a minority population greater than or equal to 50 percent.<sup>110</sup> The population in the project's surrounding area represents an environmental justice (EJ) population based on race and ethnicity as defined in the United States Environmental Protection Agency's *Guidance on Considering Environmental Justice During the Development of Regulatory Actions* (US EPA 2015).

<sup>110</sup> US EPA. EPA EJScreen: Environmental Justice Screening and Mapping Tool, People of Color National Percentiles Layer. Accessed August 16, 2022. <https://www.epa.gov/ejscreen>

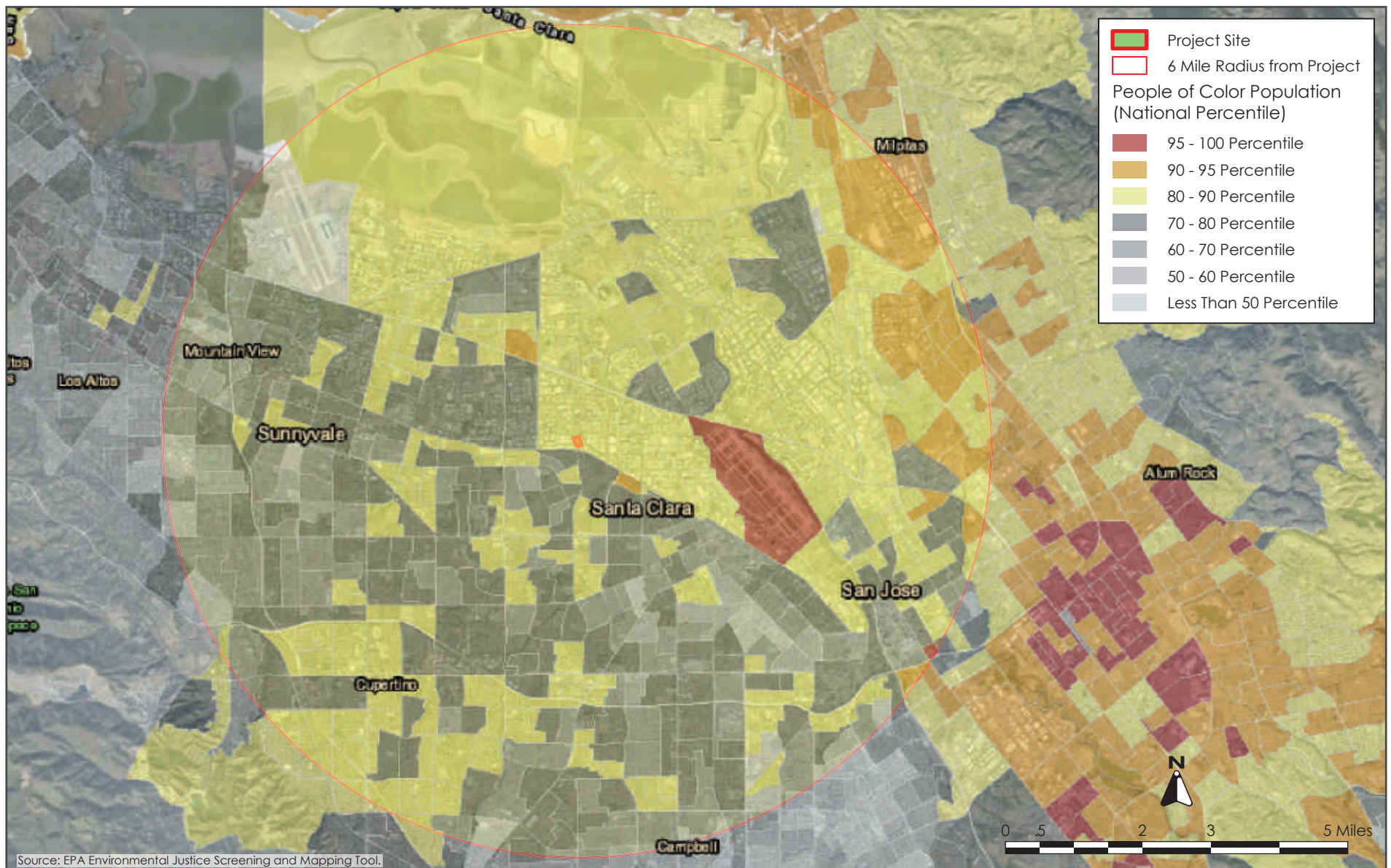




LOW INCOME POPULATION DISTRIBUTION WITHIN SIX MILES OF THE PROJECT

FIGURE 3.21-1





PEOPLE OF COLOR DISTRIBUTION WITHIN SIX MILES OF THE PROJECT

FIGURE 3.21-2



### 3.21.2 Environmental Impacts

The following technical areas discuss impacts to EJ populations: Aesthetics, Air Quality, Cultural and Tribal Cultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Population and Housing, Transportation and Traffic, and Utilities and Service Systems.

#### **Aesthetics**

Environmental justice (EJ) populations may experience disproportionate visual impacts if the siting of visually intrusive or degrading projects, particularly industrial facilities, occurs within or near EJ communities to a greater extent than within the community at large.

As depicted in Figure 3.21-2, the project site is located in an area with a high minority population with the adjacent blocks including percentiles ranging from the 80<sup>th</sup> to 90<sup>th</sup> for minority groups. However, as discussed in Section **Error! Reference source not found.**, the proposed project is located within an urbanized area of Santa Clara which already experiences light and/or glare from the surrounding development. The project would be subject to the City's Development Review Hearing process for architectural review. Additionally, the project would adhere to Title 24 Building Energy Efficiency Standards and City's lighting requirements (City Code Section 18.48.140) to reduce light pollution, light trespass, and glare. The project would be subject to the City's design review process and would conform to current community design guidelines and landscaping standards for the Light Industrial (ML) zoning district. Implementation of the proposed project would not substantially degrade the existing visual quality or character of the site or its surrounding area. Therefore, the proposed project would not have the potential to disproportionately affect high minority populations. **(Less than Significant Impact)**

#### **Air Quality**

The Air Quality section identified the potential public health impacts (i.e., cancer and non-cancer health effects) which could affect the EJ population represented in **Error! Reference source not found.** and Figure 3.21-2. These potential public health risks were evaluated quantitatively based on the most sensitive population, which includes the EJ population, by conducting a health risk assessment. The results were presented by level of risks.

Construction of the project would not generate VOCs, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> emissions in excess of BAAQMD's numeric thresholds. To ensure that fugitive dust impacts are less than significant, the project will implement the BAAQMD's recommended BMPs as mitigation during the construction phase. The operational emissions of NO<sub>x</sub>, VOCs, CO, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and GHGs were evaluated. Diesel particulate matter (DPM) was the only TAC considered to result from operation of the BBGF. The analysis determined that no one (including the public, off-site nonresidential workers, recreational users, and EJ populations) would experience any acute or chronic cancer or non-cancer effects of health significance during construction and operation of the project. Therefore, construction and operation of the project would not cause significant adverse direct or indirect public health impacts from the project's toxic air emissions and no additional mitigation is needed. Likewise, the project would not cause disproportionate public health impacts on

sensitive populations, such as the EJ population represented in **Error! Reference source not found.** and Figure 3.21-2.

The air quality analysis considers the most sensitive and most protected of the population, which includes the EJ population; therefore, the conclusions of the analysis would include that of the EJ population. Project impacts were evaluated, and it was concluded that air quality impacts during the construction of the project would be less than significant with mitigation incorporated and air quality impacts for all criteria pollutants during operation of the project would be less than significant with mitigation incorporated. Construction emissions (with mitigation incorporated) and operational emissions from the project would not cause or contribute to a violation of any state or federal ambient air quality standard, or conflict with applicable plans and programs to attain or maintain ambient air quality. Based on these conclusions, the project would not cause disproportionate air quality impacts for sensitive populations like the EJ population represented in **Error! Reference source not found.** and Figure 3.21-2. **(Less than Significant Impact)**

### **Cultural and Tribal Cultural Resources**

The analysis did not identify any Native American EJ populations that either reside within six miles of the project site or that rely on any subsistence resources that could be impacted by the project site. **(No Impact)**

### **Hazards and Hazardous Materials**

EJ populations may experience disproportionate hazards and hazardous materials impacts if the storage and use of hazardous materials within or near EJ communities occur to a greater extent than within the community at large. The possibility of a disproportionate impact upon the EJ population resulting from the planned storage and use of hazardous materials on the site is low. The project would contain diesel fuel, a hazardous material, to run the emergency generators. As discussed in Section **Error! Reference source not found.**, each generator unit and its integrated fuel tanks would be designed with double walls. The interstitial space between the walls of each tank would be continuously monitored electronically for the existence of liquids. This monitoring system would be electronically linked to an alarm system in the engineering office that would alert personnel if a leak were detected. Additionally, the standby generator units would be housed within a self-sheltering enclosure that prevents the intrusion of storm water. Therefore, the likelihood of a spill of sufficient quantity to impact the surrounding community and EJ population would be very unlikely and is considered less than significant. Further, implementation of applicant proposed mitigation measures would ensure potential existing soil and groundwater contamination on the site would not be released into the environment. **(Less than Significant Impact with Mitigation Incorporated)**

### **Hydrology and Water Quality**

A disproportionate hydrologic or water quality impact on an EJ population could occur if a project required substantial groundwater resources or contributed significantly to surface water or groundwater quality degradation.

As discussed in Section **Error! Reference source not found.**, the project is not located within a designated groundwater recharge zone, and therefore would not require substantial groundwater resources. The project is not expected to significantly contribute to surface water degradation, as it would include stormwater quality best management practices (BMPs) such as directing site runoff into bioretention areas. The project would be required to comply with the Clean Water Act by controlling the discharge of pollutants in storm water during its construction and operation phases. Additionally, implementation of applicant proposed project design measure PD HAZ-1.1 through PD HAZ-1.4 and PD HAZ-2.1 would reduce construction-related water quality impacts to a less than significant level. Therefore, the project is not expected to negatively impact water quality and would not result in a disproportionate impact to the local EJ population. **(Less than Significant Impact with Mitigation Incorporated)**

### **Land Use and Planning**

A disproportionate land use impact on an EJ population could occur if a project would physically divide the established community of an EJ population or if a project near an EJ population would conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating environmental impacts on a population.

As discussed in Section 3.11 Land Use and Planning, the project would not divide an existing community, as the project would not include any physical features that would physically divide the community (e.g., blocking of roadways or sidewalks) and would not interfere with the movement of residents through a neighborhood. The project site is designated *High Intensity Office/R&D* in the General Plan, which limits data center land uses to those that serve the use on-site. The site is zoned as ML Light Industrial, which allows data center uses that are not limited to those that serve the use on-site. The City of Santa Clara has requested the applicant request a General Plan Amendment to conform the General Plan designation to the zoning designation.

While the project requires a General Plan Amendment to be consistent the land use designation, the project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. **(Less than Significant Impact)**

### **Noise and Vibration**

EJ populations may experience disproportionate noise impacts if the siting of unmitigated industrial facilities occurs within or near EJ communities to a greater extent than within the community at large. As depicted in Figures 3.21-1 and 3.21-2, the project site is located within an area of low-income and high minority populations.

Demolition and construction activities would increase existing noise levels at the adjacent land uses, but they would be temporary and intermittent. As discussed in Section 3.13 Noise and Vibration, implementation of applicant proposed project design measure PD NOI-1 would reduce construction noise impacts to less than significant levels. Therefore, potential noise effects related to demolition and construction would not result in a significant noise impact on the area's population, including the EJ population.

The project would include two main sources of operational noise generation: rooftop mechanical equipment (air-cooled chillers) and ground level emergency generators. Project rooftop chilling equipment noise level exposure is predicted to comply with the applied City of Santa Clara Municipal Code noise level standards at the nearest industrial and residential uses. Noise level exposure from the operation of ground level emergency generators would be reduced with the construction of an eight-foot noise barrier around the perimeter of the outdoor generator yard. Therefore, noise from operating the facility would not exceed the City's noise limits at the nearest land uses and noise impacts to all the area's population, including the EJ population, would be less than significant. **(Less than Significant Impact)**

### **Population and Housing**

The potential for population and housing impacts is predominantly driven by the temporary influx of nonlocal construction workers seeking lodging closer to a project site. For the project, the construction workers would be drawn from the greater Bay Area and would not likely seek temporary lodging closer to the project site. The project would be a low employment-generating use. Therefore, approval of the project would not substantially increase jobs in the City. The operations workers are also anticipated to be drawn from the greater Bay Area and would not likely seek housing closer to the project site.

A population and housing impact could disproportionately affect an EJ population if the project were to displace minority or low-income residents from where they live, causing them to find housing elsewhere. If this occurs, an EJ population may have a more difficult time finding replacement housing due to racial biases and possible financial constraints. As discussed in Section **Error! Reference source not found.**, the project would not displace any residents or remove any housing; therefore, there would be no disproportionate impact to EJ populations from this project. **(No Impact)**

### **Transportation and Traffic**

Significant reductions in levels of service have the potential to significantly impact EJ populations. In particular, an impact to bus transit, pedestrian facilities, or bicycle facilities could cause disproportionate impacts to low-income communities, as low-income residents more often use these modes of transportation. However, as discussed in Section 3.17 Transportation, all transportation and traffic impacts, including impacts to alternative transportation, would be less than significant with mitigation, and therefore, would cause less than significant impacts to EJ populations.<sup>111</sup> Likewise, transportation impacts to EJ populations would not be disproportionate. **(Less than Significant Impact)**

### **Utilities and Service Systems**

A disproportionate utility or service system impact on an EJ population could occur if a project required substantial water resources or significantly impacted wastewater treatment facility and landfill capacity. The project reduced water demand compared to baseline conditions, and would use

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<sup>111</sup> As noted in Section 3.17 Transportation, a VMT Analysis is currently being completed and will be provided to the CEC in a subsequent submittal. If the VMT Analysis identifies significant impacts, this language will be modified.

recycled water, which further reduces demand on the potable water system. Additionally, the project's impact to the sanitary sewer system will be evaluated using the City's Sanitary Sewer Hydraulic Model for the trunk sanitary sewer system. If there is not enough capacity in the existing modeled trunk sanitary sewer system, the applicant will be required to upgrade the sanitary sewer system as determined by the City. Completion of the modeling by the City and implementation of any required upgrades by the applicant will ensure that the new and existing sanitary sewer system infrastructure serving the site would be adequate to meet the demands of the project. The project would be served by a landfill with capacity and would not result in a significant increase in solid waste or recyclable materials, the project's impacts related to solid waste and landfill capacity would be less than significant. The project would, therefore, not result in a disproportionate impact to the local EJ population.

The project's Utilities and Service Systems impacts would be less than significant for all the area's population, including the EJ population. **(Less than Significant)**

## SECTION 4.0      GROWTH-INDUCING IMPACTS

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**Impact GRO-1:**    The project would not foster or stimulate significant economic or population growth in the surrounding environment. **(Less than Significant Impact)**

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The CEQA Guidelines require that an EIR identify the likelihood that a proposed project could “foster” or stimulate “economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment” (Section 15126.2(d)). This section of the EIR is intended to evaluate the impacts of such growth in the surrounding environment.

The project is proposed on an infill site in the City of Santa Clara. The site is currently developed and surrounded by existing infrastructure and both existing and planned development. The project does not include expansion of the existing infrastructure that would facilitate growth in the project area or other areas of the City. The project includes the extension of a recycled water pipeline, which helps offset demands on the potable water supplies, but use of recycled water does not fundamentally eliminate a constraint on growth (i.e. a lack of water that precludes new development) that would cause unplanned or excessive growth to become more likely.

Development of the project site would place a new data center in the middle of an industrial area. The proposed project would be compatible with the surrounding land uses and would not pressure adjacent industrial, office, and commercial properties to redevelop with new or different land uses.

The project would not have a significant growth inducing impact. **(Less Than Significant Impact)**

## **SECTION 5.0      SIGNIFICANT AND IRREVERSIBLE ENVIRONMENTAL CHANGES**

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This section was prepared pursuant to CEQA Guidelines Section 15126.2(c), which requires a discussion of the significant irreversible changes that would result from the implementation of a proposed project. Significant irreversible changes include the use of nonrenewable resources, the commitment of future generations to similar use, irreversible damage resulting from environmental accidents associated with the project, and irretrievable commitments of resources. Applicable environmental changes are described in more detail below.

### **5.1                      USE OF NONRENEWABLE RESOURCES**

The proposed project, during construction and operation, would require the use and consumption of nonrenewable resources. Renewable resources, such as lumber and other wood byproducts, could also be used. Additionally, building materials present in the existing buildings on site that would not be suitable for recycling would be landfilled and the energy embedded in those materials wasted. Unlike renewable resources, nonrenewable resources cannot be regenerated over time. Nonrenewable resources include fossil fuels and metals.

Energy would be consumed during both the construction and operational phases of the project. The construction phase would require the use of nonrenewable construction material, such as concrete, metals, and plastics, and glass. Nonrenewable resources and energy would also be consumed during the manufacturing and transportation of building materials, preparation of the site, and construction of the buildings. The operational phase would consume energy for multiple purposes including, building heating and cooling, lighting, appliances, and electronics. Energy, in the form of fossil fuels, would be used to fuel vehicles traveling to and from the project site.

The project would result in a substantial increase in demand for nonrenewable resources. The project would, however, be subject to the standard California Code of Regulations Title 24 Part 6 and CALGreen energy efficiency requirements.

As discussed in *Section 3.5, Energy*, the project is consistent with the City's General Plan policies regarding energy use, which fosters development that reduces the use of nonrenewable energy resources in transportation, buildings, and urban services (utilities). The project would use 100% carbon neutral electricity.

## **SECTION 6.0      SIGNIFICANT AND UNAVOIDABLE IMPACTS**

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A significant unavoidable impact is an impact that cannot be mitigated to a less than significant level if the project is implemented as it is proposed.

All impacts of the proposed project would be reduced to a less than significant level with the implementation of mitigation measures identified in this EIR.



## SECTION 7.0      ALTERNATIVES

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### 7.1                  EVALUATION CRITERIA

The primary goal of the Bowers Data Center (BDC) is to be a state-of-the-art data center that provides greater than 99.999 percent reliability (fine nines of reliability). The BDC has been designed to reliably meet the increased demand of digital economy, its customers and the continued growth. The BDC's purpose is to provide its customers with mission critical space to support their servers, including space conditioning and a steady stream of high-quality power supply. Interruptions of power could lead to server damage or corruption of the data and software stored on the servers by GI Partner's clients. The BDC will be supplied electricity by SVP through a new distribution substation constructed on the BDC site and owned and operated by SVP.

To ensure a reliable supply of high-quality power, the BBGF was designed to provide backup electricity to the BDC only in the event electricity cannot be supplied from SVP and delivered to the BDC building. To ensure no interruption of electricity service to the servers housed in the BDC building, the servers will be connected to uninterruptible power supply (UPS) systems that store energy and provide near-instantaneous protection from input power interruptions. However, to provide electricity during a prolonged electricity interruption, the UPS systems will require a flexible and reliable backup power generation source to continue supplying steady power to the servers and other equipment. The BBGF provides that backup power generation source.

The BDC's Project Objectives are as follows:

- Develop a state-of-the-art data center large enough to meet projected growth;
- Develop the Data Center on land that has been zoned for data center use at a location acceptable to the City of Santa Clara;
- To incorporate the most reliable and flexible form of backup electric generating technology into the BBGF considering the following evaluation criteria.
  - **Reliability.** The selected backup electric generation technology must be extremely reliable in the case of an emergency loss of electricity from the utility.
    - The BBGF must provide a higher reliability than 99.999 percent in order for the BDC to achieve an overall reliability of equal to or greater than 99.999 percent reliability.
    - The BBGF must provide reliability to greatest extent feasible during natural disasters including earthquakes.
    - The selected backup electric generation technology must have a proven built-in resilience so if any of the backup unit fails due to external or internal failure, the system will have redundancy to continue to operate without interruption.
    - The selected backup electric generation technology must include achieved in practice engineering methods, procedures and equipment.
    - The BDC must have on-site means to sustain power for 24-hours minimum in failure mode, inclusive of utility outage.
  - **Commercial Availability and Feasibility.** The selected backup electric generation technology must currently be in use and proven as an accepted industry standard for technology sufficient to receive commercial guarantees in a form and amount

acceptable to financing entities. It must be operational within a reasonable timeframe where permits and approvals are required.

- **Technical Feasibility.** The selected backup electric generation technology must utilize systems that are compatible with one another and be maintainable in a reasonable fashion achieving timely switch outs, repairs and maintenance. Warranty and support must be within practical means to achieve optimum uptime during failures within the utility power supply.

As part of the preliminary planning and design of the BDC and the BBFG, GI Partners and its design team considered alternatives to the proposed backup generators and use of a smaller capacity system. For completeness purposes, a discussion of the No Project Alternative is also included.

## **7.2 REDUCED CAPACITY SYSTEM**

GI Partners considered a backup generating system with less emergency generators but like the No Project Alternative discussed below, any generating capacity less than the total demand of the data center at maximum occupancy would not allow GI Partners to provide the critical electricity that would be needed during an emergency. It is important to note that in addition to the electricity that is directly consumed by the servers themselves, the largest load of the data center is related to cooling the rooms where the servers are located. In order for the servers to reliably function, they must be kept within temperature tolerance ranges. The industry standard is to design and operate a building that can meet those ranges even during a loss of electricity provided by the existing electrical service provider. Therefore, in order for GI Partners to provide the reliability required by its clients it was necessary to provide a backup generating system that could meet the maximum load of the BDC during full occupancy and include redundancy as described in Section 2.2.3. A reduced capacity system would not fulfill the basic project objectives of the BDC.

## **7.3 BACKUP ELECTRIC GENERATION TECHNOLOGY ALTERNATIVES**

GI Partners considered using potentially available alternative technologies: gas-fired turbines; flywheels; gas-fired reciprocating internal combustion engines, batteries; fuel cells; and alternative fuels. As discussed below, none of the technologies considered could meet the overall Project Objectives because they were commercially or technically infeasible and/or would not meet the necessary standard of reliability during an emergency.

### **7.3.1 Flywheels**

Flywheel energy storage systems use electric energy input which is stored in the form of kinetic energy. Kinetic energy can be described as “energy of motion,” in this case the motion of a spinning mass, called a rotor. The rotor spins in a nearly frictionless enclosure. When short-term backup power is required because utility power fluctuates or is lost, the inertia allows the rotor to continue spinning and the resulting kinetic energy is converted to electricity.

GI Partners has concluded that flywheel technology would not be a viable option and could not meet the Project Objectives for the following reasons:

- Flywheel technology does not perform within the required reliability levels of GI Partners and is prone to system failure.

- Flywheel technology requires an extensive amount of maintenance to keep each energy storage system functioning.
- Flywheel systems cannot provide sufficient time duration (e.g 24 hours or more) as a backup generation as the fly wheel motion can typically only sustain 10-30sec outages at a time.

### **7.3.2      Gas-Fired Turbines**

GI Partners considered using natural gas-fired turbines instead of diesel generators to supply backup power for the BDC. This technology option was rejected because it would not meet the project objectives. Natural gas turbines have the advantages of better emission of NOx and CO than diesel. However, as an emergency backup choice, it has the following deficiencies:

1. The gas infrastructure is more likely to have curtailment of the natural gas supplies during due natural disasters and other emergency loss of utility power.
2. Onsite storage or delivery of natural gas to address the curtailment issues during an emergency is impossible to support long duration of backup (24 hours or longer time) due to the volume required.
3. The natural gas turbine is better suited for continuous operation instead of standby mode, which makes maintenance challenging.
4. The natural gas turbine needs minimum loads (30%), so additional load banks are required on site, leading to the change of design in terms of reliability and the use of more fuel than is necessary and leading to the wasting of electricity through the load bank.
5. Typical turbine engines have larger system sizes (4MW-50MW), while the smaller ones such as micro-turbines of 2.5MW will use twice the physical footprint and cost twice as much as the proposed generation technology.

Therefore, natural gas turbines are not considered reliable enough to meet the extremely high reliability requirements of a mission critical data center like the BDC. A fixed fuel source such as a natural gas pipeline introduces another potential point of failure or load curtailment. Taking into account the natural gas outages from maintenance and repair by the utility, interruption due to construction accidents within the system, long-term damage and interruption during an earthquake, or outages caused by problems within the greater distribution system are higher probability occurrences than being able to obtain diesel fuel for longer than 24-hour outages. Therefore, this alternative was rejected as not being able to meet the Project Objectives.

### **7.3.3      Gas-Fired Reciprocating Engines**

GI Partners considered using natural gas-fired reciprocating engines instead of diesel generators to supply emergency backup power for the BDC. This technology option was rejected because it would not meet the Project Objectives. While natural gas engines could achieve start up times sufficient to work with the UPS systems design and there are 2.5MW/3.1MW engines available, this lacks sufficient resilience to accept large block transfer of load associated with restart sequences when transferring from utility grid to backup generation. Therefore, natural gas reciprocating engines are not considered technically feasible or reliable enough to meet the industry standard or needs of the BDC. As discussed above, storage of sufficient natural gas on site to maintain emergency backup electricity demands of the BDC during an outage would not be tenable given the volume of natural gas that would be required.

### **7.3.4 Battery Storage**

GI Partners considered using batteries alone as a source of emergency backup power. The primary reason batteries alone were rejected was the limited duration of battery power. Batteries can provide power quickly, which is the reason GI Partners has incorporated them into the overall backup electrical system design through the use of the UPS. As described in Section 2.2.4.2, batteries in the UPS System would be initiated at the first sign of electricity interruption. However, the current state of battery technology does not allow for very long durations of discharge at building loads as high as planned for the BDC. Maximum discharging time is about 5 hours when doubled up from one ISO container to two, which needs more physical space. In addition, Lithium-ion batteries have more restrictive California fire code regulations. Renewable non-Lithium-ion battery such as ZnMnO<sub>2</sub> is not commercially feasible for data centers yet. Once the standalone batteries are completely discharged, the only way they can be recharged without onsite generation is if the utility electrical system is back up and running. Since it is not possible to predict the duration of an electricity outage, batteries are not a viable option for emergency electrical power. Therefore, because battery storage cannot provide the duration that may be necessary during an emergency, this technology option was rejected as technically and commercially infeasible and unable to allow the BDC to meet its Project Objectives.

The proposed diesel generators provide 24 hours of backup electricity without the need for refueling. In order to provide for the same 24-hour capacity, approximately 10 ISO containers representing approximately 10 times the amount of real estate would be required. The site will not accommodate the amount of batteries necessary and due to the limitation on duration, they would not replace the diesel generators necessary for backup.

### **7.3.5 Fuel Cells – Backup Replacement**

GI Partners is very familiar with fuel cell technology as it has considered fuel cells at its current data centers. Fuel cells can provide both primary and off grid power. The fuel cells utilized by Bloom Energy and others are solid Oxide Fuel Cells (SOFC) that operate in high temperature of 750 Deg C, they need to stay hot to provide power. As a choice of backup, fuel cells need to run continuously in dual modes, as a primary source, or a standby mode when the grid is off (islanding mode). The fuel cells have additional ultra-capacitors to cope with the 10-20 second load transfer time to match up with diesel generation technology.

The fuel cell has the following technical issues that negatively affect its ability to utilized as an emergency backup generation option.

1. It needs to run continuously to provide base load electricity to stay hot. This is why large data centers (Equinix, Apple, Yahoo) use Bloom Energy as primary source and maintain their existing emergency diesel generation fleet as backup.
2. Fuel cells require approximately 3 times more space than the emergency generators proposed for the BDCBGF and stacking is challenging and difficult and expensive to design to applicable codes.
3. Fuel cells rely on the natural gas as feed stock, so the issues with natural gas infrastructure and onsite storage described above also limit reliability.

There are fuel cell technologies (Proton Exchange Membrane) that utilize liquid hydrogen as a fuel. This type of fuel cell is mostly used for mobile sources and can start cold quicker similar to a combustion engine. GI Partners understands that there are pilot programs to scale this type of fuel cell to larger sizes. However, the issues that affect the Project Objectives of this technology include:

1. The technology is not yet commercially available at sizes necessary for a large data center.
2. The footprint is projected to be about twice the size of the proposed emergency generators.
3. Onsite storage of 24 hours of liquid hydrogen will take significant additional space not available at the site.
4. The potential for on-site and offsite impacts of a large release of liquid hydrogen which would be stored at pressure (6000 PSI) at the project site would be likely unacceptable within Santa Clara.

### **7.3.6 Fuel Cells – Primary Generation/Grid Backup**

GI Partners has evaluated generating primary electricity with fuel cells on-site and relying on the electricity grid for emergency backup electricity. One example of primary power is that Equinix has partnered with Bloom Energy over the last 5 years to deploy over 45 MW of fuel cell technology at various sites around the country using fuel cells as base load. There are other sites, such as Home Depot where Bloom Energy fuel cells provide primary electricity. However, we are unaware of any data center fuel cell application where fuel cells provide the full electricity needs for the data center without the bulk of the primary power being delivered by a utility.

There are two primary reasons that this solution cannot achieve the GI Partners' BDC Project Objectives. The first is that it is unlikely that Silicon Valley Power (SVP) would procure and reserve the amount of electricity necessary to power the BDC in perpetuity as a backup source on a moment's notice. The magnitude of electricity for such an event after full buildout of the BDC would render such an option infeasible.

As currently designed, the BBGF will provide a N+1 protection scheme for the BDC. In other words, the primary electricity will be provided by the extremely reliable AVP electric system and if that system fails, the diesel-fired emergency generators would provide the electricity that the BDC requires. Utilizing fuel cells as the primary generation and relying on the grid as backup in the event or fuel cell failure would also provide a N+1 protection scheme. However, this alternative would provide lower reliability during an earthquake - the design natural disaster for California projects. During an earthquake, it is possible that the natural gas system cannot deliver the fuel to the fuel cells at the same time that the SVP electrical system is experiencing an outage. In that case, in order to provide the same reliability as the proposed design, emergency backup generators would still be necessary (N+2) to provide electricity to the BDC during the design natural disaster case. Therefore, in order to have the same reliability, the same number and size of emergency backup generators would be required.

Therefore, use of fuel cells as primary generation would not replace the proposed emergency backup generators in order to meet the Project Objectives.

### **7.3.7        Alternative Fuels**

GI Partners evaluated the use of biodiesel and renewable diesel as replacement for the CARB diesel proposed for use in the BBBGF. Neither alternative provides a highly reliable source of fuel, nor provides any demonstrable reduction in emissions.

Typical biodiesel fuels tend to more unstable than petroleum-based diesel with very little, if any environmental benefit. Renewable diesel fuel has been claimed to be as stable, if not more stable as petroleum-based diesel fuels, while offering significant environmental benefits. However, no certified data has been located that can be used to document the environmental benefit claims, at this time. As the emission standards from biofuel combustion are yet to be well-established, emission guarantees would be necessary to ensure that the use of the renewable diesel would meet the needs of financing entities.

## **SECTION 8.0      AGENCY AND CONTACT INFORMATION**

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## SECTION 9.0 REFERENCES

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## SECTION 10.0 CONSULTANTS

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### 10.1 CONSULTANTS

#### **David J. Powers & Associates, Inc.**

Environmental Consultants and Planners

Akoni Danielsen, *Principal Project Manager*

Michael Lisenbee, *Senior Project Manager*

Desiree Dei Rossi, *Associate Project Manager*

Ryan Osako, *Graphic Artist*

#### **AEI Consultants**

Environmental Hazards Consultants

#### **Atmospheric Dynamics, Inc**

Air Quality and Greenhouse Gas

#### **Hexagon**

Transportation Consultants

#### **HMH**

Arborist

#### **Bollard Acoustical Consultants, Inc**

Noise and Vibration

#### **PaleoWest**

Archaeological and Historic Consultants

## SECTION 11.0 ACRONYMS AND ABBREVIATIONS

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|          |                                                       |
|----------|-------------------------------------------------------|
| ABAG     | Association of Bay Area Governments                   |
| ATCM     | Airborne Toxic Control Measures                       |
| BAAQMD   | Bay Area Air Quality Management District              |
| BBGF     | Bowers Backup Generating Facility                     |
| BDC      | Bowers Data Center                                    |
| BES      | Bulk Electric System                                  |
| CAA      | Clean Air Act                                         |
| CAL FIRE | California Department of Forestry and Fire Protection |
| Caltrans | California Department of Transportation               |
| CDFW     | California Department of Fish and Wildlife            |
| CEC      | California Energy Commission                          |
| CEQA     | California Environmental Quality Act                  |
| CRHR     | California Register of Historical Resources           |
| CUPA     | California Environmental Protection Agency            |
| DEF      | Diesel Exhaust Fluid                                  |
| DPF      | Diesel particulate filters                            |
| DPM      | Diesel particulate matter                             |
| EIFS     | External insulation and finish system                 |
| EIR      | Environmental Impact Report                           |
| FAA      | Federal Aviation Administration                       |
| GWP      | global warming potential                              |
| HAPs     | Hazardous Air Pollutants                              |
| HMC      | Hydromodification controls                            |
| HRA      | Health risk assessment                                |
| HRI      | Historic Resources Inventory                          |
| LID      | Low Impact Development                                |
| LORS     | Laws, ordinances, regulations, and standards          |
| MBTA     | Migratory Bird Treaty Act                             |
| ML       | Light Industrial                                      |
| MLD      | Most Likely Descendant                                |
| MND      | Mitigated Negative Declaration                        |



|          |                                                              |
|----------|--------------------------------------------------------------|
| Mph      | Miles per hour                                               |
| MRP      | Municipal Regional Stormwater NPDES Permit                   |
| MSB      | Main distribution switchboard                                |
| MTC      | Metropolitan Transportation Commission                       |
| MVA      | Mega volt-ampere                                             |
| MW       | Megawatts                                                    |
| NAAQS    | National ambient air quality standards                       |
| NAHC     | Native American Heritage Commission                          |
| NHPA     | National Historic Preservation Act                           |
| NOD      | Notice of Determination                                      |
| NPDES    | National Pollutant Discharge Elimination System              |
| NRHP     | National Register of Historic Places                         |
| NSPS     | New Source Performance Standards                             |
| NWIC     | Northwest Information Center                                 |
| PD       | Planned Development                                          |
| PPC      | Project Clearance Committee                                  |
| PUE      | Power Utilization Efficiency Factor                          |
| RWQCB    | Regional Water Quality Control Board                         |
| SCR      | Selective Catalytic Reduction                                |
| SCVURPPP | Santa Clara Valley Urban Runoff Pollution Prevention Program |
| SHMA     | Seismic Hazards Mapping Act                                  |
| SFBAAB   | San Francisco Bay Area Air Basin                             |
| SMP      | Site Management Plan                                         |
| SPPC     | Spill Prevention, Control and Countermeasure Plan            |
| SPPE     | Small Power Plant Exemption                                  |
| SVP      | Silicon Valley Power                                         |
| TACs     | Toxic air contaminants                                       |
| TDM      | Transportation Demand Management                             |
| UPS      | Uninterruptible power supply                                 |
| USACE    | United States Army Corps of Engineers                        |
| USFWS    | United States Fish and Wildlife Service                      |
| VMT      | Vehicle Miles Traveled                                       |
| VRF      | Variable refrigerant                                         |

VRP

Visibility reducing particulate